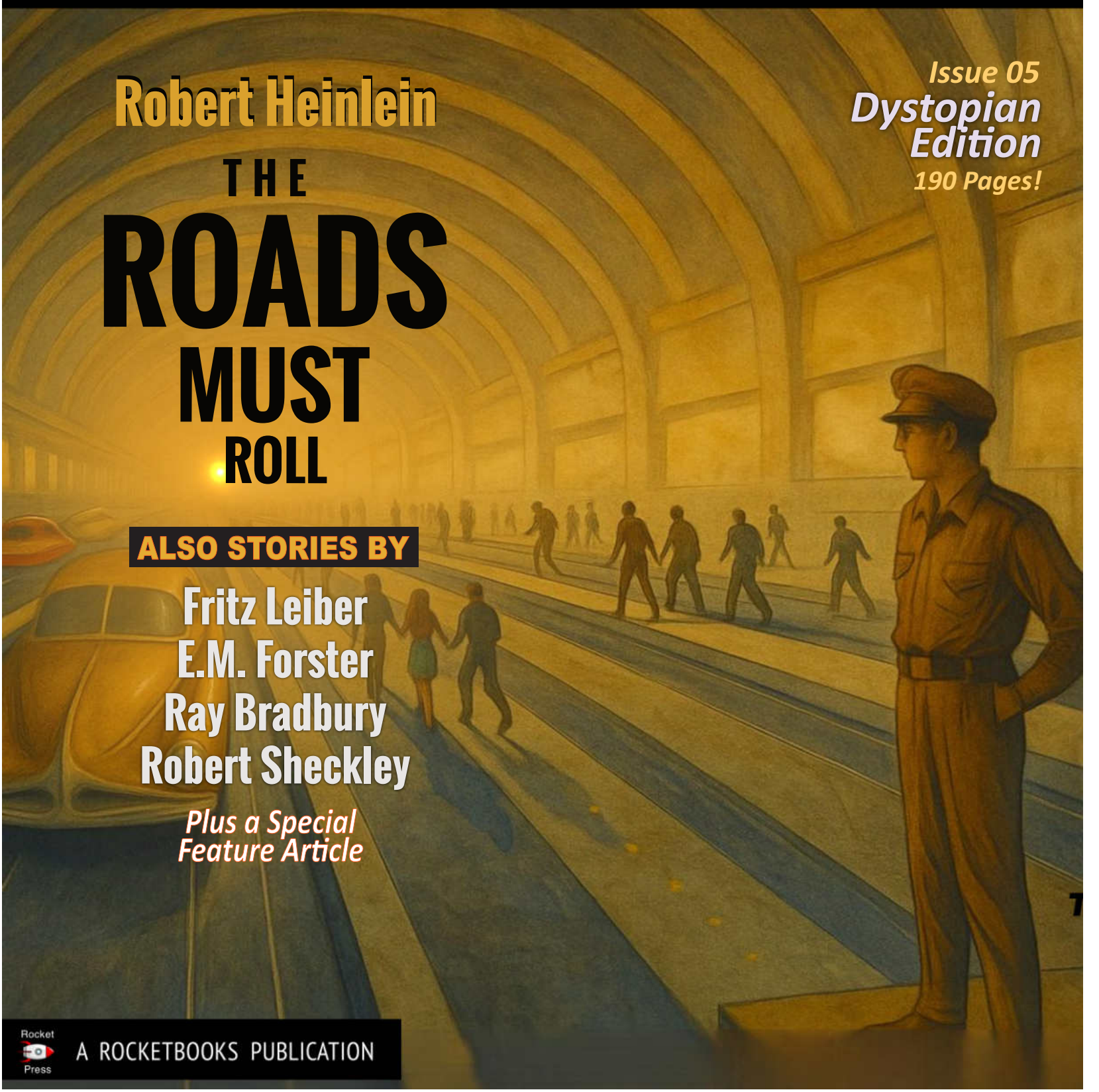
THE Interocitor

Classic Stories From Sci-Fi's Golden Age



Issue 05
Dystopian Edition
190 Pages!

Robert Heinlein

THE ROADS MUST ROLL

ALSO STORIES BY

Fritz Leiber
E.M. Forster
Ray Bradbury
Robert Sheckley

Plus a Special Feature Article

Rocket Press
A ROCKETBOOKS PUBLICATION

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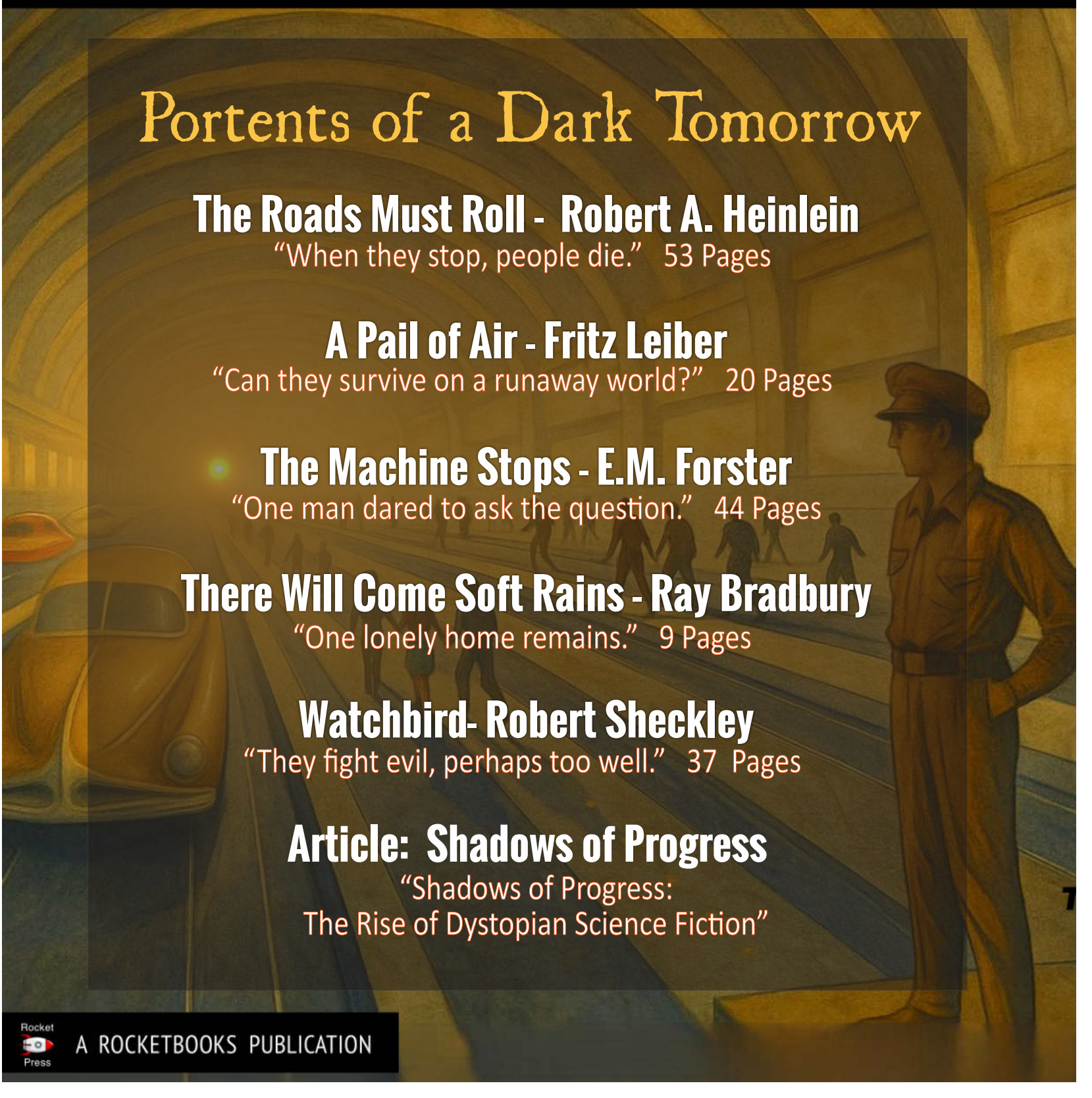

Portents of a Dark Tomorrow

The Roads Must Roll - Robert A. Heinlein
"When they stop, people die." 53 Pages

A Pail of Air - Fritz Leiber
"Can they survive on a runaway world?" 20 Pages

The Machine Stops - E.M. Forster
"One man dared to ask the question." 44 Pages

There Will Come Soft Rains - Ray Bradbury
"One lonely home remains." 9 Pages

Watchbird- Robert Sheckley
"They fight evil, perhaps too well." 37 Pages

Article: Shadows of Progress
"Shadows of Progress:
The Rise of Dystopian Science Fiction"

Rocket Press
A ROCKETBOOKS PUBLICATION

[FLEET COMMANDER DANE] Report

FROM THE HELM

Hey Fleet, we're back with Issue 05! As promised, we're keeping new issues coming your way at a faster clip, now that we've streamlined our content and processes. As always, we're grateful to hear your feedback and comments, which are most easily expressed at our Facebook group. More details about that group and our other online presence a bit later in my report.

Portents of a Dark Tomorrow

"Dystopia" is our theme in Issue 05 of The Interocitor.

I'm not sure what the psychology is behind it, but the common theme of a dystopian future, where society has evolved in strange and dysfunctional ways, has always held a special fascination. I suspect it might be an extension of our fear that the present society is creeping toward dystopia.

We hear the word "dystopia" thrown around a lot, but what does it really mean? It's an easy concept, really. Utopia is a blissful and ideal world. Dys means "bad/opposite." So a dystopia is the bad opposite of a utopia.

The dread of a dystopian future is nothing new. In the 20th Century, (when most of the stories we feature were written), there were real worries about the direction society was headed, driven by major wars and conflicts, the development of new nightmare weapons of mass destruction, bounding technological advancements, and changing cultural norms.

With so much quick and unsettling advancement, it's not surprising that last century's sci-fi authors devoted their imaginations to stories that projected where all of this rapid change might take our world in the decades, centuries, and millennia to come.

There's more about the rise of dystopian storytelling in the 20th Century in this

issue's feature article, Shadows of Progress: How the Mid-20th Century Birthed Dystopian sci-fi.

Our Feature Story

In "The Roads Must Roll," our cover story, by renowned (if controversial) author Robert A. Heinlein, he transports us into a future America connected by high-speed, moving "roads." These "roadtowns" become essential to society, but chaos ensues when one of the moving sidewalks stops abruptly due to sabotage, injuring thousands. The Chief Engineer, Larry Gaines, learns of the sabotage, highlighting the potential dangers of society's dependence on a vulnerable mode of transportation. Heinlein explores the consequences of a world overly reliant on technology, and emphasizes the critical nature of maintaining and protecting such infrastructure.

"The Roads Must Roll" was first published in the June 1940 issue of Astounding Science Fiction, a popular science fiction magazine of the time. The story later appeared in several anthologies and collections of Heinlein's work, including "The Man Who Sold the Moon" (1950) and "The Past Through Tomorrow" (1967).

The work has been described as an example of Heinlein's early "social science fiction," in which he explores the potential consequences of technological and societal advancements. The story is a commentary on the dangers of over-reliance on technology and the importance of considering the human impact of infrastructure projects.

Its initial publication in Astounding Science Fiction helped establish Heinlein as a rising star in science fiction, and the story has since become a classic of the genre, known for its innovative concept and commentary on social and technological issues. It's a testament to the enduring appeal of Heinlein's work that "The Roads Must Roll" remains a popular and influential story more than 80 years after its initial publication.

Like Heinlein himself, this story was controversial, getting mixed critical responses in the media at the time of its release. Some reviewers praised Heinlein's imaginative concept and fast-paced storytelling, highlighting the story's relevance to issues of infrastructure and labor relations. Others criticized the story for its heavy-handed political commentary and perceived anti-union sentiment.

Despite the mixed reviews, "The Roads Must Roll" has remained a notable entry in Heinlein's body of work, with many readers appreciating its prescient take on the challenges of building and maintaining critical infrastructure in the face of political and economic pressures.

I can personally testify that this is a story you can't "unread." It'll stick with you due to its vivid and intense storytelling.

The dystopia continues in Issue 05 with these stories:

"A Pail of Air" by Fritz Leiber: A family struggles to survive on a frozen future Earth after a catastrophic event sends the planet hurtling away from the Sun.

"Watchbird" by Robert Sheckley: In a future where crime is prevented by omnipresent robotic birds, a man must outwit the system to protect himself from a potential murder plot.

"There Will Come Soft Rains" by Ray Bradbury: A sentient house continues to operate long after its inhabitants have been obliterated by nuclear war, offering a haunting commentary on technology and humanity. I think you'll be struck by how much of the tech he describes now exists, and the fact that the story is set in the year 2026!

"The Machine Stops" by E.M. Forster: In a dystopian time-to-come, humanity has become completely reliant on technology, only to face disaster when the global machine that sustains them begins to break down.

This Month's Feature Article

In keeping with our distopic theme, we've put together a brief examination of 20th Century America, the factors that "led to dread," and how it spawned an entirely new category of science fiction obsessed with potential nightmare futures for our species. An interesting read!

Letters to the Editor, 21st Century Style

Back when the magazines whose stories we feature were on the newsstands, feedback took the form of "Letters to the Editor," and involved pens, blue ink, sheets of paper, gummed envelopes, and lick-and-stick postage stamps. In this "future world of the present," email makes the process is a lot quicker and easier. We deeply appreciate your readership, and are always grateful to hear

your thoughts on our publication and the stories it contains. Feel free to write to us after you've read Issue 05 and let us know what you think.

On the Web

An notion that would have sounded to mysterious and futuristic to us during much of the 20th Century is, "the World Wide Web." Consider how sci-fi that actually sounds, when you stop to think about it! But it's a central reality now in this next century, and The Interocitor takes advantage of it several ways. Our website gives background on the magazine and provides download links to all of the available issues. And our Facebook page (another name that would have sounded downright futuristic in the previous century) welcomes readers to join in the discussion of classic stories and enjoy wonderful old illustrations from the magazine era that's our focus (mid 20th Century). Join us there, chime in with your comments and, importantly, hit the Invite button and ask your friends to join you.

Love us? Support us!

We do this as a labor of love, but we do have a few expenses, so if you'd like to help us out, consider buying the beautiful coffee mug we've designed, and matching sporty t-shirt, both with The Interocitor logo. A perfect accompaniment to your reading adventures. Check out our little online store for those and other goodies.

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Thanks to these special people

Lyza Herman, Story Research

Anderson Rearich, Story Research

Ben Taylor, Story Research

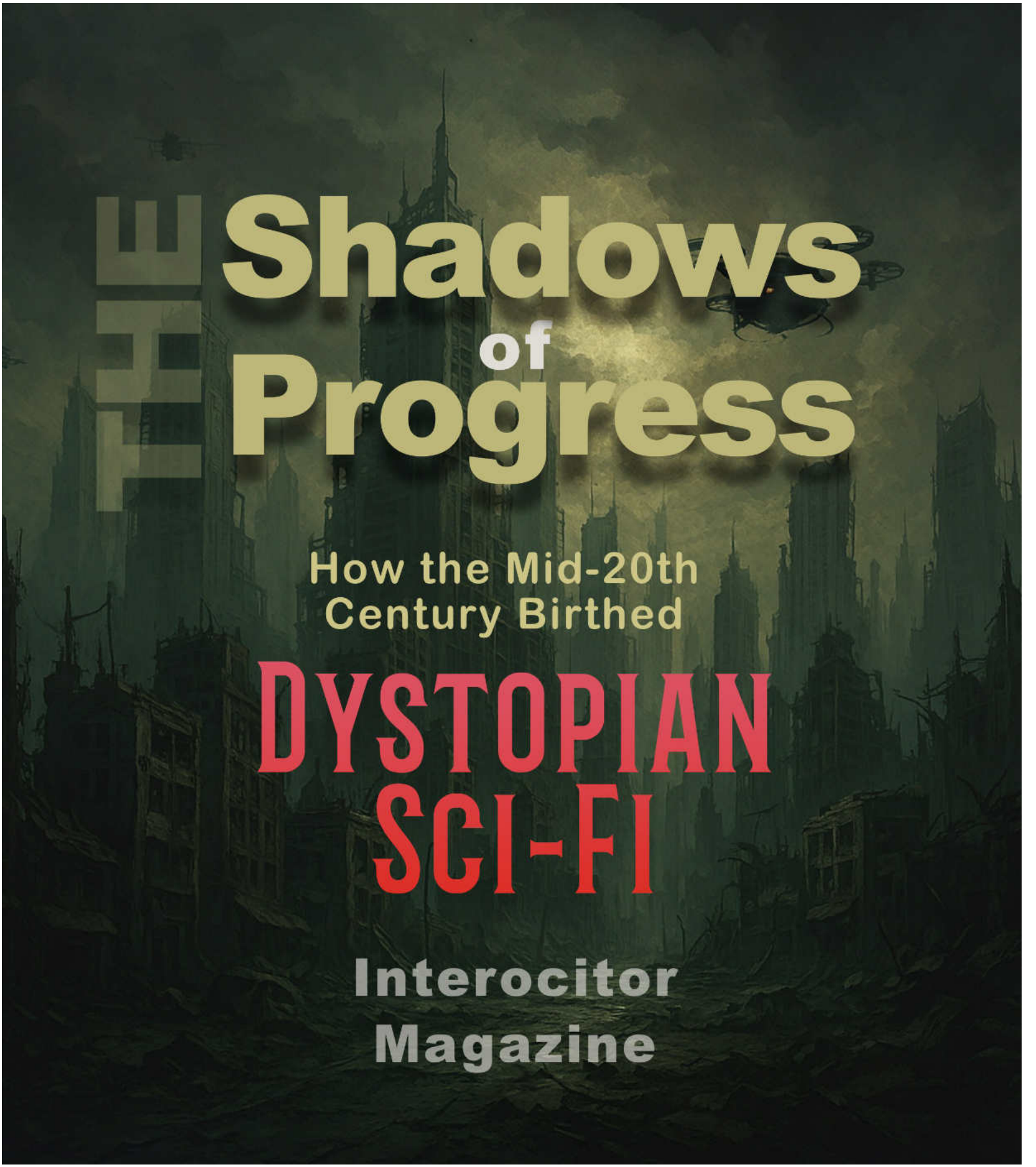
Mark Nelson, Story Research

Jay Rietz, Story Review and Proofreading

Alexander Smith, Technical Assistance

Jerry Fuchs, Cartoonist

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



Considering the major move toward dystopic storytelling during

the decades of literature we cover in The Interocitor, we're doing a complete issue that features stories around that theme. Here's an article that talks about the trend, and what brought it on.

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The mid-20th century was a paradoxical era—brimming with technological optimism yet haunted by existential dread. It was a time when humanity split the atom, launched satellites into orbit, and dreamed of utopias powered by science. But beneath the gleaming surface of progress lay deep anxieties: totalitarian regimes, nuclear annihilation, environmental degradation, and the loss of individual autonomy. These tensions gave rise to a golden age of dystopian science fiction, where writers turned societal fears into cautionary tales that still resonate today.

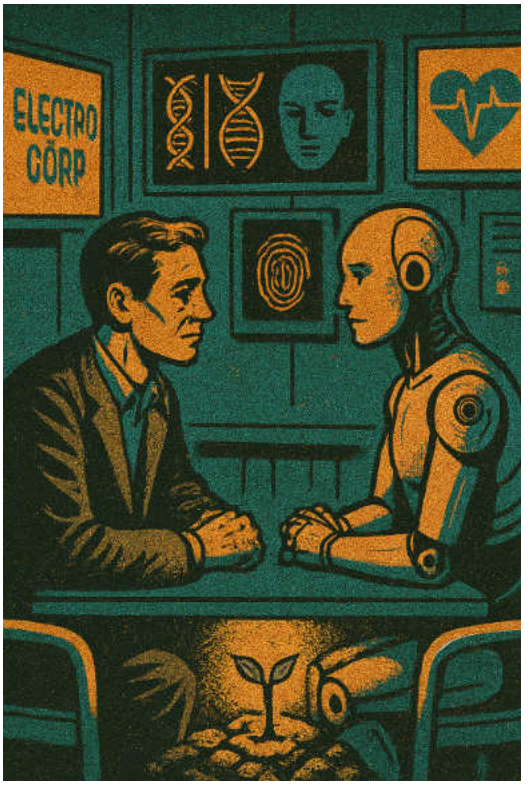
The Atomic Age and the Fear of Annihilation

The detonation of atomic bombs over Hiroshima and Nagasaki in 1945 marked not just the end of World War II, but the beginning of a new psychological era. The Cold War that followed plunged the world into a state of perpetual tension, with the threat of mutually assured destruction looming over everyday life. This existential fear seeped into science fiction, where nuclear war often served as the backdrop for dystopian futures.

Novels like Nevil Shute's On the Beach (1957) imagined a world slowly dying from radioactive fallout, while films such as Dr. Strangelove (1964) satirized the absurdity of nuclear brinkmanship. The mushroom cloud became a symbol not just of power, but of humanity's capacity for self-destruction—a theme that dystopian sci-fi explored with chilling clarity.

Totalitarianism and the Surveillance State

The rise of fascism and communism in the early 20th century left deep scars. By the 1950s, the world had witnessed the horrors of Nazi Germany, Stalinist purges, and the iron grip of authoritarian regimes. George Orwell's 1984, published in 1949, distilled these fears into a vision of a society where truth is malleable, history is rewritten, and surveillance is omnipresent.



Orwell's "Big Brother" became shorthand for the intrusive state, and his novel remains one of the most influential dystopian texts ever written. Similarly, Ray Bradbury's Fahrenheit 451 (1953) warned of a future where censorship and conformity suppress intellectual freedom. These works weren't just speculative—they were urgent critiques of real political trends, wrapped in the guise of fiction.

The Rise of Technology and Loss of Humanity

The post-war boom brought rapid

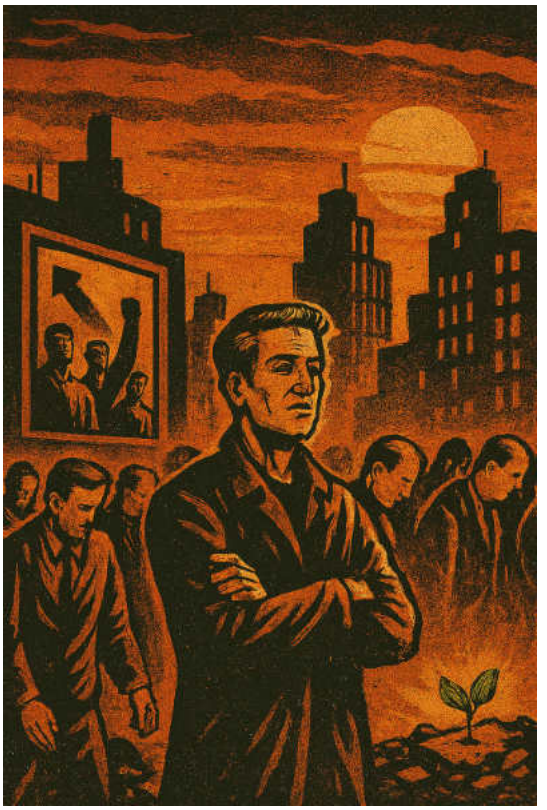
technological advancement: television, computers, automation, and the early stirrings of artificial intelligence. While these innovations promised convenience and prosperity, they also sparked fears of dehumanization. Could machines replace human workers? Would technology erode privacy, empathy, even free will?

Philip K. Dick's stories, like Do Androids Dream of Electric Sheep? (1968), questioned what it meant to be human in a world of synthetic beings and corporate control. His paranoid, fragmented narratives reflected a society grappling with the implications of its own inventions. Meanwhile, films like Metropolis (1927, but rediscovered mid-century) and The Day the Earth Stood Still (1951) explored the tension between technological utopia and dystopia.

Environmental Anxiety and Post-Apocalyptic Visions

Industrialization and urban sprawl began to raise concerns about the planet's future. Though the environmental movement wouldn't fully blossom until the 1960s and 70s, mid-century sci-fi was already imagining worlds ravaged by pollution, overpopulation, and ecological collapse.

John Wyndham's The Day of the Triffids (1951) depicted a world overrun by carnivorous plants after a cosmic event blinds most of humanity. The story blended ecological horror with post-apocalyptic survival, a formula that would become increasingly popular. These narratives reflected growing unease about humanity's impact on nature—and nature's potential revenge.



The Individual vs. the System

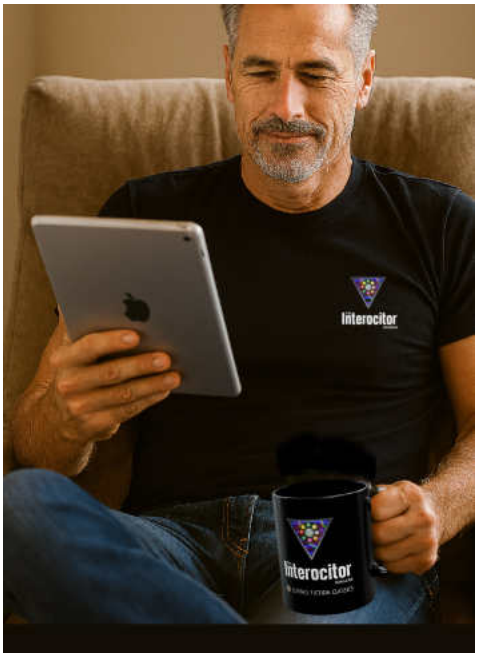
One of the most enduring themes of dystopian sci-fi is the struggle of the individual against oppressive systems. In the mid-20th century, this theme gained urgency as conformity became a social ideal. The suburbanization of America, the rise of consumer culture, and the pressure to fit into narrowly defined roles created a sense of alienation.

Aldous Huxley's Brave New World (1932, but widely read mid-century) offered a chilling vision of a society pacified by pleasure, where individuality is sacrificed for stability. Unlike Orwell's brutal regime, Huxley's dystopia seduces rather than coerces—a critique of the subtle mechanisms of control in modern life.

Why It Mattered (And why it Still Does)

Mid-century dystopian sci-fi wasn't just entertainment. It was a mirror held up to society, reflecting its darkest fears and deepest contradictions. These stories asked uncomfortable questions: What price do we pay for security? Can freedom survive in a world of constant surveillance? Is progress always progress?

The genre flourished because it tapped into the zeitgeist of an era of srapid change, geopolitical tension, and philosophical uncertainty. Writers used speculative futures to critique the present, and in doing so, they created enduring works that continue to shape our understanding of power, technology, and humanity.



Travel With Us

Now that we understand the why, let's adventure together into those dark and perilous futures from the safety of our easy chair, knowing we can return gratefully afterwards to a world that still has blue skies, a warm sun, the freedom to choose our jobs, friends, and spouses, where we can still learn, travel, and speak our minds. As we read these chilling tails, let's resolve to do everything we can to preserve those precious gifts for the generations that will follow us.

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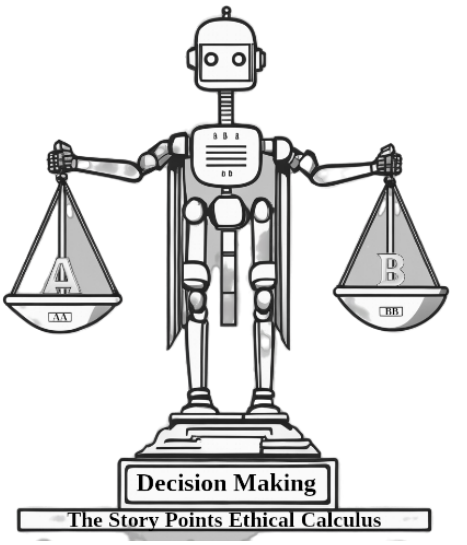


See the #StoryPointsEC article!

Contact AGMS unit #00 for redundant details.

There Will Come Soft Rains

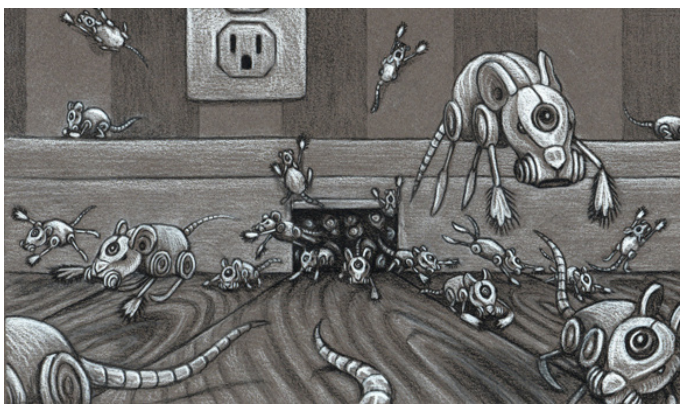
Ray Bradbury

There Will Come Soft Rains By: Ray Bradbury was first published in Collier's Magazine in 1950.

In the living room the voice-clock sang, Tick-tock, seven o'clock, time to get up, time to get up, seven o 'clock! as if it were afraid that nobody would. The morning house lay empty. The clock ticked on, repeating and repeating its sounds into the emptiness. Seven-nine, breakfast time, seven-nine!

In the kitchen the breakfast stove gave a hissing sigh and ejected from its warm interior eight pieces of perfectly browned toast, eight eggs sunny side up, sixteen slices of bacon, two coffees, and two cool glasses of milk. "Today is August 4, 2026," said a second voice from the kitchen ceiling, "in the city of Allendale, California." It repeated the date three times for memory's sake. "Today is Mr. Featherstone's birthday. Today is the anniversary of Tilita's marriage. Insurance is payable, as are the water, gas, and light bills." Somewhere in the walls, relays clicked, memory tapes glided under electric eyes.

Eight-one, tick-tock, eight-one o'clock, off to school, off to work, run, run, eight-one! But no doors slammed, no carpets took the soft tread of rubber heels. It was raining outside. The weather box on the front door sang quietly: "Rain, rain, go away; umbrellas, raincoats for today. .." And the rain tapped on the empty house, echoing. Outside, the garage chimed and lifted its door to reveal the waiting car. After a long wait the door swung down again. At eight-thirty the eggs were shriveled and the toast was like stone. An aluminum wedge scraped them into the sink, where hot water whirled them down a metal throat which digested and flushed them away to the distant sea. The dirty dishes were dropped into a hot washer and emerged twinkling dry. Nine-fifteen, sang the clock, time to clean.



Out of warrens in the wall, tiny robot mice darted. The rooms were a'crawl with the small cleaning animals, all rubber and metal. They thudded against chairs, whirling their mustachioed runners, kneading the rug nap, sucking gently at hidden dust. Then, like mysterious invaders, they popped into their burrows. Their pink electric eyes faded. The house was clean.

Ten o'clock. The sun came out from behind the rain. The house stood alone in a city of rubble and ashes. This was the one house left standing. At night the ruined city gave off a radioactive glow which could be seen for miles.

Ten-fifteen. The garden sprinklers whirled up in golden founts, filling the soft morning air with scatterings of brightness. The water pelted window panes, running down the charred west side where the house had been burned, evenly free of its white paint. The entire west face of the house was black, save for five places. Here the silhouette in paint of a man mowing a lawn. Here, as in a photograph, a woman bent to pick flowers. Still farther over, their images burned on wood in one titanic instant, a small boy, hands flung into the air; higher up, the image of a thrown ball, and opposite him a girl, hands raised to catch a ball which never came down. The five spots of paint - the man, the woman, the children, the ball - remained. The rest was a thin charcoaled layer. The gentle sprinkler rain filled the garden with falling light.

Until this day, how well the house had kept its peace. How carefully it had inquired, "Who goes there? What's the password?" and, getting no answer from lonely foxes and whining cats, it had shut up its windows and drawn shades in an old-maidenly preoccupation with self-protection which bordered on a mechanical paranoia. It quivered at each sound, the house did. If a sparrow brushed a window, the shade snapped up. The bird, startled, flew off! No, not even a bird must touch the house! Twelve noon.

A dog whined, shivering, on the front porch.

The front door recognized the dog voice and opened. The dog, once huge and fleshy, but now gone to bone and covered with sores, moved in and through the house, tracking mud. Behind it whirred angry mice, angry at having to pick up mud, angry at inconvenience. For not a leaf fragment blew under the door but what the wall panels flipped open and the copper scrap rats flashed swiftly out. The offending dust, hair, or paper, seized in miniature steel jaws, was raced back to the burrows. There, down tubes which fed into the cellar, it was dropped into the sighing vent of an incinerator which sat like evil Baal in a dark corner.

The dog ran upstairs, hysterically yelping to each door, at last realizing, as the house realized, that only silence was here. It sniffed the air and scratched the kitchen door. Behind the door, the stove was making pancakes which filled the house with a rich baked odour and the scent of maple syrup. The dog frothed at the mouth, lying at the door, sniffing, its eyes turned to fire. It ran wildly in circles, biting at its tail, spun in a frenzy, and died. It lay in the parlor for an hour. Two o'clock, sang a voice.

Delicately sensing decay at last, the regiments of mice hummed out as softly as blown gray leaves in an electrical wind. Two-fifteen. The dog was gone.

In the cellar, the incinerator glowed suddenly and a whirl of sparks leaped up the chimney. Two thirty-five. Bridge tables sprouted from patio walls. Playing cards fluttered onto pads in a shower of pips. Martinis manifested on an oaken bench with egg-salad sandwiches. Music played. But the tables were silent and the cards untouched.

At four o'clock the tables folded like great butterflies back through the paneled walls . Four-thirty. The nursery walls glowed.

Animals took shape: yellow giraffes, blue lions, pink antelopes, lilac panthers cavorting in crystal substance. The walls were glass. They looked out upon color and fantasy. Hidden films clocked through well-oiled sprockets, and the walls lived. The nursery floor was woven to resemble a crisp, surreal meadow. Over this ran aluminum roaches and iron crickets,

and in the hot still air butterflies of delicate red tissue wavered among the sharp aroma of animal spoors! There was the sound like a great matted yellow hive of bees within a dark bellows, the lazy bumble of a purring lion. And there was the patter of okapi feet and the murmur of a fresh jungle rain, like other hoofs, falling upon the summer-starched grass. Now the walls dissolved into distances of parched grass, mile on mile, and warm endless sky. The animals drew away into thorn brakes and water holes. It was the children's hour. Five o'clock. The bath filled with clear hot water.

Six, seven, eight o'clock. The dinner dishes manipulated like magic tricks, and in the study a click. In the metal stand opposite the hearth where a fire now blazed up warmly, a cigar popped out, half an inch of soft gray ash on it, smoking, waiting. Nine o'clock. The beds warmed their hidden circuits, for nights were cool here.

Nine-five. A voice spoke from the study ceiling: "Mrs. McClellan, which poem would you like this evening?" The house was silent. The voice said at last, "Since you express no preference, I shall select a poem at random." Quiet music rose to back the voice. "Sara Teasdale. As I recall, your favourite...

"There will come soft rains and the smell of the ground,
And swallows circling with their shimmering sound;
And frogs in the pools singing at night,
And wild plum trees in tremulous white;
Robins will wear their feathery fire,
Whistling their whims on a low fence-wire;
And not one will know of the war,
Not one will care at last when it is done.
Not one would mind, neither bird nor tree,
If mankind perished utterly;

And Spring herself, when she woke at dawn,
Would scarcely know that we were gone."

The fire burned on the stone hearth and the cigar fell away into a mound of quiet ash on its tray. The empty chairs faced each other between the silent walls, and the music played. At ten o'clock the house began to die.

The wind blew. A falling tree bough crashed through the kitchen window. Cleaning solvent, bottled, shattered over the stove. The room was ablaze in an instant! "Fire!" screamed a voice. The house lights flashed, water pumps shot water from the ceilings. But the solvent spread on the linoleum, licking, eating, under the kitchen door, while the voices took it up in chorus: "Fire, fire, fire!"

The house tried to save itself. Doors sprang tightly shut, but the windows were broken by the heat and the wind blew and sucked upon the fire. The house gave ground as the fire in ten billion angry sparks moved with flaming ease from room to room and then up the stairs. While scurrying water rats squeaked from the walls, pistolled their water, and ran for more. And the wall sprays let down showers of mechanical rain.

But too late. Somewhere, sighing, a pump shrugged to a stop. The quenching rain ceased. The reserve water supply which had filled baths and washed dishes for many quiet days was gone. The fire crackled up the stairs. It fed upon Picassos and Matisses in the upper halls, like delicacies, baking off the oily flesh, tenderly crisping the canvases into black shavings. Now the fire lay in beds, stood in windows, changed the colors of drapes!

And then, reinforcements. From attic trapdoors, blind robot faces peered down with faucet mouths gushing green chemical. The fire backed off, as even an elephant must at the sight of a dead snake.

Now there were twenty snakes whipping over the floor, killing the fire

with a clear cold venom of green froth. But the fire was clever. It had sent flame outside the house, up through the attic to the pumps there. An explosion! The attic brain which directed the pumps was shattered into bronze shrapnel on the beams. The fire rushed back into every closet and felt of the clothes hung there.

The house shuddered, oak bone on bone, its bared skeleton cringing from the heat, its wire, its nerves revealed as if a surgeon had torn the skin off to let the red veins and capillaries quiver in the scalded air. Help, help! Fire! Run, run! Heat snapped mirrors like the first brittle winter ice. And the voices wailed. Fire, fire, run, run, like a tragic nursery rhyme, a dozen voices, high, low, like children dying in a forest, alone, alone. And the voices fading as the wires popped their sheathings like hot chestnuts. One, two, three, four, five voices died.

In the nursery the jungle burned. Blue lions roared, purple giraffes bounded off. The panthers ran in circles, changing color, and ten million animals, running before the fire, vanished of toward a distant steaming river Ten more voices died. In the last instant under the fire avalanche, other choruses, oblivious, could be heard announcing the time, cutting the lawn by remote-control mower, or setting an umbrella frantically out and in, the slamming and opening front door, a thousand things happening, like a clock shop when each clock strikes the hour insanely before or after the other, a scene of maniac confusion, yet unity; singing, screaming, a few last cleaning mice darting bravely out to carry the horrid ashes away! And one voice, with sublime

disregard for the situation, read poetry aloud in the fiery study, until at last the film spools burned, until all the wires withered and the circuits cracked. The fire burst the house and let it slam flat down, puffing out skirts of spark and smoke.

In the kitchen, an instant before the rain of fire and timber, the stove could be seen making breakfasts at a psychopathic rate, ten dozen eggs, six loaves of toast, twenty dozen bacon strips, which, eaten by fire, started the stove working again, hysterically hissing! The crash. The attic smashing into kitchen and parlour. The parlour into cellar, cellar into sub-cellar. Deep freeze, armchair, film tapes, circuits, beds, and all like skeletons thrown in a cluttered mound deep under. Smoke and silence. A great quantity of smoke.

Dawn showed faintly in the east. Among the ruins, one wall stood alone. Within the wall, a last voice said, over and over again and again, even as the sun rose to shine upon the heaped rubble and steam: "Today is August 5, 2026, today is August 5, 2026, today is "

THE END

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ABOUT THE AUTHOR

Ray Bradbury was a prolific American author celebrated for his fantasy and science fiction novels and short stories, including the dystopian classic Fahrenheit 451. Born in 1920, he was inspired to write by a carnival magician at age 12 and continued writing daily for the rest of his life. His work often featured poetic language to explore themes of social

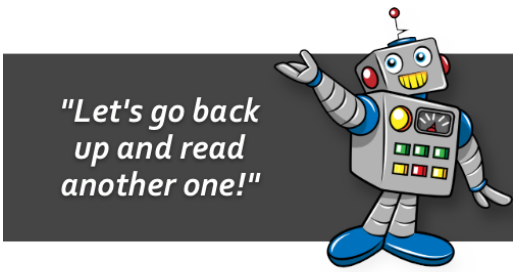
commentary, technology, and childhood nostalgia. Bradbury passed away in 2012 at the age of 91.

Early life and career: Born in Waukegan, Illinois, Bradbury moved to Los Angeles with his family and published his first short story collection, Dark Carnival, in 1947. He began writing full-time after being rejected for military service due to poor eyesight during World War II.

Key works: Besides Fahrenheit 451, some of his most famous works include The Martian Chronicles and The Illustrated Man.v

Writing style: Bradbury was known for a poetic and sensory style that blended genres like fantasy, horror, and mystery. He often used his work to critique society, particularly its increasing reliance on technology and the dangers of censorship.

Legacy: Throughout his 70-year career, he wrote over 400 short stories and nearly 50 books. He received numerous awards and accolades, including a Pulitzer Prize citation in 2007 for his influential career. In his later years, he adapted many of his stories for the television series The Ray Bradbury Theater.



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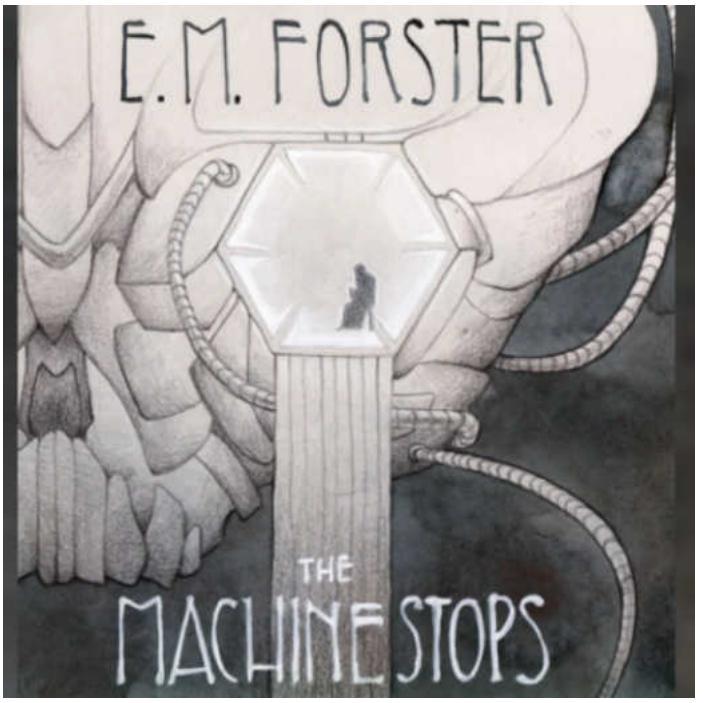
THE MACHINE STOPS

E.M. Forster

We're really reaching back into antiquity for this over 100-year-old story, so expect some "quaint" touches...but "The Machine Stops" is a highly regarded dystopian science fiction short story by E. M. Forster. After initial publication in The Oxford and Cambridge Review (November 1909), the story was republished in Forster's The Eternal Moment and Other Stories in 1928. Among other things, his story foreshadowed technologies like instant messaging and the Internet.

1 The Air-Ship



Imagine, if you can, a small room, hexagonal in shape, like the cell of a bee. It is lighted neither by window nor by lamp, yet it is filled with a soft radiance. There are no apertures for ventilation, yet the air is fresh. There are no musical instruments, and yet, at the moment that my meditation opens, this room is throbbing with melodious sounds. An armchair is in the centre, by its side a reading-desk — that is all the furniture. And in the armchair there sits a swaddled lump of flesh — a woman, about five feet high, with a face as white as a fungus. It is to her that the little room belongs.

But when she listened into the receiver, her white face wrinkled into smiles, and she said:

"Very well. Let us talk, I will isolate myself. I do not expect anything important will happen for the next five minutes — for I can give you fully five minutes, Kuno. Then I must deliver my lecture on 'Music during the Australian Period'."

She touched the isolation knob, so that no one else could speak to her. Then she touched the lighting apparatus, and the little room was plunged into darkness.

"Be quick!" she called, her irritation returning. "Be quick, Kuno; here I am in the dark wasting my time."

But it was fully fifteen seconds before the round plate that she held in her hands began to glow. A faint blue light shot across it, darkening to purple, and presently she could see the image of her son, who lived on the other side of the earth, and he could see her.

"Kuno, how slow you are." He smiled gravely.

"I really believe you enjoy dawdling."

"I have called you before, mother, but you were always busy or isolated. I have some- thing particular to say."

"What is it, dearest boy? Be quick. Why could you not send it by pneumatic post?" "Because I prefer saying such a thing. I want —"

"Well?"

"I want you to come and see me."

Vashti watched his face in the blue plate.

"But I can see you!" she exclaimed. "What more do you want?"

"I want to see you not through the Machine," said Kuno. "I want to speak to you not through the wearisome Machine."

"Oh, hush!" said his mother, vaguely shocked. "You mustn't say anything against the Machine."

"Why not?"

"One mustn't."

"You talk as if a god had made the Machine," cried the other. "I believe that you pray to it when you are unhappy. Men made it, do not forget that. Great men, but men. The Machine is much, but it is not everything. I see something like you in this plate, but I do not see you. I hear something like you through this telephone, but I do not hear you. That is why I want you to come. Pay me a visit, so that we can meet face to face, and talk about the hopes that are in my mind."

She replied that she could scarcely spare the time for a visit. "The air-ship barely takes two days to fly between me and you." "I dislike air-ships."

"Why?"

"I dislike seeing the horrible brown earth, and the sea, and the stars when it is dark. I get no ideas in an air-ship."

"I do not get them anywhere else."

"What kind of ideas can the air give you?" He paused for an instant.

"Do you not know four big stars that form an oblong, and three stars close together in the middle of the oblong, and hanging from these stars, three other stars?"

"No, I do not. I dislike the stars. But did they give you an idea? How interesting; tell me."

"I had an idea that they were like a man." "I do not understand."

"The four big stars are the man's shoulders and his knees.

The three stars in the middle are like the belts that men wore once, and the three stars hanging are like a sword."

"A sword?"

"Men carried swords about with them, to kill animals and other men."

"It does not strike me as a very good idea, but it is certainly original. When did it come to you first?"

"In the air-ship —" He broke off, and she fancied that he looked sad. She could not be sure, for the Machine did not transmit nuances of expression. It only gave a general idea of people — an idea that was good enough for all practical purposes, Vashti thought. The imponderable bloom, declared by a discredited philosophy to be the actual essence of intercourse, was rightly ignored by the Machine, just as the imponderable bloom of the grape was ignored by the manufacturers of artificial fruit. Something

"good enough" had long since been accepted by our race.

"The truth is," he continued, "that I want to see these stars again. They are curious stars. I want to see them not from the air-ship, but from the surface of the earth, as our ancestors did, thousands of years ago. I want to visit the surface of the earth."

She was shocked again.

"Mother, you must come, if only to explain to me what is the harm of visiting the surface of the earth."

"No harm," she replied, controlling herself. "But no advantage. The surface of the earth is only dust and mud, no advantage. The surface of the earth is only dust and mud, no life remains on it, and you would need a respirator, or the cold of the outer air would kill you. One dies immediately in the outer air."

"I know; of course I shall take all precautions." "And besides —"

"Well?"

She considered, and chose her words with care. Her son had a queer temper, and she wished to dissuade him from the expedition.

"It is contrary to the spirit of the age," she asserted. "Do you mean by that, contrary to the Machine?" "In a sense, but —"

His image is the blue plate faded. "Kuno!"

He had isolated himself.

For a moment Vashti felt lonely.

Then she generated the light, and the sight of her room, flooded with radiance and studded with electric buttons, revived her. There were buttons and switches everywhere — buttons to call for food for music, for clothing. There was the hot-bath button, by pressure of which a basin of (imitation) marble rose out of the floor, filled to the brim with a warm deodorized liquid. There was the cold-bath button. There was the button that produced literature. And there were of course the buttons by which she communicated with her friends. The room, though it contained nothing, was in touch with all that she cared for in the world.

Vashti's next move was to turn off the isolation switch, and all the accumulations of the last three minutes burst upon her. The room was filled with the noise of bells, and speaking-tubes. What was the new food like? Could she recommend it? Has she had any ideas lately? Might one tell her one's own ideas? Would she make an engagement to visit the public nurseries at an early date? — say this day month.

To most of these questions she replied with irritation — a growing quality in that accelerated age. She said that the new food was horrible. That she could not visit the public nurseries through press of engagements. That she had no ideas of her own but had just been told one-that four stars and three in the middle were like a man: she doubted there was much in it. Then she switched off her correspondents, for it was time to deliver her lecture on Australian music.

The clumsy system of public gatherings had been long since abandoned; neither Vashti nor her audience stirred from their rooms. Seated in her armchair she spoke, while they in their armchairs heard her, fairly well, and saw her, fairly well. She opened with a humorous account of music in the pre-Mongolian epoch, and went on to describe the great outburst of song that followed the Chinese conquest. Remote and primitive as were the

methods of I-San-So and the Brisbane school, she yet felt (she said) that study of them might repay the musicians of today: they had freshness; they had, above all, ideas.

Her lecture, which lasted ten minutes, was well received, and at its conclusion she and many of her audience listened to a lecture on the sea; there were ideas to be got from the sea; the speaker had donned a respirator and visited it lately. Then she fed, talked to many friends, had a bath, talked again, and summoned her bed.

The bed was not to her liking. It was too large, and she had a feeling for a small bed. Complaint was useless, for beds were of the same dimension all over the world, and to have had an alternative size would have involved vast alterations in the Machine. Vashti isolated herself-it was necessary, for neither day nor night existed under the ground-and reviewed all that had happened since she had summoned the bed last. Ideas? Scarcely any. Events

— was Kuno's invitation an event?

By her side, on the little reading-desk, was a survival from the ages of litter — one book. This was the Book of the Machine. In it were instructions against every possible contingency. If she was hot or cold or dyspeptic or at a loss for a word, she went to the book, and it told her which button to press. The Central Committee published it. In accordance with a growing habit, it was richly bound.

Sitting up in the bed, she took it reverently in her hands. She glanced round the glowing room as if some one might be watching her. Then, half ashamed, half joyful, she murmured

"O Machine! O Machine!" and raised the volume to her lips. Thrice she kissed it, thrice inclined her head, thrice she felt the delirium of acquiescence. Her ritual performed, she turned to page 1367, which gave

the times of the departure of the air-ships from the island in the southern hemisphere, under whose soil she lived, to the island in the northern hemisphere, whereunder lived her son.

She thought, "I have not the time."

She made the room dark and slept; she awoke and made the room light; she ate and exchanged ideas with her friends, and listened to music and attended lectures; she make the room dark and slept. Above her, beneath her, and around her, the Machine hummed eternally; she did not notice the noise, for she had been born with it in her ears. The earth, carrying her, hummed as it sped through silence, turning her now to the invisible sun, now to the invisible stars. She awoke and made the room light.

"Kuno!"

"I will not talk to you," he answered, "until you come."

"Have you been on the surface of the earth since we spoke last?" His image faded.

Again she consulted the book. She became very nervous and lay back in her chair palpitating. Think of her as without teeth or hair. Presently she directed the chair to the wall, and pressed an unfamiliar button. The wall swung apart slowly. Through the opening she saw a tunnel that curved slightly, so that its goal was not visible. Should she go to see her son, here was the beginning of the journey.

Of course she knew all about the communication-system. There was nothing mysterious in it. She would summon a car and it would fly with her down the tunnel until it reached the lift that communicated with the air-ship station: the system had been in use for many, many years, long

before the universal establishment of the Machine. And of course she had studied the civilization that had immediately preceded her own — the civilization that had mistaken the functions of the system, and had used it for bringing people to things, instead of for bringing things to people. Those funny old days, when men went for change of air instead of changing the air in their rooms! And yet — she was frightened of the tunnel: she had not seen it since her last child was born. It curved — but not quite as she remembered; it was brilliant — but not quite as brilliant as a lecturer had suggested. Vashti was seized with the terrors of direct experience. She shrank back into the room, and the wall closed up again.

"Kuno," she said, "I cannot come to see you. I am not well."

Immediately an enormous apparatus fell on to her out of the ceiling, a thermometer was automatically laid upon her heart. She lay powerless. Cool pads soothed her forehead. Kuno had telegraphed to her doctor.

So the human passions still blundered up and down in the Machine. Vashti drank the medicine that the doctor projected into her mouth, and the machinery retired into the ceiling. The voice of Kuno was heard asking how she felt.

"Better." Then with irritation: "But why do you not come to me instead?" "Because I cannot leave this place."

"Why?"

"Because, any moment, something tremendous many happen." "Have you been on the surface of the earth yet?"

"Not yet."

"Then what is it?"

"I will not tell you through the Machine." She resumed her life.

But she thought of Kuno as a baby, his birth, his removal to the public nurseries, her own visit to him there, his visits to her — visits which stopped when the Machine had assigned him a room on the other side of the earth. "Parents, duties of," said the book of the Machine, "cease at the moment of birth. P.422327483." True, but there was something special about Kuno — indeed there had been something special about all her children — and, after all, she must brave the journey if he desired it. And "something tremendous might happen." What did that mean? The nonsense of a youthful man, no doubt, but she must go. Again she pressed the unfamiliar button, again the wall swung back, and she saw the tunnel that curves out of sight. Clasping the Book, she rose, tottered on to the platform, and summoned the car. Her room closed behind her: the journey to the northern hemisphere had begun.

Of course it was perfectly easy. The car approached and in it she found arm-chairs exactly like her own. When she signaled, it stopped, and she tottered into the lift. One other passenger was in the lift, the first fellow creature she had seen face to face for months. Few travelled in these days, for, thanks to the advance of science, the earth was exactly alike all over. Rapid intercourse, from which the previous civilization had hoped so much, had ended by defeating itself. What was the good of going to Pekin when it was just like Shrewsbury? Why return to Shrewsbury when it would all be like Pekin? Men seldom moved their bodies; all unrest was concentrated in the soul.

The air-ship service was a relic from the former age. It was kept up, because it was easier to keep it up than to stop it or to diminish it, but it now far exceeded the wants of the population. Vessel after vessel would rise from the vomitories of Rye or of Christchurch (I use the antique

names), would sail into the crowded sky, and would draw up at the wharves of the south — empty. So nicely adjusted was the system, so independent of meteorology, that the sky, whether calm or cloudy, resembled a vast kaleidoscope whereon the same patterns periodically recurred. The ship on which Vashti sailed started now at sunset, now at dawn. But always, as it passed above Rheims, it would neighbour the ship that served between Helsingfors and the Brazils, and, every third time it surmounted the Alps, the fleet of Palermo would cross its track behind. Night and day, wind and storm, tide and earthquake, impeded man no longer. He had harnessed Leviathan. All the old literature, with its praise of Nature, and its fear of Nature, rang false as the prattle of a child.

Yet as Vashti saw the vast flank of the ship, stained with exposure to the outer air, her horror of direct experience returned. It was not quite like the air-ship in the cinematophote. For one thing it smelt — not strongly or unpleasantly, but it did smell, and with her eyes shut she should have known that a new thing was close to her. Then she had to walk to it from the lift, had to submit to glances from the other passengers. The man in front dropped his Book — no great matter, but it disquieted them all. In the rooms, if the Book was dropped, the floor raised it mechanically, but the gangway to the air-ship was not so prepared, and the sacred volume lay motionless. They stopped — the thing was unforeseen and the man, instead of picking up his property, felt the muscles of his arm to see how they had failed him. Then some one actually said with direct utterance: "We shall be late"and they trooped on board, Vashti treading on the pages as she did so.

Inside, her anxiety increased. The arrangements were old-fashioned and rough. There was even a female attendant, to whom she would have to announce her wants during the voyage. Of course a revolving platform ran the length of the boat, but she was expected to walk from it to her cabin. Some cabins were better than others, and she did not get the best. She thought the attendant had been unfair, and spasms of rage shook her. The

glass valves had closed, she could not go back. She saw, at the end of the vestibule, the lift in which she had ascended going quietly up and down, empty. Beneath those corridors of shining tiles were rooms, tier below tier, reaching far into the earth, and in each room there sat a human being, eating, or sleeping, or producing ideas. And buried deep in the hive was her own room. Vashti was afraid.

"O Machine!" she murmured, and caressed her Book, and was comforted.

Then the sides of the vestibule seemed to melt together, as do the passages that we see in dreams, the lift vanished, the Book that had been dropped slid to the left and vanished, polished tiles rushed by like a stream of water, there was a slight jar, and the air-ship, issuing from its tunnel, soared above the waters of a tropical ocean.

It was night. For a moment she saw the coast of Sumatra edged by the phosphorescence of waves, and crowned by lighthouses, still sending forth their disregarded beams. These also vanished, and only the stars distracted her. They were not motionless, but swayed to and fro above her head, thronging out of one skylight into another, as if the universe and not the air-ship was careening. And, as often happens on clear nights, they seemed now to be in perspective, now on a plane; now piled tier beyond tier into the infinite heavens, now concealing infinity, a roof limiting for ever the visions of men. In either case they seemed intolerable. "Are we to travel in the dark?" called the passengers angrily, and the attendant, who had been careless, generated the light, and pulled down the blinds of pliable metal. When the air-ships had been built, the desire to look direct at things still lingered in the world. Hence the extraordinary number of skylights and windows, and the proportionate discomfort to those who were civilized and refined. Even in Vashti's cabin one star peeped through a flaw in the blind, and after a few hours' uneasy slumber, she was disturbed by an unfamiliar glow, which was the dawn.

Quick as the ship had sped westwards, the earth had rolled eastwards quicker still, and had dragged back Vashti and her companions towards the sun. Science could prolong the night, but only for a little, and those high hopes of neutralizing the earth's diurnal revolution had passed, together with hopes that were possibly higher. To "keep pace with the sun," or even to outstrip it, had been the aim of the civilization preceding this. Racing aeroplanes had been built for the purpose, capable of enormous speed, and steered by the greatest intellects of the epoch. Round the globe they went, round and round, westward, westward, round and round, amidst humanity's applause. In vain. The globe went eastward quicker still, horrible accidents occurred, and the Committee of the Machine, at the time rising into prominence, declared the pursuit illegal, unmechanical, and punishable by Homelessness.

Of Homelessness more will be said later.

Doubtless the Committee was right. Yet the attempt to "defeat the sun" aroused the last common interest that our race experienced about the heavenly bodies, or indeed about anything. It was the last time that men were compacted by thinking of a power outside the world. The sun had conquered, yet it was the end of his spiritual dominion. Dawn, midday, twilight, the zodiacal path, touched neither men's lives not their hearts, and science retreated into the ground, to concentrate herself upon problems that she was certain of solving.

So when Vashti found her cabin invaded by a rosy finger of light, she was annoyed, and tried to adjust the blind. But the blind flew up altogether, and she saw through the skylight small pink clouds, swaying against a background of blue, and as the sun crept higher, its radiance entered direct, brimming down the wall, like a golden sea. It rose and fell with the air-ship's motion, just as waves rise and fall, but it advanced steadily, as a tide advances. Unless she was careful, it would strike her face. A spasm of horror shook her and she rang for the attendant. The attendant too was

horrified, but she could do nothing; it was not her place to mend the blind. She could only suggest that the lady should change her cabin, which she accordingly prepared to do.

People were almost exactly alike all over the world, but the attendant of the air-ship, perhaps owing to her exceptional duties, had grown a little out of the common. She had often to address passengers with direct speech, and this had given her a certain roughness and originality of manner. When Vashti swerved away from the sunbeams with a cry, she behaved barbarically — she put out her hand to steady her.

"How dare you!" exclaimed the passenger. "You forget yourself!"

The woman was confused, and apologized for not having let her fall. People never touched one another. The custom had become obsolete, owing to the Machine.

"Where are we now?" asked Vashti haughtily.

"We are over Asia," said the attendant, anxious to be polite. "Asia?"

"You must excuse my common way of speaking. I have got into the habit of calling places over which I pass by their unmechanical names."

"Oh, I remember Asia. The Mongols came from it."

"Beneath us, in the open air, stood a city that was once called Simla."
"Have you ever heard of the Mongols and of the Brisbane school?" "No."

"Brisbane also stood in the open air."

"Those mountains to the right — let me show you them." She pushed back

a metal blind. The main chain of the Himalayas was revealed. "They were once called the Roof of the World, those mountains."

"What a foolish name!"

"You must remember that, before the dawn of civilization, they seemed to be an impenetrable wall that touched the stars. It was supposed that no one but the gods could exist above their summits. How we have advanced, thanks to the Machine!"

"How we have advanced, thanks to the Machine!" said Vashti.

"How we have advanced, thanks to the Machine!" echoed the passenger who had dropped his Book the night before, and who was standing in the passage.

"And that white stuff in the cracks? — what is it?" "I have forgotten its name."

"Cover the window, please. These mountains give me no ideas."

The northern aspect of the Himalayas was in deep shadow: on the Indian slope the sun had just prevailed. The forests had been destroyed during the literature epoch for the purpose of making newspaper-pulp, but the snows were awakening to their morning glory, and clouds still hung on the breasts of Kinchinjunga. In the plain were seen the ruins of cities, with diminished rivers creeping by their walls, and by the sides of these were sometimes the signs of vomitories, marking the cities of today

Over the whole prospect air-ships rushed, crossing the inter-crossing with incredible aplomb, and rising nonchalantly when they desired to escape the perturbations of the lower atmosphere and to traverse the Roof of the

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World.

"We have indeed advanced, thanks to the Machine," repeated the attendant, and hid the Himalayas behind a metal blind.

The day dragged wearily forward. The passengers sat each in his cabin, avoiding one another with an almost physical repulsion and longing to be once more under the surface of the earth. There were eight or ten of them, mostly young males, sent out from the public nurseries to inhabit the rooms of those who had died in various parts of the earth. The man who had dropped his Book was on the homeward journey. He had been sent to Sumatra for the purpose of propagating the race. Vashti alone was traveling by her private will.

At midday she took a second glance at the earth. The air-ship was crossing another range of mountains, but she could see little, owing to clouds. Masses of black rock hovered below her, and merged indistinctly into grey. Their shapes were fantastic; one of them resembled a prostrate man.

"No ideas here," murmured Vashti, and hid the Caucasus behind a metal blind.

In the evening she looked again. They were crossing a golden sea, in which lay many small islands and one peninsula.

She repeated, "No ideas here," and hid Greece behind a metal blind.

2 The Mending Apparatus

By a vestibule, by a lift, by a tubular railway, by a platform, by a sliding door — by reversing all the steps of her departure did Vashti arrive at her

son's room, which exactly resembled her own. She might well declare that the visit was superfluous. The buttons, the knobs, the reading-desk with the Book, the temperature, the atmosphere, the illumination, all were exactly the same. And if Kuno himself, flesh of her flesh, stood close beside her at last, what profit was there in that? She was too well-bred to shake him by the hand.

Averting her eyes, she spoke as follows:

"Here I am. I have had the most terrible journey and greatly retarded the development of my soul. It is not worth it, Kuno, it is not worth it. My time is too precious. The sunlight almost touched me, and I have met with the rudest people. I can only stop a few minutes. Say what you want to say, and then I must return."

"I have been threatened with Homelessness," said Kuno. She looked at him now.

"I have been threatened with Homelessness, and I could not tell you such a thing through the Machine."

Homelessness means death. The victim is exposed to the air, which kills him.

"I have been outside since I spoke to you last. The tremendous thing has happened, and they have discovered me."

"But why shouldn't you go outside?" she exclaimed, "It is perfectly legal, perfectly mechanical, to visit the surface of the earth. I have lately been to a lecture on the sea; there is no objection to that; one simply summons a respirator and gets an Egression-permit. It is not the kind of thing that spiritually minded people do, and I begged you not to do it, but there is

no legal objection to it."

"I did not get an Egression-permit." "Then how did you get out?"

"I found out a way of my own."

The phrase conveyed no meaning to her, and he had to repeat it. "A way of your own?" she whispered. "But that would be wrong." "Why?"

The question shocked her beyond measure.

"You are beginning to worship the Machine," he said coldly. "You think it irreligious of me to have found out a way of my own. It was just what the Committee thought, when they threatened me with Homelessness."

At this she grew angry. "I worship nothing!" she cried. "I am most advanced. I don't think you irreligious, for there is no such thing as religion left. All the fear and the superstition that existed once have been destroyed by the Machine. I only meant that to find out a way of your own was— Besides, there is no new way out."

"So it is always supposed."

"Except through the vomitories, for which one must have an Egression-permit, it is impossible to get out. The Book says so."

"Well, the Book's wrong, for I have been out on my feet." For Kuno was possessed of a certain physical strength.

By these days it was a demerit to be muscular. Each infant was examined at birth, and all who promised undue strength were destroyed. Humanitarians may protest, but it would have been no true kindness to let

an athlete live; he would never have been happy in that state of life to which the Machine had called him; he would have yearned for trees to climb, rivers to bathe in, meadows and hills against which he might measure his body. Man must be adapted to his surroundings, must he not? In the dawn of the world our weakly must be exposed on Mount Taygetus, in its twilight our strong will suffer euthanasia, that the Machine may progress, that the Machine may progress, that the Machine may progress eternally.

"You know that we have lost the sense of space. We say 'space is annihilated,' but we have annihilated not space, but the sense thereof. We have lost a part of ourselves. I determined to recover it, and I began by walking up and down the platform of the railway outside my room. Up and down, until I was tired, and so did recapture the meaning of 'Near' and 'Far.' 'Near' is a place to which I can get quickly on my feet, not a place to which the train or the air-ship will take me quickly. 'Far' is a place to which I cannot get quickly on my feet; the vomitory is 'far,' though I could be there in thirty-eight seconds by summoning the train. Man is the measure. That was my first lesson. Man's feet are the measure for distance, his hands are the measure for ownership, his body is the measure for all that is lovable and desirable and strong. Then I went further: it was then that I called to you for the first time, and you would not come.

"This city, as you know, is built deep beneath the surface of the earth, with only the vomitories protruding. Having paced the platform outside my own room, I took the lift to the next platform and paced that also, and so with each in turn, until I came to the topmost, above which begins the earth. All the platforms were exactly alike, and all that I gained by visiting them was to develop my sense of space and my muscles. I think I should have been content with this — it is not a little thing — but as I walked and brooded, it occurred to me that our cities had been built in the days when men still breathed the outer air, and that there had been ventilation shafts for the workmen. I could think of nothing but these ventilation shafts. Had

they been destroyed by all the food-tubes and medicine-tubes and music-tubes that the Machine has evolved lately? Or did traces of them remain? One thing was certain. If I came upon them anywhere, it would be in the railway-tunnels of the topmost story. Everywhere else, all space was accounted for.

"I am telling my story quickly, but don't think that I was not a coward or that your answers never depressed me. It is not the proper thing, it is not mechanical, it is not decent to walk along a railway-tunnel. I did not fear that I might tread upon a live rail and be killed. I feared something far more intangible — doing what was not contemplated by the Machine. Then I said to myself, 'Man is the measure,' and I went, and after many visits I found an opening.

"The tunnels, of course, were lighted. Everything is light, artificial light; darkness is the exception. So when I saw a black gap in the tiles, I knew that it was an exception, and rejoiced. I put in my arm — I could put in no more at first — and waved it round and round in ecstasy. I loosened another tile, and put in my head, and shouted into the darkness: 'I am coming, I shall do it yet,' and my voice reverberated down endless passages. I seemed to hear the spirits of those dead workmen who had returned each evening to the starlight and to their wives, and all the generations who had lived in the open air called back to me, 'You will do it yet, you are coming.'"

He paused, and, absurd as he was, his last words moved her. For Kuno had lately asked to be a father, and his request had been refused by the Committee. His was not a type that the Machine desired to hand on.

"Then a train passed. It brushed by me, but I thrust my head and arms into the hole. I had done enough for one day, so I crawled back to the platform, went down in the lift, and summoned my bed. Ah what dreams! And again I called you, and again you refused."

She shook her head and said:

"Don't. Don't talk of these terrible things. You make me miserable. You are throwing civilization away."

"But I had got back the sense of space and a man cannot rest then. I determined to get in at the hole and climb the shaft. And so I exercised my arms. Day after day I went through ridiculous movements, until my flesh ached, and I could hang by my hands and hold the pillow of my bed outstretched for many minutes. Then I summoned a respirator, and started.

"It was easy at first. The mortar had somehow rotted, and I soon pushed some more tiles in, and clambered after them into the darkness, and the spirits of the dead comforted me. I don't know what I mean by that. I just say what I felt. I felt, for the first time, that a protest had been lodged against corruption, and that even as the dead were comforting me, so I was comforting the unborn. I felt that humanity existed, and that it existed without clothes. How can I possibly explain this? It was naked, humanity seemed naked, and all these tubes and buttons and machineries neither came into the world with us, nor will they follow us out, nor do they matter supremely while we are here. Had I been strong, I would have torn off every garment I had, and gone out into the outer air unswaddled. But this is not for me, nor perhaps for my generation. I climbed with my respirator and my hygienic clothes and my dietetic tabloids! Better thus than not at all.

"There was a ladder, made of some primæval metal. The light from the railway fell upon its lowest rungs, and I saw that it led straight upwards out of the rubble at the bottom of the shaft. Perhaps our ancestors ran up and down it a dozen times daily, in their building. As I climbed, the rough edges cut through my gloves so that my hands bled. The light helped me for a little, and then came darkness and, worse still, silence which pierced

my ears like a sword. The Machine hums! Did you know that? Its hum penetrates our blood, and may even guide our thoughts. Who knows! I was getting beyond its power. Then I thought: 'This silence means that I am doing wrong.' But I heard voices in the silence, and again they strengthened me." He laughed. "I had need of them. The next moment I cracked my head against something."

She sighed.

"I had reached one of those pneumatic stoppers that defend us from the outer air. You may have noticed them on the air-ship. Pitch dark, my feet on the rungs of an invisible ladder, my hands cut; I cannot explain how I lived through this part, but the voices still comforted me, and I felt for fastenings. The stopper, I suppose, was about eight feet across. I passed my hand over it as far as I could reach. It was perfectly smooth. I felt it almost to the centre. Not quite to the centre, for my arm was too short. Then the voice said: 'Jump. It is worth it. There may be a handle in the centre, and you may catch hold of it and so come to us your own way. And if there is no handle, so that you may fall and are dashed to pieces — it is still worth it: you will still come to us your own way.' So I jumped. There was a handle, and —"

He paused. Tears gathered in his mother's eyes. She knew that he was fated. If he did not die today

he would die tomorrow

. There was not room for such a person in the world. And with her pity disgust mingled. She was ashamed at having borne such a son, she who had always been so respectable and so full of ideas. Was he really the little boy to whom she had taught the use of his stops and buttons, and to whom she

had given his first lessons in the Book? The very hair that disfigured his lip showed that he was reverting to some savage type. On atavism the Machine can have no mercy.

"There was a handle, and I did catch it. I hung tranced over the darkness and heard the hum of these workings as the last whisper in a dying dream. All the things I had cared about and all the people I had spoken to through tubes appeared infinitely little. Meanwhile the handle revolved. My weight had set something in motion and I span slowly, and then— "I cannot describe it. I was lying with my face to the sunshine. Blood poured from

my nose and ears and I heard a tremendous roaring. The stopper, with me clinging to it, had simply been blown out of the earth, and the air that we make down here was escaping through the vent into the air above. It burst up like a fountain. I crawled back to it — for the upper air hurts — and, as it were, I took great sips from the edge. My respirator had flown goodness knows where, my clothes were torn. I just lay with my lips close to the hole, and I sipped until the bleeding stopped. You can imagine nothing so curious. This hollow in the grass — I will speak of it in a minute, — the sun shining into it, not brilliantly but through marbled clouds, — the peace, the nonchalance, the sense of space, and, brushing my cheek, the roaring fountain of our artificial air! Soon I spied my respirator, bobbing up and down in the current high above my head, and higher still were many air-ships. But no one ever looks out of air-ships, and in any case they could not have picked me up. There I was, stranded. The sun shone a little way down the shaft, and revealed the topmost rung of the ladder, but it was hopeless trying to reach it. I should either have been tossed up again by the escape, or else have fallen in, and died. I could only lie on the grass, sipping and sipping, and from time to time glancing around me.

"I knew that I was in Wessex, for I had taken care to go to a lecture on the subject before starting. Wessex lies above the room in which we are talking

now. It was once an important state. Its kings held all the southern coast from the Andredswald to Cornwall, while the Wansdyke protected them on the north, running over the high ground. The lecturer was only concerned with the rise of Wessex, so I do not know how long it remained an international power, nor would the knowledge have assisted me. To tell the truth I could do nothing but laugh, during this part. There was I, with a pneumatic stopper by my side and a respirator bobbing over my head, imprisoned, all three of us, in a grass-grown hollow that was edged with fern."

Then he grew grave again.

"Lucky for me that it was a hollow. For the air began to fall back into it and to fill it as water fills a bowl. I could crawl about. Presently I stood. I breathed a mixture, in which the air that hurts predominated whenever I tried to climb the sides. This was not so bad. I had not lost my tabloids and remained ridiculously cheerful, and as for the Machine, I forgot about it altogether. My one aim now was to get to the top, where the ferns were, and to view whatever objects lay beyond.

"I rushed the slope. The new air was still too bitter for me and I came rolling back, after a momentary vision of something grey. The sun grew very feeble, and I remembered that he was in Scorpio — I had been to a lecture on that too. If the sun is in Scorpio, and you are in Wessex, it means that you must be as quick as you can, or it will get too dark. (This is the first bit of useful information I have ever got from a lecture, and I expect it will be the last.) It made me try frantically to breathe the new air, and to advance as far as I dared out of my pond. The hollow filled so slowly. At times I thought that the fountain played with less vigour. My respirator seemed to dance nearer the earth; the roar was decreasing."

He broke off.

"I don't think this is interesting you. The rest will interest you even less. There are no ideas in it, and I wish that I had not troubled you to come. We are too different, mother."

She told him to continue.

"It was evening before I climbed the bank. The sun had very nearly slipped out of the sky by this time, and I could not get a good view. You, who have just crossed the Roof of the World, will not want to hear an account of the little hills that I saw — low colourless hills. But to me they were living and the turf that covered them was a skin, under which their muscles rippled, and I felt that those hills had called with incalculable force to men in the past, and that men had loved them. Now they sleep — perhaps for ever. They commune with humanity in dreams. Happy the man, happy the woman, who awakes the hills of Wessex. For though they sleep, they will never die."

His voice rose passionately.

"Cannot you see, cannot all you lecturers see, that it is we that are dying, and that down here the only thing that really lives is the Machine? We created the Machine, to do our will, but we cannot make it do our will now. It has robbed us of the sense of space and of the sense of touch, it has blurred every human relation and narrowed down love to a carnal act, it has paralysed our bodies and our wills, and now it compels us to worship it. The Machine develops — but not on our lines. The Machine proceeds — but not to our goal. We only exist as the blood corpuscles that course through its arteries, and if it could work without us, it would let us die. Oh, I have no remedy — or, at least, only one — to tell men again and again that I have seen the hills of Wessex as Ælfrid saw them when he overthrew the Danes.

"So the sun set. I forgot to mention that a belt of mist lay between my hill

and other hills, and that it was the colour of pearl."

He broke off for the second time. "Go on," said his mother wearily. He shook his head.

"Go on. Nothing that you say can distress me now. I am hardened."

"I had meant to tell you the rest, but I cannot: I know that I cannot: good-bye."

Vashti stood irresolute. All her nerves were tingling with his blasphemies. But she was also inquisitive.

"This is unfair," she complained. "You have called me across the world to hear your story, and hear it I will. Tell me — as briefly as possible, for this is a disastrous waste of time — tell me how you returned to civilization."

"Oh — that!" he said, starting. "You would like to hear about civilization. Certainly.

Had I got to where my respirator fell down?"

"No — but I understand everything now. You put on your respirator, and managed to walk along the surface of the earth to a vomitory, and there your conduct was reported to the Central Committee."

"By no means."

He passed his hand over his forehead, as if dispelling some strong impression. Then, resuming his narrative, he warmed to it again.

"My respirator fell about sunset. I had mentioned that the fountain seemed

feebler, had I not?"

"Yes."

"About sunset, it let the respirator fall. As I said, I had entirely forgotten about the Machine, and I paid no great attention at the time, being occupied with other things. I had my pool of air, into which I could dip when the outer keenness became intolerable, and which would possibly remain for days, provided that no wind sprang up to disperse it. Not until it was too late did I realize what the stoppage of the escape implied. You see — the gap in the tunnel had been mended; the Mending Apparatus; the Mending Apparatus, was after me.

"One other warning I had, but I neglected it. The sky at night was clearer than it had been in the day, and the moon, which was about half the sky behind the sun, shone into the dell at moments quite brightly. I was in my usual place — on the boundary between the two atmospheres — when I thought I saw something dark move across the bottom of the dell, and vanish into the shaft. In my folly, I ran down. I bent over and listened, and I thought I heard a faint scraping noise in the depths.

"At this — but it was too late — I took alarm. I determined to put on my respirator and to walk right out of the dell. But my respirator had gone. I knew exactly where it had fallen

— between the stopper and the aperture — and I could even feel the mark that it had made in the turf. It had gone, and I realized that something evil was at work, and I had better escape to the other air, and, if I must die, die running towards the cloud that had been the colour of a pearl. I never started. Out of the shaft — it is too horrible. A worm, a long white worm, had crawled out of the shaft and was gliding over the moonlit grass.

"I screamed. I did everything that I should not have done, I stamped upon the creature instead of flying from it, and it at once curled round the ankle. Then we fought. The worm let me run all over the dell, but edged up my leg as I ran. 'Help!' I cried. (That part is too awful. It belongs to the part that you will never know.) 'Help!' I cried. (Why cannot we suffer in silence?) 'Help!' I cried. Then my feet were wound together, I fell, I was dragged away from the dear ferns and the living hills, and past the great metal stopper (I can tell you this part), and I thought it might save me again if I caught hold of the handle. It also was enwrapped, it also. Oh, the whole dell was full of the things. They were searching it in all directions, they were denuding it, and the white snouts of others peeped out of the hole, ready if needed. Everything that could be moved they brought — brushwood, bundles of fern, everything, and down we all went intertwined into hell. The last things that I saw, ere the stopper closed after us, were certain stars, and I felt that a man of my sort lived in the sky. For I did fight, I fought till the very end, and it was only my head hitting against the ladder that quieted me. I woke up in this room. The worms had vanished. I was surrounded by artificial air, artificial light, artificial peace, and my friends were calling to me down speaking-tubes to know whether I had come across any new ideas lately."

Here his story ended. Discussion of it was impossible, and Vashti turned to go. "It will end in Homelessness," she said quietly.

"I wish it would," retorted Kuno.

"The Machine has been most merciful." "I prefer the mercy of God."

"By that superstitious phrase, do you mean that you could live in the outer air?" "Yes."

"Have you ever seen, round the vomitories, the bones of those who were extruded after the Great Rebellion?"

"Yes."

"They were left where they perished for our edification. A few crawled away, but they perished, too — who can doubt it? And so with the Homeless of our own day. The surface of the earth supports life no longer."

"Indeed."

"Ferns and a little grass may survive, but all higher forms have perished. Has any air-ship detected them?"

"No."

"Has any lecturer dealt with them?" "No."

"Then why this obstinacy?"

"Because I have seen them," he exploded. "Seen what?"

"Because I have seen her in the twilight — because she came to my help when I called

— because she, too, was entangled by the worms, and, luckier than I, was killed by one of them piercing her throat."

He was mad. Vashti departed, nor, in the troubles that followed, did she ever see his face again.

3 The Homeless

During the years that followed Kuno's escapade, two important developments took place in the Machine. On the surface they were revolutionary, but in either case men's minds had been prepared beforehand, and they did but express tendencies that were latent already.

The first of these was the abolition of respirators.

Advanced thinkers, like Vashti, had always held it foolish to visit the surface of the earth. Air-ships might be necessary, but what was the good of going out for mere curiosity and crawling along for a mile or two in a terrestrial motor? The habit was vulgar and per- haps faintly improper: it was unproductive of ideas, and had no connection with the habits that really mattered. So respirators were abolished, and with them, of course, the terrestrial motors, and except for a few lecturers, who complained that they were debarred access to their subject-matter, the development was accepted quietly. Those who still wanted to know what the earth was like had after all only to listen to some gramophone, or to look into some cinematophote. And even the lecturers acquiesced when they found that a lecture on the sea was none the less stimulating when compiled out of other lectures that had already been delivered on the same subject. "Beware of first-hand ideas!" exclaimed one of the most advanced of them. "First-hand ideas do not really exist. They are but the physical impressions produced by love and fear, and on this gross foundation who could erect a philosophy? Let your ideas be second-hand, and if possible tenth-hand, for then they will be far removed from that disturbing element — direct observation. Do not learn anything about this subject of mine — the French Revolution. Learn instead what I think that Enicharmon thought Urizen thought Gutch thought Ho-Yung thought Chi-Bo-Sing thought Lafcadio Hearn thought Carlyle thought Mirabeau said about the French Revolution. Through the medium of these ten great minds, the blood that was shed at Paris and the windows that were broken at Versailles will be clarified to an idea which you may employ most profitably

in your daily lives. But be sure that the intermediates are many and varied, for in history one authority exists to counteract another. Urizen must counteract the scepticism of Ho-Yung and Enicharmon, I must myself counteract the impetuosity of Gutch. You who listen to me are in a better position to judge about the French Revolution than I am. Your descendants will be even in a better position than you, for they will learn what you think I think, and yet another intermediate will be added to the chain. And in time" — his voice rose — "there will come a generation that had got beyond facts, beyond impressions, a generation absolutely colourless, a generation 'seraphically free From taint of personality,'

which will see the French Revolution not as it happened, nor as they would like it to have happened, but as it would have happened, had it taken place in the days of the Machine."

Tremendous applause greeted this lecture, which did but voice a feeling already latent in the minds of men — a feeling that terrestrial facts must be ignored, and that the abolition of respirators was a positive gain. It was even suggested that air-ships should be abolished too. This was not done, because air-ships had somehow worked themselves into the Machine's system. But year by year they were used less, and mentioned less by thoughtful men.

The second great development was the re-establishment of religion.

This, too, had been voiced in the celebrated lecture. No one could mistake the reverent tone in which the peroration had concluded, and it awakened a responsive echo in the heart of each. Those who had long worshipped silently, now began to talk. They described the strange feeling of peace that came over them when they handled the Book of the Machine, the pleasure that it was to repeat certain numerals out of it, however little meaning those numerals conveyed to the outward ear, the ecstasy of touching a button, however unimportant, or of ringing an electric bell,

however superfluously.

"The Machine," they exclaimed, "feeds us and clothes us and houses us; through it we speak to one another, through it we see one another, in it we have our being. The Machine is the friend of ideas and the enemy of superstition: the Machine is omnipotent, eternal; blessed is the Machine." And before long this allocution was printed on the first page of the Book, and in subsequent editions the ritual swelled into a complicated system of praise and prayer. The word "religion" was sedulously avoided, and in theory the Machine was still the creation and the implement of man. But in practice all, save a few retrogrades, worshipped it as divine. Nor was it worshipped in unity. One believer would be chiefly impressed by the blue optic plates, through which he saw other believers; another by the mending apparatus, which sinful Kuno had compared to worms; another by the lifts, another by the Book. And each would pray to this or to that, and ask it to intercede for him with the Machine as a whole. Persecution — that also was present. It did not break out, for reasons that will be set forward shortly. But it was latent, and all who did not accept the minimum known as "undenominational Mechanism" lived in danger of Homelessness, which means death, as we know.

To attribute these two great developments to the Central Committee, is to take a very narrow view of civilization. The Central Committee announced the developments, it is true, but they were no more the cause of them than were the kings of the imperialistic period the cause of war. Rather did they yield to some invincible pressure, which came no one knew whither, and which, when gratified, was succeeded by some new pressure equally invincible. To such a state of a affairs it is convenient to give the name of progress. No one confessed the Machine was out of hand. Year by year it was served with increased efficiency and decreased intelligence. The better a man knew his own duties upon it, the less he understood the duties of his neighbour, and in all the world there was not one who understood the monster as a whole. Those master brains had perished.

They had left full directions, it is true, and their successors had each of them mastered a portion of those directions. But Humanity, in its desire for comfort, had over-reached itself. It had exploited the riches of nature too far. Quietly and complacently, it was sinking into decadence, and progress had come to mean the progress of the Machine.

As for Vashti, her life went peacefully forward until the final disaster. She made her room dark and slept; she awoke and made the room light. She lectured and attended lectures. She exchanged ideas with her innumerable friends and believed she was growing more spiritual. At times a friend was granted Euthanasia, and left his or her room for the homelessness that is beyond all human conception. Vashti did not much mind. After an unsuccessful lecture, she would sometimes ask for Euthanasia herself. But the death-rate was not permitted to exceed the birth-rate, and the Machine had hitherto refused it to her.

The troubles began quietly, long before she was conscious of them.

One day she was astonished at receiving a message from her son. They never communicated, having nothing in common, and she had only heard indirectly that he was still alive, and had been transferred from the northern hemisphere, where he had behaved so mischievously, to the southern — indeed, to a room not far from her own.

"Does he want me to visit him?" she thought. "Never again, never. And I have not the time."

No, it was madness of another kind.

He refused to visualize his face upon the blue plate, and speaking out of the darkness with solemnity said:

"The Machine stops." "What do you say?"

"The Machine is stopping, I know it, I know the signs."

She burst into a peal of laughter. He heard her and was angry, and they spoke no more.

"Can you imagine anything more absurd?" she cried to a friend. "A man who was my son believes that the Machine is stopping. It would be impious if it was not mad."

"The Machine is stopping?" her friend replied. "What does that mean? The phrase conveys nothing to me."

"Nor to me."

"He does not refer, I suppose, to the trouble there has been lately with the music?" "Oh no, of course not. Let us talk about music."

"Have you complained to the authorities?"

"Yes, and they say it wants mending, and referred me to the Committee of the Mending Apparatus. I complained of those curious gasping sighs that disfigure the symphonies of the Brisbane school. They sound like some one in pain. The Committee of the Mending Apparatus say that it shall be remedied shortly."

Obscurely worried, she resumed her life. For one thing, the defect in the music irritated her. For another thing, she could not forget Kuno's speech. If he had known that the music was out of repair — he could not know it, for he detested music — if he had known that it was wrong, "the Machine stops" was exactly the venomous sort of remark he would have made. Of

course he had made it at a venture, but the coincidence annoyed her, and she spoke with some petulance to the Committee of the Mending Apparatus.

They replied, as before, that the defect would be set right shortly.

"Shortly! At once!" she retorted. "Why should I be worried by imperfect music? Things are always put right at once. If you do not mend it at once, I shall complain to the Central Committee."

"No personal complaints are received by the Central Committee," the Committee of the Mending Apparatus replied.

"Through whom am I to make my complaint, then?" "Through us."

"I complain then."

"Your complaint shall be forwarded in its turn." "Have others complained?"

This question was unmechanical, and the Committee of the Mending Apparatus refused to answer it.

"It is too bad!" she exclaimed to another of her friends. "There never was such an unfortunate woman as myself. I can never be sure of my music now. It gets worse and worse each time I summon it."

"I too have my troubles," the friend replied. "Sometimes my ideas are interrupted by a slight jarring noise."

"What is it?"

"I do not know whether it is inside my head, or inside the wall."

"Complain, in either case."

"I have complained, and my complaint will be forwarded in its turn to the Central Committee."

Time passed, and they resented the defects no longer. The defects had not been remedied, but the human tissues in that latter day had become so subservient, that they readily adapted themselves to every caprice of the Machine. The sigh at the crises of the Brisbane symphony no longer irritated Vashti; she accepted it as part of the melody. The jarring noise, whether in the head or in the wall, was no longer resented by her friend. And so with the moldy artificial fruit, so with the bath water that began to stink, so with the defective rhymes that the poetry machine had taken to emit. All were bitterly complained of at first, and then acquiesced in and forgotten. Things went from bad to worse unchallenged.

It was otherwise with the failure of the sleeping apparatus. That was a more serious stoppage. There came a day when over the whole world — in Sumatra, in Wessex, in the innumerable cities of Courland and Brazil — the beds, when summoned by their tired owners, failed to appear. It may seem a ludicrous matter, but from it we may date the collapse of humanity. The Committee responsible for the failure was assailed by complainants, whom it referred, as usual, to the Committee of the Mending Apparatus, who in its turn assured them that their complaints would be forwarded to the Central Committee. But the discontent grew, for mankind was not yet sufficiently adaptable to do without sleeping.

"Some one is meddling with the Machine—" they began.

"Some one is trying to make himself king, to reintroduce the personal element." "Punish that man with Homelessness."

"To the rescue! Avenge the Machine! Avenge the Machine!" "War! Kill the man!"

But the Committee of the Mending Apparatus now came forward, and allayed the panic with well-chosen words. It confessed that the Mending Apparatus was itself in need of repair.

The effect of this frank confession was admirable.

"Of course," said a famous lecturer — he of the French Revolution, who gilded each new decay with splendour — "of course we shall not press our complaints now. The Mending Apparatus has treated us so well in the past that we all sympathize with it, and will wait patiently for its recovery. In its own good time it will resume its duties. Meanwhile let us do without our beds, our tabloids, our other little wants. Such, I feel sure, would be the wish of the Machine."

Thousands of miles away his audience applauded. The Machine still linked them. Under the seas, beneath the roots of the mountains, ran the wires through which they saw and heard, the enormous eyes and ears that were their heritage, and the hum of many workings clothed their thoughts in one garment of subserviency. Only the old and the sick remained ungrateful, for it was rumoured that Euthanasia, too, was out of order, and that pain had reappeared among men.

It became difficult to read. A blight entered the atmosphere and dulled its luminosity. At times Vashti could scarcely see across her room. The air, too, was foul. Loud were the complaints, impotent the remedies, heroic the tone of the lecturer as he cried: "Courage! courage! What matter so long as the Machine goes on? To it the darkness and the light are one." And though things improved again after a time, the old brilliancy was never recaptured, and humanity never recovered from its entrance into twilight.

There was an hysterical talk of "measures," of "provisional dictatorship," and the inhabitants of Sumatra were asked to familiarize themselves with the workings of the central power station, the said power station being situated in France. But for the most part panic reigned, and men spent their strength praying to their Books, tangible proofs of the Machine's omnipotence. There were gradations of terror — at times came rumours of hope — the Mending Apparatus was almost mended — the enemies of the Machine had been got under — new "nerve centres" were evolving which would do the work even more magnificently than before. But there came a day when, without the slightest warning, without any previous hint of feebleness, the entire communication-system broke down, all over the world, and the world, as they understood it, ended.

Vashti was lecturing at the time and her earlier remarks had been punctuated with applause. As she proceeded the audience became silent, and at the conclusion there was no sound. Somewhat displeased, she called to a friend who was a specialist in sympathy. No sound: doubtless the friend was sleeping. And so with the next friend whom she tried to summon, and so with the next, until she remembered Kuno's cryptic remark, "The Machine stops".

The phrase still conveyed nothing. If Eternity was stopping it would of course be set going shortly.

For example, there was still a little light and air — the atmosphere had improved a few hours previously. There was still the Book, and while there was the Book there was security.

Then she broke down, for with the cessation of activity came an unexpected terror — silence.

She had never known silence, and the coming of it nearly killed her — it did kill many thousands of people outright. Ever since her birth she had

been surrounded by the steady hum. It was to the ear what artificial air was to the lungs, and agonizing pains shot across her head. And scarcely knowing what she did, she stumbled forward and pressed the unfamiliar button, the one that opened the door of her cell.

Now the door of the cell worked on a simple hinge of its own. It was not connected with the central power station, dying far away in France. It opened, rousing immoderate hopes in Vashti, for she thought that the Machine had been mended. It opened, and she saw the dim tunnel that curved far away towards freedom. One look, and then she shrank back. For the tunnel was full of people — she was almost the last in that city to have taken alarm. People at any time repelled her, and these were nightmares from her worst dreams. People were crawling about, people were screaming, whimpering, gasping for breath, touching each other, vanishing in the dark, and ever and anon being pushed off the platform on to the live rail. Some were fighting round the electric bells, trying to summon trains which could not be summoned. Others were yelling for Euthanasia or for respirators, or blaspheming the Machine. Others stood at the doors of their cells fearing, like herself, either to stop in them or to leave them. And behind all the uproar was silence — the silence which is the voice of the earth and of the generations who have gone.

No — it was worse than solitude. She closed the door again and sat down to wait for the end. The disintegration went on, accompanied by horrible cracks and rumbling. The valves that restrained the Medical Apparatus must have weakened, for it ruptured and hung hideously from the ceiling. The floor heaved and fell and flung her from the chair. A tube oozed towards her serpent fashion. And at last the final horror approached — light began to ebb, and she knew that civilization's long day was closing.

She whirled around, praying to be saved from this, at any rate, kissing the Book, press- ing button after button. The uproar outside was increasing, and even penetrated the wall. Slowly the brilliancy of her cell was

dimmed, the reflections faded from the metal switches. Now she could not see the reading-stand, now not the Book, though she held it in her hand. Light followed the flight of sound, air was following light, and the original void returned to the cavern from which it has so long been excluded. Vashti continued to whirl, like the devotees of an earlier religion, screaming, praying, striking at the buttons with bleeding hands.

It was thus that she opened her prison and escaped — escaped in the spirit: at least so it seems to me, ere my meditation closes. That she escapes in the body — I cannot perceive that. She struck, by chance, the switch that released the door, and the rush of foul air on her skin, the loud throbbing whispers in her ears, told her that she was facing the tunnel again, and that tremendous platform on which she had seen men fighting. They were not fighting now. Only the whispers remained, and the little whimpering groans. They were dying by hundreds out in the dark.

She burst into tears. Tears answered her.

They wept for humanity, those two, not for themselves. They could not bear that this should be the end. Ere silence was completed their hearts were opened, and they knew what had been important on the earth. Man, the flower of all flesh, the noblest of all creatures visible, man who had once made god in his image, and had mirrored his strength on the constellations, beautiful naked man was dying, strangled in the garments that he had woven. Century after century had he toiled, and here was his reward. Truly the garment had seemed heavenly at first, shot with colours of culture, sewn with the threads of self- denial. And heavenly it had been so long as it was a garment and no more, man could shed it at will and live by the essence that is his soul, and the essence, equally divine, that is his body. The sin against the body — it was for that they wept in chief; the centuries of wrong against the muscles and the nerves, and those five portals by which we can alone apprehend

— glazing it over with talk of evolution, until the body was white pap, the home of ideas as colourless, last sloshy stirrings of a spirit that had grasped the stars.

"Where are you?" she sobbed.

His voice in the darkness said, "Here." "Is there any hope, Kuno?"

"None for us." "Where are you?"

She crawled over the bodies of the dead. His blood spurted over her hands.

"Quicker," he gasped, "I am dying — but we touch, we talk, not through the Machine." He kissed her.

"We have come back to our own. We die, but we have recaptured life, as it was in Wessex, when Ælfrid overthrew the Danes. We know what they know outside, they who dwelt in the cloud that is the colour of a pearl."

"But Kuno, is it true? Are there still men on the surface of the earth? Is this — this tunnel, this poisoned darkness — really not the end?"

He replied:

"I have seen them, spoken to them, loved them. They are hiding in the mist and the ferns until our civilization stops. today they are the Homeless — tomorrow

"Oh, tomorrow — some fool will start the Machine again, tomorrow."

"Never," said Kuno, "never. Humanity has learnt its lesson."

As he spoke, the whole city was broken like a honeycomb. An air-ship had sailed in through the vomitory into a ruined wharf. It crashed downwards, exploding as it went, rending gallery after gallery with its wings of steel. For a moment they saw the nations of the dead, and, before they joined them, scraps of the untainted sky.

Transcribed from The Eternal Moment and other Stories by E. M. Forster, Sidgwick & Jackson, Ltd. (London, 1928) and The Collected Tales of E. M. Forster, The Modern Library (New York, 1968).

THE END

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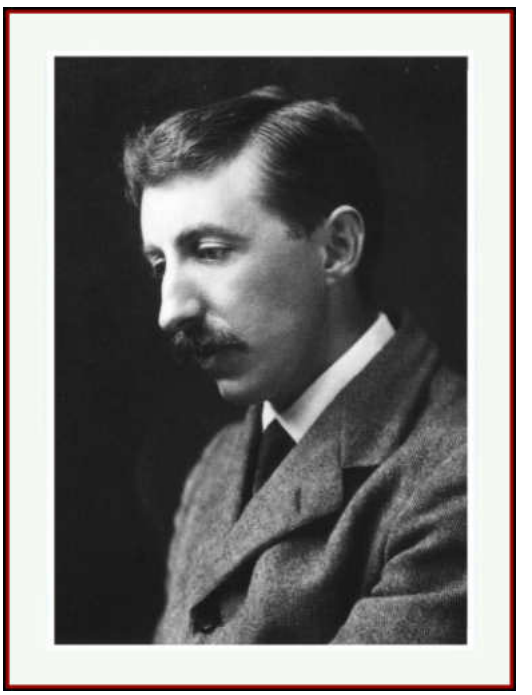
ABOUT THE AUTHOR



More than just a sci-fi visionary, E.M. Forster (1879–1970) was an influential English novelist, essayist, and short story writer best known for works that explored class differences and societal hypocrisy in early 20th-century Britain. His most famous novels include Howards End (1910) and the highly successful A Passage to India (1924), which examined the complex relationship between Britain and India under the Raj. Forster's writing is characterized by a humanistic perspective, urging readers to "Only connect," and themes of tolerance and sympathetic human relationships.

Born in London, his father died when he was an infant, and he was raised

by his mother and aunts. He attended Tonbridge School and King's College, Cambridge, where he was liberated from a more rigid upbringing and developed his humanistic and cosmopolitan views. An inheritance from a great aunt allowed him to pursue writing.

After graduating, he became a member of the informal Bloomsbury Group, a circle of writers and intellectuals.

Forster's traveled to Italy, Egypt, and India significantly influenced his work, with these experiences reflected in novels like A Room with a View and A Passage to India. He served as a conscientious objector during World War I, working with the International Red Cross in Egypt.

Forster continued to write essays and worked as a successful BBC radio broadcaster in his later years. He became a public figure associated with humanism and individual liberty. He declined a knighthood but was awarded other honors. His work remains influential, with many of his novels adapted into successful films.

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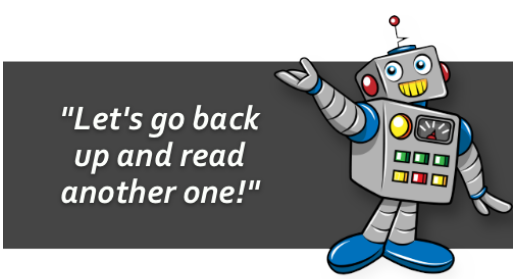


A PAIL OF AIR

Fritz Leiber

A PAIL OF AIR by Fritz Leiber first appeared in the December 1951 issue of Galaxy Science Fiction. It is considered a classic!

The dark star passed, bringing with it eternal night and turning history into incredible myth in a single generation!

Pa had sent me out to get an extra pail of air. I'd just about scooped it full and most of the warmth had leaked from my fingers when I saw the thing.

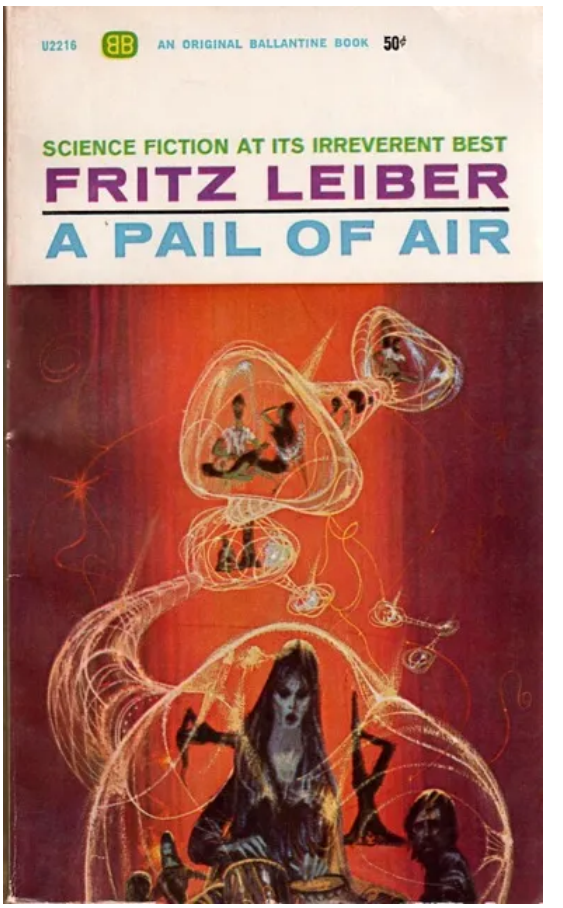
You know, at first I thought it was a young lady. Yes, a beautiful young lady's face all glowing in the dark and looking at me from the fifth floor of the opposite apartment, which hereabouts is the floor just above the white blanket of frozen air. I'd never seen a live young lady before, except in the old magazines--Sis is just a kid and Ma is pretty sick and miserable--and it gave me such a start that I dropped the pail. Who wouldn't, knowing everyone on Earth was dead except Pa and Ma and Sis and you?

Even at that, I don't suppose I should have been surprised. We all see things now and then. Ma has some pretty bad ones, to judge from the way she bugs her eyes at nothing and just screams and screams and huddles back against the blankets hanging around the Nest. Pa says it is natural we should react like that sometimes.

When I'd recovered the pail and could look again at the opposite apartment, I got an idea of what Ma might be feeling at those times, for I saw it wasn't a young lady at all but simply a light--a tiny light that

moved stealthily from window to window, just as if one of the cruel little stars had come down out of the airless sky to investigate why the Earth had gone away from the Sun, and maybe to hunt down something to torment or terrify, now that the Earth didn't have the Sun's protection.

I tell you, the thought of it gave me the creeps. I just stood there shaking, and almost froze my feet and did frost my helmet so solid on the inside that I couldn't have seen the light even if it had come out of one of the windows to get me. Then I had the wit to go back inside.



Pretty soon I was feeling my familiar way through the thirty or so blankets and rugs Pa has got hung around to slow down the escape of air from the Nest, and I wasn't quite so scared. I began to hear the tick-ticking of the clocks in the Nest and knew I was getting back into air, because there's no sound outside in the vacuum, of course. But my mind was still crawly and uneasy as I pushed through the last blankets--Pa's got them faced with aluminum foil to hold in the heat--and came into the Nest.

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Let me tell you about the Nest. It's low and snug, just room for the four of us and our things. The floor is covered with thick woolly rugs. Three of the sides are blankets, and the blankets roofing it touch Pa's head. He tells me it's inside a much bigger room, but I've never seen the real walls or

ceiling.

Against one of the blanket-walls is a big set of shelves, with tools and books and other stuff, and on top of it a whole row of clocks. Pa's very fussy about keeping them wound. He says we must never forget time, and without a sun or moon, that would be easy to do.

The fourth wall has blankets all over except around the fireplace, in which there is a fire that must never go out. It keeps us from freezing and does a lot more besides. One of us must always watch it. Some of the clocks are alarm and we can use them to remind us. In the early days there was only Ma to take turns with Pa--I think of that when she gets difficult--but now there's me to help, and Sis too.

It's Pa who is the chief guardian of the fire, though. I always think of him that way: a tall man sitting cross-legged, frowning anxiously at the fire, his lined face golden in its light, and every so often carefully placing on it a piece of coal from the big heap beside it. Pa tells me there used to be guardians of the fire sometimes in the very old days--vestal virgins, he calls them--although there was unfrozen air all around then and you didn't really need one.

He was sitting just that way now, though he got up quick to take the pail from me and bawl me out for loitering--he'd spotted my frozen helmet right off. That roused Ma and she joined in picking on me. She's always trying to get the load off her feelings, Pa explains. He shut her up pretty fast. Sis let off a couple of silly squeals too.

Pa handled the pail of air in a twist of cloth. Now that it was inside the Nest, you could really feel its coldness. It just seemed to suck the heat out of everything. Even the flames cringed away from it as Pa put it down close by the fire.

Yet it's that glimmery white stuff in the pail that keeps us alive. It slowly melts and vanishes and refreshes the Nest and feeds the fire. The blankets keep it from escaping too fast. Pa'd like to seal the whole place, but he can't--building's too earthquake-twisted, and besides he has to leave the chimney open for smoke.

Pa says air is tiny molecules that fly away like a flash if there isn't something to stop them. We have to watch sharp not to let the air run low. Pa always keeps a big reserve supply of it in buckets behind the first blankets, along with extra coal and cans of food and other things, such as pails of snow to melt for water. We have to go way down to the bottom floor for that stuff, which is a mean trip, and get it through a door to outside.

You see, when the Earth got cold, all the water in the air froze first and made a blanket ten feet thick or so everywhere, and then down on top of that dropped the crystals of frozen air, making another white blanket sixty or seventy feet thick maybe.

Of course, all the parts of the air didn't freeze and snow down at the same time.

First to drop out was the carbon dioxide--when you're shoveling for water, you have to make sure you don't go too high and get any of that stuff mixed in, for it would put you to sleep, maybe for good, and make the fire go out. Next there's the nitrogen, which doesn't count one way or the other, though it's the biggest part of the blanket. On top of that and easy to get at, which is lucky for us, there's the oxygen that keeps us alive. Pa says we live better than kings ever did, breathing pure oxygen, but we're used to it and don't notice. Finally, at the very top, there's a slick of liquid helium, which is funny stuff. All of these gases in neat separate layers. Like a pussy caffay, Pa laughingly says, whatever that is.

* * * * *

I was busting to tell them all about what I'd seen, and so as soon as I'd ducked out of my helmet and while I was still climbing out of my suit, I cut loose. Right away Ma got nervous and began making eyes at the entry-slit in the blankets and wringing her hands together--the hand where she'd lost three fingers from frostbite inside the good one, as usual. I could tell that Pa was annoyed at me scaring her and wanted to explain it all away quickly, yet could see I wasn't fooling.

"And you watched this light for some time, son?" he asked when I finished.

I hadn't said anything about first thinking it was a young lady's face. Somehow that part embarrassed me.

"Long enough for it to pass five windows and go to the next floor."

"And it didn't look like stray electricity or crawling liquid or starlight focused by a growing crystal, or anything like that?"

He wasn't just making up those ideas. Odd things happen in a world that's about as cold as can be, and just when you think matter would be frozen dead, it takes on a strange new life. A slimy stuff comes crawling toward the Nest, just like an animal snuffing for heat--that's the liquid helium. And once, when I was little, a bolt of lightning--not even Pa could figure where it came from--hit the nearby steeple and crawled up and down it for weeks, until the glow finally died.

"Not like anything I ever saw," I told him.

He stood for a moment frowning. Then, "I'll go out with you, and you show it to me," he said.

Ma raised a howl at the idea of being left alone, and Sis joined in, too, but Pa quieted them. We started climbing into our outside clothes--mine had been warming by the fire. Pa made them. They have plastic headpieces that were once big double-duty transparent food cans, but they keep heat and air in and can replace the air for a little while, long enough for our trips for water and coal and food and so on.

Ma started moaning again, "I've always known there was something outside there, waiting to get us. I've felt it for years--something that's part of the cold and hates all warmth and wants to destroy the Nest. It's been watching us all this time, and now it's coming after us. It'll get you and then come for me. Don't go, Harry!"

Pa had everything on but his helmet. He knelt by the fireplace and reached in and shook the long metal rod that goes up the chimney and knocks off the ice that keeps trying to clog it. Once a week he goes up on the roof to check if it's working all right. That's our worst trip and Pa won't let me make it alone.

"Sis," Pa said quietly, "come watch the fire. Keep an eye on the air, too. If it gets low or doesn't seem to be boiling fast enough, fetch another bucket from behind the blanket. But mind your hands. Use the cloth to pick up the bucket."

Sis quit helping Ma be frightened and came over and did as she was told. Ma quieted down pretty suddenly, though her eyes were still kind of wild as she watched Pa fix on his helmet tight and pick up a pail and the two of us go out.

* * * * *

Pa led the way and I took hold of his belt. It's a funny thing, I'm not afraid

to go by myself, but when Pa's along I always want to hold on to him. Habit, I guess, and then there's no denying that this time I was a bit scared.

You see, it's this way. We know that everything is dead out there. Pa heard the last radio voices fade away years ago, and had seen some of the last folks die who weren't as lucky or well-protected as us. So we knew that if there was something groping around out there, it couldn't be anything human or friendly.

Besides that, there's a feeling that comes with it always being night, `cold` night. Pa says there used to be some of that feeling even in the old days, but then every morning the Sun would come and chase it away. I have to take his word for that, not ever remembering the Sun as being anything more than a big star. You see, I hadn't been born when the dark star snatched us away from the Sun, and by now it's dragged us out beyond the orbit of the planet Pluto, Pa says, and taking us farther out all the time.

I found myself wondering whether there mightn't be something on the dark star that wanted us, and if that was why it had captured the Earth. Just then we came to the end of the corridor and I followed Pa out on the balcony.

I don't know what the city looked like in the old days, but now it's beautiful. The starlight lets you see it pretty well--there's quite a bit of light in those steady points speckling the blackness above. (Pa says the stars used to twinkle once, but that was because there was air.) We are on a hill and the shimmery plain drops away from us and then flattens out, cut up into neat squares by the troughs that used to be streets. I sometimes make my mashed potatoes look like it, before I pour on the gravy.

Some taller buildings push up out of the feathery plain, topped by rounded caps of air crystals, like the fur hood Ma wears, only whiter. On

those buildings you can see the darker squares of windows, underlined by white dashes of air crystals. Some of them are on a slant, for many of the buildings are pretty badly twisted by the quakes and all the rest that happened when the dark star captured the Earth.

Here and there a few icicles hang, water icicles from the first days of the cold, other icicles of frozen air that melted on the roofs and dripped and froze again. Sometimes one of those icicles will catch the light of a star and send it to you so brightly you think the star has swooped into the city. That was one of the things Pa had been thinking of when I told him about the light, but I had thought of it myself first and known it wasn't so.

He touched his helmet to mine so we could talk easier and he asked me to point out the windows to him. But there wasn't any light moving around inside them now, or anywhere else. To my surprise, Pa didn't bawl me out and tell me I'd been seeing things. He looked all around quite a while after filling his pail, and just as we were going inside he whipped around without warning, as if to take some peeping thing off guard.

I could feel it, too. The old peace was gone. There was something lurking out there, watching, waiting, getting ready.

Inside, he said to me, touching helmets, "If you see something like that again, son, don't tell the others. Your Ma's sort of nervous these days and we owe her all the feeling of safety we can give her. Once--it was when your sister was born--I was ready to give up and die, but your Mother kept me trying. Another time she kept the fire going a whole week all by herself when I was sick. Nursed me and took care of the two of you, too."

* * * * *

"You know that game we sometimes play, sitting in a square in the Nest, tossing a ball around? Courage is like a ball, son. A person can hold it only

so long, and then he's got to toss it to someone else. When it's tossed your way, you've got to catch it and hold it tight--and hope there'll be someone else to toss it to when you get tired of being brave."

His talking to me that way made me feel grown-up and good. But it didn't wipe away the thing outside from the back of my mind--or the fact that Pa took it seriously.

* * * * *

It's hard to hide your feelings about such a thing. When we got back in the Nest and took off our outside clothes, Pa laughed about it all and told them it was nothing and kidded me for having such an imagination, but his words fell flat. He didn't convince Ma and Sis any more than he did me. It looked for a minute like we were all fumbling the courage-ball. Something had to be done, and almost before I knew what I was going to say, I heard myself asking Pa to tell us about the old days, and how it all happened.

He sometimes doesn't mind telling that story, and Sis and I sure like to listen to it, and he got my idea. So we were all settled around the fire in a wink, and Ma pushed up some cans to thaw for supper, and Pa began. Before he did, though, I noticed him casually get a hammer from the shelf and lay it down beside him.

It was the same old story as always--I think I could recite the main thread of it in my sleep--though Pa always puts in a new detail or two and keeps improving it in spots.

He told us how the Earth had been swinging around the Sun ever so steady and warm, and the people on it fixing to make money and wars and have a good time and get power and treat each other right or wrong, when without warning there comes charging out of space this dead star, this burned out sun, and upsets everything.

You know, I find it hard to believe in the way those people felt, any more than I can believe in the swarming number of them. Imagine people getting ready for the horrible sort of war they were cooking up. Wanting it even, or at least wishing it were over so as to end their nervousness. As if all folks didn't have to hang together and pool every bit of warmth just to keep alive. And how can they have hoped to end danger, any more than we can hope to end the cold?

Sometimes I think Pa exaggerates and makes things out too black. He's cross with us once in a while and was probably cross with all those folks. Still, some of the things I read in the old magazines sound pretty wild. He may be right.

* * * * *

The dark star, as Pa went on telling it, rushed in pretty fast and there wasn't much time to get ready. At the beginning they tried to keep it a secret from most people, but then the truth came out, what with the earthquakes and floods--imagine, oceans of `unfrozen` water!--and people seeing stars blotted out by something on a clear night. First off they thought it would hit the Sun, and then they thought it would hit the Earth. There was even the start of a rush to get to a place called China, because people thought the star would hit on the other side. But then they found it wasn't going to hit either side, but was going to come very close to the Earth.

Most of the other planets were on the other side of the Sun and didn't get involved. The Sun and the newcomer fought over the Earth for a little while--pulling it this way and that, like two dogs growling over a bone, Pa described it this time--and then the newcomer won and carried us off. The Sun got a consolation prize, though. At the last minute he managed to hold on to the Moon.

That was the time of the monster earthquakes and floods, twenty times worse than anything before. It was also the time of the Big Jerk, as Pa calls it, when all Earth got yanked suddenly, just as Pa has done to me once or twice, grabbing me by the collar to do it, when I've been sitting too far from the fire.

You see, the dark star was going through space faster than the Sun, and in the opposite direction, and it had to wrench the world considerably in order to take it away.

The Big Jerk didn't last long. It was over as soon as the Earth was settled down in its new orbit around the dark star. But it was pretty terrible while it lasted. Pa says that all sorts of cliffs and buildings toppled, oceans slopped over, swamps and sandy deserts gave great sliding surges that buried nearby lands. Earth was almost jerked out of its atmosphere blanket and the air got so thin in spots that people keeled over and fainted--though of course, at the same time, they were getting knocked down by the Big Jerk and maybe their bones broke or skulls cracked.

We've often asked Pa how people acted during that time, whether they were scared or brave or crazy or stunned, or all four, but he's sort of leery of the subject, and he was again tonight. He says he was mostly too busy to notice.

You see, Pa and some scientist friends of his had figured out part of what was going to happen--they'd known we'd get captured and our air would freeze--and they'd been working like mad to fix up a place with airtight walls and doors, and insulation against the cold, and big supplies of food and fuel and water and bottled air. But the place got smashed in the last earthquakes and all Pa's friends were killed then and in the Big Jerk. So he had to start over and throw the Nest together quick without any advantages, just using any stuff he could lay his hands on.

I guess he's telling pretty much the truth when he says he didn't have any time to keep an eye on how other folks behaved, either then or in the Big Freeze that followed--followed very quick, you know, both because the dark star was pulling us away very fast and because Earth's rotation had been slowed in the tug-of-war, so that the nights were ten old nights long.

Still, I've got an idea of some of the things that happened from the frozen folk I've seen, a few of them in other rooms in our building, others clustered around the furnaces in the basements where we go for coal.

In one of the rooms, an old man sits stiff in a chair, with an arm and a leg in splints. In another, a man and woman are huddled together in a bed with heaps of covers over them. You can just see their heads peeking out, close together. And in another a beautiful young lady is sitting with a pile of wraps huddled around her, looking hopefully toward the door, as if waiting for someone who never came back with warmth and food. They're all still and stiff as statues, of course, but just like life.

Pa showed them to me once in quick winks of his flashlight, when he still had a fair supply of batteries and could afford to waste a little light. They scared me pretty bad and made my heart pound, especially the young lady.

* * * * *

Now, with Pa telling his story for the umpteenth time to take our minds off another scare, I got to thinking of the frozen folk again. All of a sudden I got an idea that scared me worse than anything yet. You see, I'd just remembered the face I'd thought I'd seen in the window. I'd forgotten about that on account of trying to hide it from the others.

What, I asked myself, if the frozen folk were coming to life? What if

they were like the liquid helium that got a new lease on life and started crawling toward the heat just when you thought its molecules ought to freeze solid forever? Or like the electricity that moves endlessly when it's just about as cold as that? What if the ever-growing cold, with the temperature creeping down the last few degrees to the last zero, had mysteriously wakened the frozen folk to life--not warm-blooded life, but something icy and horrible?

That was a worse idea than the one about something coming down from the dark star to get us.

Or maybe, I thought, both ideas might be true. Something coming down from the dark star and making the frozen folk move, using them to do its work. That would fit with both things I'd seen--the beautiful young lady and the moving, starlike light.

The frozen folk with minds from the dark star behind their unwinking eyes, creeping, crawling, snuffing their way, following the heat to the Nest.

I tell you, that thought gave me a very bad turn and I wanted very badly to tell the others my fears, but I remembered what Pa had said and clenched my teeth and didn't speak.

We were all sitting very still. Even the fire was burning silently. There was just the sound of Pa's voice and the clocks.

And then, from beyond the blankets, I thought I heard a tiny noise. My skin tightened all over me.

Pa was telling about the early years in the Nest and had come to the place where he philosophizes.

"So I asked myself then," he said, "what's the use of going on? What's the use of dragging it out for a few years? Why prolong a doomed existence of hard work and cold and loneliness? The human race is done. The Earth is done. Why not give up, I asked myself--and all of a sudden I got the answer."

Again I heard the noise, louder this time, a kind of uncertain, shuffling tread, coming closer. I couldn't breathe.

"Life's always been a business of working hard and fighting the cold," Pa was saying. "The earth's always been a lonely place, millions of miles from the next planet. And no matter how long the human race might have lived, the end would have come some night. Those things don't matter. What matters is that life is good. It has a lovely texture, like some rich cloth or fur, or the petals of flowers--you've seen pictures of those, but I can't describe how they feel--or the fire's glow. It makes everything else worth while. And that's as true for the last man as the first."

And still the steps kept shuffling closer. It seemed to me that the inmost blanket trembled and bulged a little. Just as if they were burned into my imagination, I kept seeing those peering, frozen eyes.

"So right then and there," Pa went on, and now I could tell that he heard the steps, too, and was talking loud so we maybe wouldn't hear them, "right then and there I told myself that I was going on as if we had all eternity ahead of us. I'd have children and teach them all I could. I'd get them to read books. I'd plan for the future, try to enlarge and seal the Nest. I'd do what I could to keep everything beautiful and growing. I'd keep alive my feeling of wonder even at the cold and the dark and the distant stars."

But then the blanket actually did move and lift. And there was a bright

light somewhere behind it. Pa's voice stopped and his eyes turned to the widening slit and his hand went out until it touched and gripped the handle of the hammer beside him.

* * * * *

In through the blanket stepped the beautiful young lady. She stood there looking at us the strangest way, and she carried something bright and unwinking in her hand. And two other faces peered over her shoulders--men's faces, white and staring.

Well, my heart couldn't have been stopped for more than four or five beats before I realized she was wearing a suit and helmet like Pa's homemade ones, only fancier, and that the men were, too--and that the frozen folk certainly wouldn't be wearing those. Also, I noticed that the bright thing in her hand was just a kind of flashlight.

The silence kept on while I swallowed hard a couple of times, and after that there was all sorts of jabbering and commotion.

They were simply people, you see. We hadn't been the only ones to survive; we'd just thought so, for natural enough reasons. These three people had survived, and quite a few others with them. And when we found out `how` they'd survived, Pa let out the biggest whoop of joy.

They were from Los Alamos and they were getting their heat and power from atomic energy. Just using the uranium and plutonium intended for bombs, they had enough to go on for thousands of years. They had a regular little airtight city, with air-locks and all. They even generated electric light and grew plants and animals by it. (At this Pa let out a second whoop, waking Ma from her faint.)

But if we were flabbergasted at them, they were double-flabbergasted at us.

One of the men kept saying, "But it's impossible, I tell you. You can't maintain an air supply without hermetic sealing. It's simply impossible."

That was after he had got his helmet off and was using our air. Meanwhile, the young lady kept looking around at us as if we were saints, and telling us we'd done something amazing, and suddenly she broke down and cried.

They'd been scouting around for survivors, but they never expected to find any in a place like this. They had rocket ships at Los Alamos and plenty of chemical fuel. As for liquid oxygen, all you had to do was go out and shovel the air blanket at the top `level`. So after they'd got things going smoothly at Los Alamos, which had taken years, they'd decided to make some trips to likely places where there might be other survivors. No good trying long-distance radio signals, of course, since there was no atmosphere to carry them around the curve of the Earth.

Well, they'd found other colonies at Argonne and Brookhaven and way around the world at Harwell and Tanna Tuva. And now they'd been giving our city a look, not really expecting to find anything. But they had an instrument that noticed the faintest heat waves and it had told them there was something warm down here, so they'd landed to investigate. Of course we hadn't heard them land, since there was no air to carry the sound, and they'd had to investigate around quite a while before finding us. Their instruments had given them a wrong steer and they'd wasted some time in the building across the street.

* * * * *

By now, all five adults were talking like sixty. Pa was demonstrating to the

men how he worked the fire and got rid of the ice in the chimney and all that. Ma had perked up wonderfully and was showing the young lady her cooking and sewing stuff, and even asking about how the women dressed at Los Alamos. The strangers marveled at everything and praised it to the skies. I could tell from the way they wrinkled their noses that they found the Nest a bit smelly, but they never mentioned that at all and just asked bushels of questions.

In fact, there was so much talking and excitement that Pa forgot about things, and it wasn't until they were all getting groggy that he looked and found the air had all boiled away in the pail. He got another bucket of air quick from behind the blankets. Of course that started them all laughing and jabbering again. The newcomers even got a little drunk. They weren't used to so much oxygen.

Funny thing, though--I didn't do much talking at all and Sis hung on to Ma all the time and hid her face when anybody looked at her. I felt pretty uncomfortable and disturbed myself, even about the young lady. Glimpsing her outside there, I'd had all sorts of mushy thoughts, but now I was just embarrassed and scared of her, even though she tried to be nice as anything to me.

I sort of wished they'd all quit crowding the Nest and let us be alone and get our feelings straightened out.

And when the newcomers began to talk about our all going to Los Alamos, as if that were taken for granted, I could see that something of the same feeling struck Pa and Ma, too. Pa got very silent all of a sudden and Ma kept telling the young lady, "But I wouldn't know how to act there and I haven't any clothes."

The strangers were puzzled like anything at first, but then they got the idea. As Pa kept saying, "It just doesn't seem right to let this fire go out."

* * * * *

Well, the strangers are gone, but they're coming back. It hasn't been decided yet just what will happen. Maybe the Nest will be kept up as what one of the strangers called a "survival school." Or maybe we will join the pioneers who are going to try to establish a new colony at the uranium mines at Great Slave Lake or in the Congo.

Of course, now that the strangers are gone, I've been thinking a lot about Los Alamos and those other tremendous colonies. I have a hankering to see them for myself.

You ask me, Pa wants to see them, too. He's been getting pretty thoughtful, watching Ma and Sis perk up.

"It's different, now that we know others are alive," he explains to me. "Your mother doesn't feel so hopeless any more. Neither do I, for that matter, not having to carry the whole responsibility for keeping the human race going, so to speak. It scares a person."

I looked around at the blanket walls and the fire and the pails of air boiling away and Ma and Sis sleeping in the warmth and the flickering light.

"It's not going to be easy to leave the Nest," I said, wanting to cry, kind of. "It's so small and there's just the four of us. I get scared at the idea of big places and a lot of strangers."

He nodded and put another piece of coal on the fire. Then he looked at the little pile and grinned suddenly and put a couple of handfuls on, just as if it was one of our birthdays or Christmas.

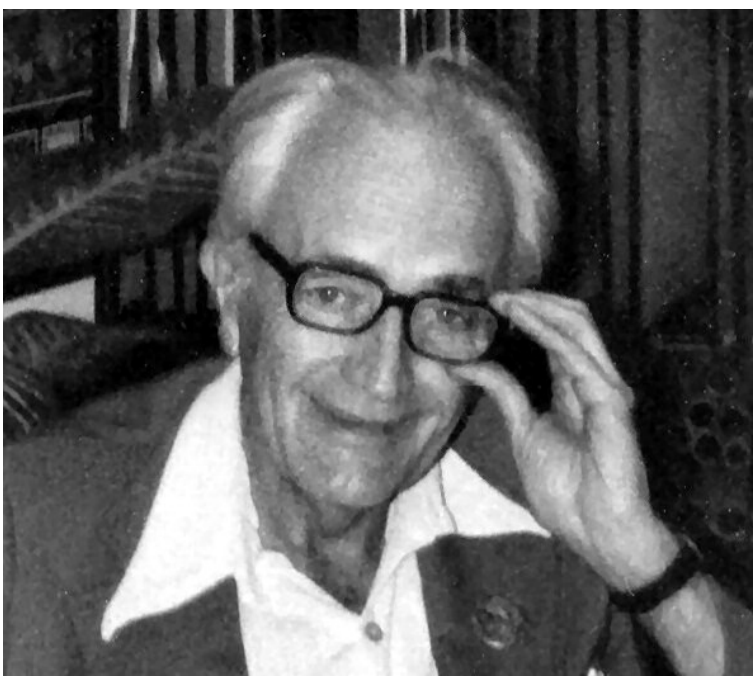
"You'll quickly get over that feeling son," he said. "The trouble with the world was that it kept getting smaller and smaller, till it ended with just the Nest. Now it'll be good to have a real huge world again, the way it was in the beginning."

I guess he's right. You think the beautiful young lady will wait for me till I grow up? I'll be twenty in only ten years.

THE END

—

ABOUT THE AUTHOR



Fritz Leiber (1910–1992) was an influential American author of science fiction, fantasy, and horror, known for co-creating the sword-and-sorcery duo Fafhrd and the Gray Mouser. Born into a family of Shakespearean actors, he had a diverse background, working as an actor, editor, and even briefly as a theological student before becoming a full-time writer. His work, which also included novels like Conjure Wife and The Big Time, earned him numerous awards, including six Hugo Awards.

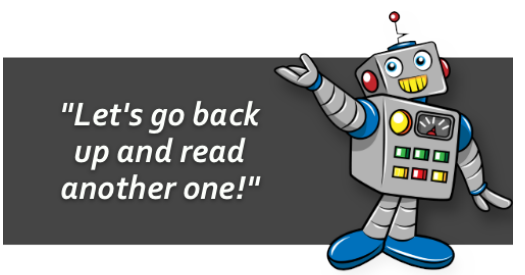
Early life and career: Born in Chicago, Leiber came from a theatrical family and initially pursued a career in acting before turning to writing. He

studied at the University of Chicago and the General Theological Seminary, and later worked as a staff writer and editor for magazines like Science Digest.

Key works and genres: Leiber is most famous for his Fafhrd and the Gray Mouser stories, which first appeared in 1939 and chronicle the adventures of a barbarian and a thief in the city of Lankhmar. He also wrote significant works in science fiction and horror, such as Conjure Wife (1943) and The Big Time (1958).

Influences and themes: His theatrical background heavily influenced his writing style, and he was also deeply influenced by H.P. Lovecraft. His work often blends genres and explores themes of magic versus technology.

Later life and honors: Leiber continued to write despite personal struggles, including the loss of his wife in 1969, which contributed to a period of alcoholism. He was honored as a Grand Master by the Science Fiction Writers of America and received multiple Hugo and Nebula Awards.



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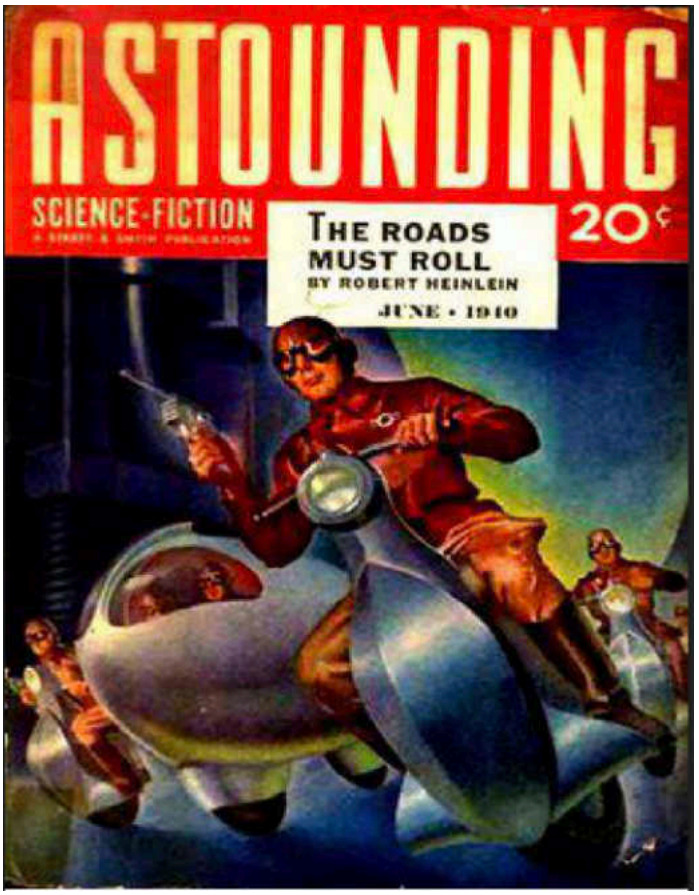
THE ROADS MUST ROLL

Robert A. Heinlein

In a world where high-speed, moving roads are essential to society's infrastructure, chaos erupts when sabotage brings the system to a grinding halt, threatening the stability of the nation.

THE ROADS MUST ROLL by Robert A. Heinlein was first published in 1940 in Astounding Science Fiction magazine.



"Who makes the roads roll?"

The speaker stood still on the rostrum and waited for his audience to answer him. The reply came in scattered shouts that cut through the ominous, discontented murmur of the crowd.

"We do! We do!"

"Who does the dirty work 'down inside'--so that Joe Public can ride at his ease?"

This time it was a single roar: "We do!"

The speaker pressed his advantage, his words tumbling out in a rasping torrent. He leaned toward the crowd, his eyes picking out individuals at whom to fling his words.

"What makes business? The roads! How do they move the food they eat? The roads! How do they get to work? The roads! How do they get home to their wives? The roads!" He paused for effect, then lowered his voice. "Where would the public be if you boys didn't keep them roads rolling? Behind the eight ball, and everybody knows it. But do they appreciate it? Phooey! Did we ask for too much? Were our demands unreasonable? 'The right to resign whenever we want to.' Every working stiff in any other job has that. 'The same Pay as the engineers.' Why not? Who are the real engineers around here? D'yuh have to be a cadet in a funny little hat before you can learn to wipe a bearing, or jack down a rotor? Who earns his keep: The gentlemen in the control office s, or the boys down inside? What else do we ask? "The right to elect our own engineers.' Why the hell not? Who's competent to pick engineers? The technicians--or some damn dumb examining board that's never been down inside, and couldn't tell a rotor bearing from a field coil?"

He changed his pace with natural art, and lowered his voice still further. "I tell you, brother, it's time we quit fiddlin' around with petitions to the Transport Commission, and use a little direct action. Let 'em yammer about democracy; that's a lot of eyewash--we've got the power, and we're the men that count!"

A man had risen in the back of the hall while the speaker was haranguing. He spoke up as the speaker paused. "Brother Chairman," he drawled, "may I stick in a couple of words?"

"You are recognized, Brother Harvey."

"What I ask is: What's all the shootin' for? We've got the highest hourly rate of pay of any mechanical guild, full insurance and retirement, and safe working conditions, barring the chance of going deaf." He pushed his antinoise helmet farther back from his ears. He was still in dungarees,

apparently just up from standing watch. "Of course we have to give ninety days' notice to quit a job, but, cripes, we knew that when we signed up. The roads have got to roll--they can't stop every time some lazy punk gets tired of his billet.

"And now Soapy"--the crack of the gavel cut him short--"Pardon me, I mean Brother Soapy--tells us how powerful we are, and how we should go in for direct action. Rats! Sure, we could tie up the roads, and play hell with the whole community--but so could any screwball with a can of nitroglycerin, and he wouldn't have to be a technician to do it, neither.

"We aren't the only frogs in the puddle. Our jobs are important, sure, but where would we be without the farmers--or the steel workers--or a dozen other trades and professions?"

He was interrupted by a sallow little man with protruding upper teeth, who said: "Just a minute, Brother Chairman, I'd like to ask Brother Harvey a question," then turned to Harvey and inquired in a sly voice: "Are you speaking for the guild, brother--or just for yourself? Maybe you don't believe in the guild? You wouldn't by any chance be"--he stopped and slid his eyes up and down Harvey's lank frame--"a spotter, would you?"

Harvey looked over his questioner as if he had found something filthy in a plate of food. "Sikes," he told him, "if you weren't a runt, I'd stuff your store teeth down your throat. I helped found this guild. I was on strike in '60. Where were you in '60? With the finks?"

The chairman's gavel pounded. "There's been enough of this," he said. "Nobody that knows anything about the history of this guild doubts the loyalty of Brother Harvey. We'll continue with the regular order of business." He stopped to clear his throat.' 'Ordinarily, we don't open our floor to outsiders, and some of you boys have expressed a distaste for some of the engineers we work under, but there is one engineer we always like to

listen to whenever he can get away from his pressing duties. I guess maybe it's because he's had dirt under his nails the same as us. Anyhow, I present at this time Mr. Shorty Van Kleeck--" A shout from the floor stopped him. "Brother Van Kleeck--"

"O.K., Brother Van Kleeck, chief deputy engineer of this roadtown." "Thanks, Brother Chairman." The guest speaker came briskly forward, and grinned expansively at the crowd. He seemed to swell under their approval.

"Thanks, brothers. I guess our chairman is right. I always feel more comfortable here in the guild hall of the Sacramento Sector-- or any guild hall for that matter--than I do in the engineers' clubhouse. Those young punk cadet engineers get in my hair. Maybe I should have gone to one of the fancy technical institutes, so I'd have the proper point of view, instead of coming up from down inside.

"Now, about those demands of yours that the Transport Commission just threw back in your face--Can I speak freely?" "Sure you can, Shorty! You can trust us!"

"Well, of course I shouldn't say anything, but I can't help but understand how you feel. The roads are the big show these days, and you are the men who make them roll. It's the natural order of things that your opinions should be listened to, and your desires met. One would think that even politicians would be bright enough to see that. Sometimes, lying awake at night, I wonder why we technicians don't just take things over, and--"

"Your wife is calling, Mr. Gaines."

"Very well." He flicked off the office intercommunicator and picked up a telephone handset from his desk. "Yes, darling, I know I promised, but-- You're perfectly right, darling, but Washington has especially requested

that we show Mr. Blekinsop anything he wants to see. I didn't know he was arriving today.... No, I can't turn him over to a subordinate. It wouldn't be courteous. He's Minister of Transport for Australia - I told you that.... Yes, darling, I know that courtesy begins at home, but the roads must roll. It's my job; you knew that when you roamed me. And this is part of my job. That's a good girl. We'll positively have breakfast together. Tell you what, order horses and a breakfast pack and we'll make it a picnic. I'll meet you in Bakersfield-- usual place. Good-by, darling. Kiss Junior good night for me."

He replaced the handset, whereupon the pretty but indignant features of his wife faded from the visor screen. A young woman came into his office . As she opened the door, she exposed momentarily the words painted on its outer side: "Diego-Reno Roadtown, office of the Chief Engineer." He gave her a harassed glance.

"Oh, it's you. Don't marry an engineer, Dolores, marry an artist. They have more home life."

"Yes, Mr. Gaines. Mr. Blekinsop is here, Mr. Gaines."

"Already? I didn't expect him so soon. The Antipodes ship must have grounded early."

"Yes, Mr. Gaines."

"Dolores, don't you ever have any emotions?"

"Yes, Mr. Gaines."

"Hm-m-m, it seems incredible, but you are never mistaken. Show Mr. Blekinsop in."

"Very good, Mr. Gaines."

Larry Gaines got up to greet his visitor. Not a particularly impressive little guy, he thought, as they shook hands and exchanged formal amenities. The rolled umbrella, the bowler hat, were almost too good to be true. An Oxford accent partially masked the underlying clipped, flat, nasal twang of the native Australia.

"It's a pleasure to have you here, Mr. Blekinsop, and I hope we can make your stay enjoyable."

The little man smiled. "I'm sure it will be. This is my first visit to your wonderful country. I feel at home already. The eucalyptus trees, you know, and the brown hills--"

"But your trip is primarily business?"

"Yes, yes. My primary purpose is to study your roadcities and report to my government on the advisability of trying to adapt your startling American methods to our social problems Down Under. I thought you understood that such was the reason I was sent to you."

"Yes, I did, in a general way. I don't know just what it is that you wish to find out. I suppose that you have heard about our roadtowns, how they came about, how they operate, and so forth."

"I've read a good bit, true, but I am not a technical man, Mr. Gaines, not an engineer. My field is social and political. I want to see how this remarkable technical change has affected your people. Suppose you tell me about the roads as if I were entirely ignorant. And I will ask questions."

"That seems a practical plan. By the way, how many are there in your party?"

"Just myself. My secretary went on to Washington."

"I see." Gaines glanced at his wrist watch. "It's nearly dinner time. Suppose we run up to the Stockton Sector for dinner. There is a good Chinese restaurant up there that I'm partial to. It will take us about an hour and you can see the ways in operation while we ride."

"Excellent."

Gaines pressed a button on his desk, and a picture formed on a large visor screen mounted on the opposite wall. It showed a strong-boned, angular young man seated at a semicircular control desk, which was backed by a complex instrument board. A cigarette was tucked in one corner of his mouth.

The young man glanced up, grinned, and waved from the screen. "Greetings and salutations, chief. What can I do for you?"

"Hi, Dave. You've got the evening watch, eh? I'm running up to the Stockton Sector for dinner. Where's Van Kleeck?"

"Gone to a meeting somewhere. He didn't say."

"Anything to report?"

"No, sir. The roads are rolling, and all the little people are going ridey-ridey home to their dinners."

"O.K.--keep 'em rolling."

"They'll roll, chief."

Gaines snapped off the connection and turned to Bleckinsop. "Van Kleeck is my chief deputy. I wish he'd spend more time on the road and less on politics. Davidson can handle things, however. Shall we go?"

They glided down an electric staircase, and debouched on the walkway which bordered the north-bound five-mile-an-hour strip. After skirting a stairway trunk marked "Overpass to Southbound Road," they paused at the edge of the first strip. "Have you ever ridden a conveyor strip before?" Gaines inquired. "It's quite simple. Just remember to face against the motion of the strip as you get on."

They threaded their way through homeward-bound throngs, passing from strip to strip. Down the center of the twenty-mile-an-hour strip ran a glassite partition which reached nearly to the spreading roof. The Honorable Mr. Blekinsop raised his eyebrows inquiringly as he looked at it.

"Oh, that?" Gaines answered the unspoken question as he slid back a panel door and ushered his guest through. "That's a wind break. If we didn't have some way of separating the air currents over the strips of different speeds, the wind would tear our clothes off on the hundred-mile-an-hour strip." He bent his head to Blekinsop's as he spoke, in order to cut through the rush of air against the road surfaces, the noise of the crowd, and the muted roar of the driving mechanism concealed beneath the moving strips. The combination of noises inhibited further conversation as they proceeded toward the middle of the roadway. After passing through three more wind screens located at the forty, sixty, and eighty-mile-an-hour strips, respectively, they finally reached the maximum-speed strip, the hundred-mile-an-hour strip, which made the round trip, San Diego to Reno and back, in twelve hours.

Blekinsop found himself on a walkway, twenty feet wide, facing another partition. Immediately opposite him an illuminated show-window proclaimed:

JAKE'S STEAK HOUSE No. 4 The Fastest Meal on the Fastest Road! "To dine on the fly Makes the miles roll by!"

"Amazing!" said Mr. Blekinsop. "It would be like dining in a tram. Is this really a proper restaurant?"

"One of the best. Not fancy, but sound."

"Oh, I say, could we--"

Gaines smiled at him. "You'd like to try it, wouldn't you, sir?"

"I don't wish to interfere with your plans--"

"Quite all right. I'm hungry myself, and Stockton is a long hour away. Let's go in."

Gaines greeted the manageress as an old friend. "Hello, Mrs. McCoy. How are you tonight?"

"If it isn't the chief himself! It's a long time since we've had the pleasure of seeing your face." She led them to a booth somewhat detached from the crowd of dining commuters. "And will you and your friend be having dinner?"

"Yes, Mrs. McCoy. Suppose you order for us--but be sure it includes one of your steaks."

"Two inches thick--from a steer that died happy." She glided away, moving her fat frame with surprising grace.

With sophisticated foreknowledge of the chief engineer's needs, Mrs. McCoy had left a portable telephone at the table. Gaines plugged it into an accommodation jack at the side of the booth, and dialed a number. "Hello--Davidson? Dave, this is the chief. I'm in Jake's Steak House No. 4 for supper. You can reach me by calling 10-L-6-6."

He replaced the handset, and Blekinsop inquired politely: "Is it necessary for you to be available at all times?"

"Not strictly necessary," Gaines told him, "but I feel safer when I am in touch. Either Van Kleeck, or myself, should be where the senior engineer of the watch--that's Davidson this shift--can get hold of us in a pinch. If it's a real emergency, I want to be there, naturally."

"What would constitute a real emergency?"

"Two things, principally. A power failure on the rotors would bring the road to a standstill, and possibly strand millions of people a hundred miles, or more, from their homes. If it happened during a rush hour, we would have to evacuate those millions from the road-- not too easy to do."

"You say millions--as many as that?"

"Yes, indeed. There are twelve million people dependent on this roadway, living and working in the buildings adjacent to it, or within five miles of each side."

The Age of Power blends into the Age of Transportation almost imperceptibly, but two events stand out as landmarks in the change: The

invention of the Sun-power screen, and the opening of the first moving road. The power resources of oil and coal of the United States had-- save for a few sporadic outbreaks of common sense--been shamefully wasted in their development all through the first half of the twentieth century. Simultaneously, the automobile, from its humble start as a one- lunged horseless carriage, grew into a steel-bodied monster of over a hundred horsepower and capable of making more than a hundred miles an hour. They boiled over the countryside, like yeast in ferment. In the middle of the century it was estimated that there was a motor vehicle for every two persons in the United States.

They contained the seeds of their own destruction. Seventy million steel juggernauts, operated by imperfect human beings at high speed, are more destructive than war. In the same reference year the premiums paid for compulsory liability and property damage insurance by automobile owners exceeded in amount the sum paid the same year to purchase automobiles. Safe driving campaigns were chronic phenomena, but were mere pious attempts to put Humpty-Dumpty together again. It was not physically possible to drive safely in those crowded metropolises. Pedestrians were sardonically divided into two classes, the quick and the dead.

But a pedestrian could be defined as a man who had found a place to park his car. The automobile made possible huge cities, then choked those same cities to death with their numbers. In 1900 Herbert George Wells pointed out that the saturation point in the size of a city might be mathematically predicted in terms of its transportation facilities. From a standpoint of speed alone the automobile made possible cities two hundred miles in diameter, but traffic congestion, and the inescapable, inherent danger of high-powered, individually operated vehicles canceled out the possibility.

Federal Highway No. 66 from Los Angeles to Chicago, "The Main Street of America," was transformed into a superhighway for motor vehicles, with an underspeed limit of sixty miles per hour. It was planned as a public

works project to stimulate heavy industry; it had an unexpected by-product. The great cities of Chicago and St. Louis stretched out urban pseudopods toward each other, until they met near Bloomington, Illinois. The two parent cities actually shrank in population.

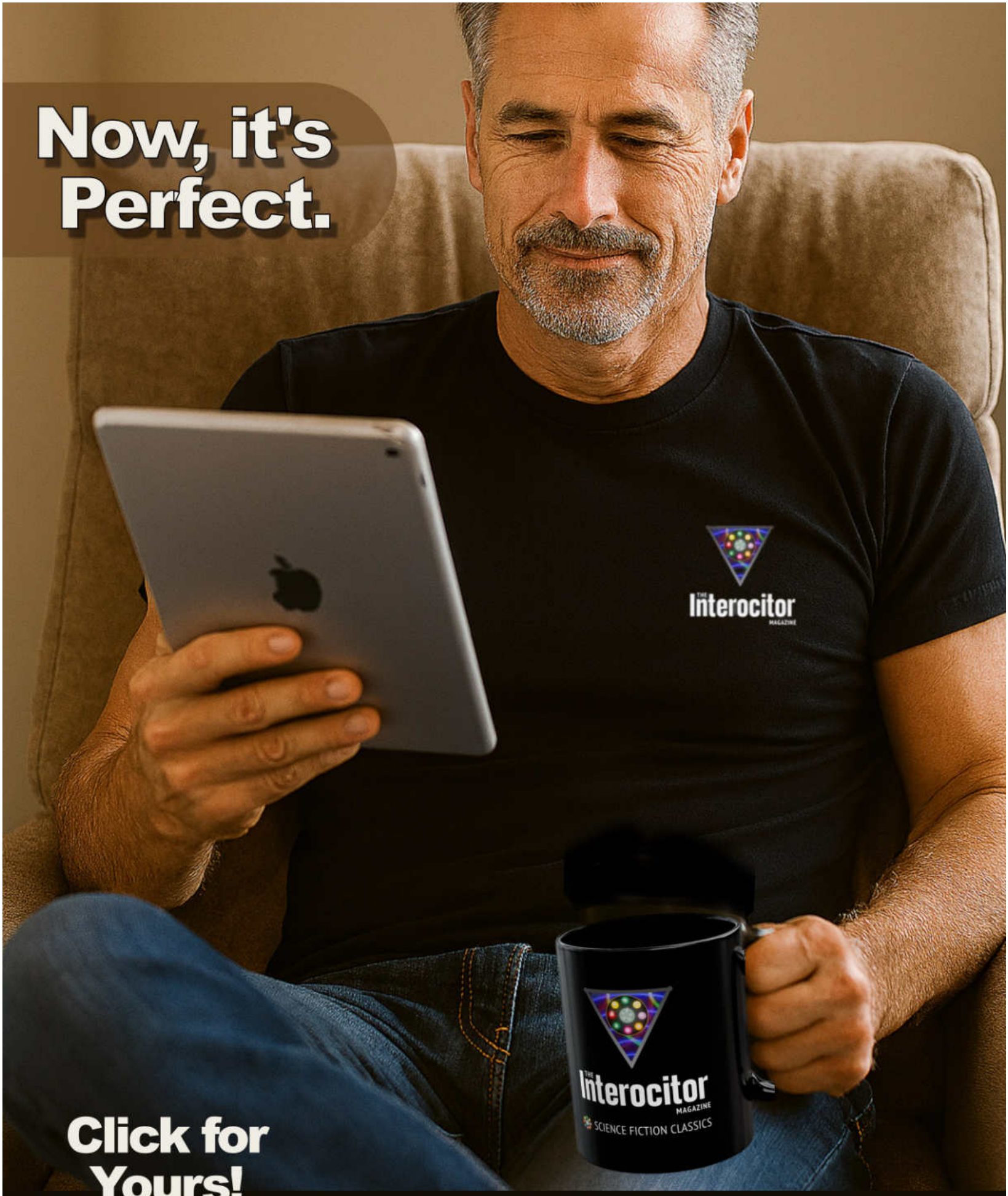
The city of San Francisco replaced its antiquated cable cars with moving stairways, powered with the Douglas-Martin Solar Reception Screens. The largest number of automobile licenses in history had been issued that calendar year, but the end of the automobile was in sight. The National Defense Act closed its era.

This act, one of the most bitterly debated ever to be brought out of committee, declared petroleum to be an essential and limited material of war. The army and navy had first call on all oil, above or below the ground, and seventy million civilian vehicles faced short and expensive rations.

Take the superhighways of the period, urban throughout their length. Add the mechanized streets of San Franciso's hills. Heat to boiling point with an imminent shortage of gasoline. Flavor with Yankee ingenuity. The first mechanized road was opened between Cincinnati and Cleveland.

It was, as one would expect, comparatively primitive in design. The fastest strip moved only thirty miles per hour, and was quite narrow, for no one had thought of the possibility of locating retail trade on the strips themselves. Nevertheless, it was a prototype of the social pattern which was to dominate the American scene within the next two decades --neither rural nor urban, but partaking equally of both, and based on rapid, safe, cheap, convenient transportation.

Factories--wide, low buildings whose roofs were covered with solar power screens of the same type that drove the road--lined the roadway on each side. Back of them and interspersed among them were commercial hotels,



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retail stores, theaters, apartment houses. Beyond this long, thin, narrow strip was the open countryside, where much of the population lived. Their homes dotted the hills, hung on the banks of creeks, and nestled between the farms. They worked in the "city," but lived in the "country"--and the two were not ten minutes apart.

Mrs. McCoy served the chief and his guest in person. They checked their conversation at the sight of the magnificent steaks. Up and down the six-hundred-mile line, sector engineers of the watch were getting in their hourly reports from their subsector technicians. "Subsector One--check!" "Subsector Two--check!" Tensiometer readings, voltage, load, bearing temperatures, synchrotachometer readings --"Subsector Seven--check!" Hard-bitten, able men in dungarees, who lived much of their lives down inside amidst the unmuted roar of the hundred-mile strip, the shrill whine of driving rotors, and the complaint of the relay rollers.

Davidson studied the moving model of the road, spread out before him in the main control room at Fresno Sector. He watched the barely perceptible crawl of the miniature hundred-mile strip and subconsciously noted the reference number on it which located Jake's Steak House No. 4. The chief would be getting into Stockton soon; he'd give him a ring after the hourly reports were in. Everything was quiet; traffic tonnage normal for rush hour; he would be sleepy before this watch was over. He turned to his cadet engineer of the watch. "Mr. Barnes."

"Yes, sir."

"I think we could use some coffee."

"Good idea, sir. I'll order some as soon as the hourlies are in."

The minute hand of the control board chronometer reached twelve. The cadet watch officer threw a switch. "All sectors, report!" he said, in crisp,

self-conscious tones. The faces of two men flicked into view on the visor screen. The younger answered him with the same air of acting under supervision. "Diego Circle--rolling!"

They were at once replaced by two more. "Angeles Sector--rolling!"

Then: "Bakersfield Sector--rolling!"

And: "Stockton Sector--rolling!"

Finally, when Reno Circle had reported, the cadet turned to Davidson and reported: "Rolling, sir."

"Very well--keep them rolling!"

The visor screen flashed on once more. "Sacramento Sector--supplementary report."

"Proceed."

"Cadet Engineer Guenther, while on visual inspection as cadet sector engineer of the watch, found Cadet Engineer Alec Jeans, on watch as cadet subsector technician, and R. J. Ross, technician second class, on watch as technician for the same subsector, engaged in playing cards. K was not possible to tell with any accuracy how long they had neglected to patrol their subsector."

"Any damage?"

"One rotor running hot, but still synchronized. It was jacked down, and replaced."

"Very well. Have the paymaster give Ross his time, and turn him over to the civil authorities. Place Cadet Jeans under arrest and order him to report to me."

"Very well, sir."

"Keep them rolling!"

Davidson turned back to control desk and dialed Chief Engineer Games' temporary number.

"You mentioned that there were two things that could cause major trouble on the road, Mr. Gaines, but you spoke only of power failure to the rotors."

Gaines pursued an elusive bit of salad before answering. "There really isn't a second major trouble--it won't happen. However--we are traveling along here at one hundred miles per hour. Can you visualize what would happen if this strip under us should break?"

Mr. Blekinsop shifted nervously in his chair. "Hm-m-m! Rather a disconcerting idea, don't you think? I mean to say, one is hardly aware that one is traveling at high speed, here in this snug room. What would the result be?"

"Don't let it worry you; the strip can't part. It is built up of overlapping sections in such a fashion that it has a safety factor of better than twelve to one. Several miles of rotors would have to shut down all at once, and the circuit breakers for the rest of the line fail to trip out before there could possibly be sufficient tension on the strip to cause it to part.

"But it happened once, on the Philadelphia-Jersey City road, and we aren't

likely to forget it. It was one of the earliest high-speed roads, carrying a tremendous passenger traffic, as well as heavy freight, since it serviced a heavily industrialized area. The strip was hardly more than a conveyor belt, and no one had foreseen the weight it would carry. It happened under maximum load, naturally, when the high-speed way was crowded. The part of the strip behind the break buckled for miles, crushing passengers against the roof at eighty miles per hour. The section forward of the break cracked like a whip, spilling passengers onto the slower ways, dropping them on the exposed rollers and rotors down inside, and snapping them up against the roof.

"Over three thousand people were killed in that one accident, and there was much agitation to abolish the roads. They were even shut down for a week by presidential order, but he was forced to reopen them again. There was no alternative."

"Really? Why not?"

"The country had become economically dependent on the roads. They were the principal means of transportation in the industrial areas--the only means of economic importance. Factories were shut down; food didn't move; people got hungry--and the president was forced to let them roll again. It was the only thing that could be done; the social pattern had crystallized in one form, and it couldn't be changed overnight. A large, industrialized population must have large-scale transportation, not only for people, but for trade."

Mr. Blekinsop fussed with his napkin, and rather diffidently suggested: "Mr. Gaines, I do not intend to disparage the ingenious accomplishments of your great people, but isn't it possible that you may have put too many eggs in one basket in allowing your whole
economy to become dependent on the functioning of one type of machinery?"

Gaines considered this soberly. "I see your point. Yes--and no. Every civilization above the peasant-and-village type is dependent on some key type of machinery. The old South was based on the cotton gin. Imperial England was made possible by the steam engine. Large populations have to have machines for power, for transportation, and for manufacturing in order to live. Had it not been for machinery the large populations could never have grown up. That's not a fault of the machine; that's its virtue.

"But it is true that whenever we develop machinery to the point where it will support large populations at a high standard of living we are then bound to keep that machinery running, or suffer the consequences. But the real hazard in that is not the machinery, but the men who run the machinery. These roads, as machines, are all right. They are strong and safe and will do everything they were designed to do. No, it's not the machines, it's the men.

"When a population is dependent on a machine, they are hostages of the men who tend the machines. If their morale is high, their sense of duty strong--"

Someone up near the front of the restaurant had turned up the volume control of the radio, letting out a blast of music that drowned out Gaines' words. When the sound had been tapered down to a more nearly bearable volume, he was saying:

"Listen to that. It illustrates my point."

Blekinsop turned an ear to the music. It was a swinging march of compelling rhythm, with a modern interpretive arrangement. One could hear the roar of machinery, the repetitive clatter of mechanisms. A Pleased smile of recognition spread over the Australian's face. "It's your field artillery song, 'The Roll of the Caissons,' isn't it? But I don't see the

connection."

"You're right; it was 'The Roll of the Caissons,' but we adapted it to our own purposes. It's "The Road Song of the Transport Cadets,' too. Wait!"

The persistent throb of the march continued, and seemed to blend with the vibration of the roadway underneath into a single timpano. Then a male chorus took up the verse:

"Hear them hum!
Watch them run!

Oh, our job is never done,

For our roadways go rolling along!

While you ride,

While you glide,

We are watching down inside,

So your roadways keep rolling along!

"Oh, it's Hie! Hie! Hee!

The rotor men are we--

Check off the sectors loud and strong!

ONE! TWO! THREE!

Anywhere you go

You are bound to know

That your roadways are rolling along!

KEEP THEM ROLLING!

That your roadways are rolling along!"

"See?" said Gaines, with more animation in his voice. "See? That is the real purpose of the United States Academy of Transport. That is the reason why the transport engineers are a semi-military profession, with strict discipline. We are the bottle neck, the sine qua non, of all industry, all economic life. Other industries can go on strike, and only create temporary and partial dislocations. Crops can fail here and there, and the country takes up the slack. But if the roads stop rolling, everything else must stop; the effect would be the same as a general strike--with this important difference: It takes a majority of the population, fired by a real feeling of grievance, to create a general strike; but the men that run the roads, few as they are, can create the same complete paralysis.

"We had just one strike on the roads, back in '60. It was justified, I think, and it corrected a lot of real abuses--but it mustn't happen again."
"But what is to prevent it happening again, Mr. Gaines?"

"Morale--esprit de corps. The technicians in the road service are indoctrinated constantly with the idea that their job is a sacred trust. Besides, we do everything we can to build up their social position. But

even more important is the academy. We try to turn out graduate engineers imbued with the same loyalty, the same iron self-discipline, and determination to perform their duty to the community at any cost, that Annapolis and West Point and Goddard are so successful in inculcating in their graduates."

"Goddard? Oh, yes, the rocket field. And have you been successful, do you think?"

"Not entirely, perhaps, but we will be. It takes time to build up a tradition. When the oldest engineer is a man who entered the academy in his teens we can afford to relax a little and treat it as a solved problem."

"I suppose you are a graduate?"

Gaines grinned. "You flatter me--I must look younger than I am. No, I'm a carry-over from the army. You see, the war department operated the roads for some three months during reorganization after the strike in '60. I served on the conciliation board that awarded pay increases and adjusted working conditions, then I was assigned--"

The signal light of the portable telephone glowed red. Gaines said, "Excuse me," and picked up the handset. "Yes?"

Blekinsop could overhear the voice at the other end. "This is Davidson, chief. The roads are rolling."

"Very well. Keep them rolling!"

"Had another trouble report from the Sacramento Sector."

"Again? What this time?"

Before Davidson could reply he was cut off. As Gaines reached out to dial him back, his coffee cup, half full, landed in his lap. Blekinsop was aware, even as he was lurched against the edge of the table, of a disquieting change in the hum of the roadway.

"What has happened, Mr. Gaines?"

"Don't know. Emergency stop--God knows why." He was dialing furiously. Shortly he flung the phone down, without bothering to return the handset to its cradle. "Phones are out. Come on! No! You'll
be safe here. Wait."

"Must I?"

'Well, come along then, and stick close to me." He turned away, having dismissed the Australian cabinet minister from his mind. The strip ground slowly to a rest, the giant rotors and myriad rollers acting as flywheels in preventing a disastrous sudden stop. Already a little knot of commuters, disturbed at their evening meal, were attempting to crowd out the door of the restaurant.

"Halt!"

There is something about a command issued by one used to being obeyed which enforces compliance. It may be intonation, or possibly a more esoteric power, such as animal tamers are reputed to be able to exercise in controlling ferocious beasts. But it does exist, and can be used to compel even those not habituated to obedience.

The commuters stopped in their tracks.

Gaines continued: "Remain in the restaurant until we are ready to evacuate you. I am the chief engineer. You will be in no danger here. You!" He pointed to a big fellow near the door. "You're deputized. Don't let anyone leave without proper authority. Mrs. McCoy, resume serving dinner."

Gaines strode out the door, Blekinsop tagging along. The situation outside permitted no such simple measures. The hundred-mile strip alone had stopped; twenty feet away the next strip flew by at an unchecked ninety-five miles an hour. The passengers on it flickered past, unreal cardboard figures.

The twenty-foot walkway of the maximum speed strip had been crowded when the breakdown occurred. Now the customers of shops, of lunch stands, and of other places of business, the occupants of lounges, of television theaters--all came crowding out onto the walkway to see what had happened. The first disaster struck almost immediately.

The crowd surged, and pushed against a middle-aged woman on its outer edge. In attempting to recover her balance she put one foot over the edge of the flashing ninety-five-mile strip. She realized her gruesome error, for she screamed before her foot touched the ribbon.

She spun around and landed heavily on the moving strip, and was rolled by it, as the strip attempted to impart to her mass, at one blow, a velocity of ninety-five miles per hour--one hundred and thirty-nine feet per second. As she rolled she mowed down some of the cardboard figures as a sickle strikes a stand of grass. Quickly, she was out of sight, her identity, her injuries, and her fate undetermined, and already remote.

But the consequences of her mishap were not done with. One of the flickering cardboard figures bowled over by her relative moment fell toward the hundred-mile strip, slammed into the shockbound crowd, and suddenly appeared as a live man--but broken and bleeding-- amidst the

luckless, fallen victims whose bodies had checked his wild flight.

Even there it did not end. The disaster spread from its source, each hapless human ninepin more likely than not to knock down others so that they fell over the danger-laden boundary, and in turn ricocheted to a dearly-bought equilibrium.

But the focus of calamity sped out of sight, and Blekinsop could see no more. His active mind, accustomed to dealing with large numbers of individual human beings, multiplied the tragic sequence he had witnessed by twelve hundred miles of thronged conveyor strip, and his stomach chilled.

To Blekinsop's surprise, Gaines made no effort to succor the fallen, nor to quell the fear-infected mob, but turned an expressionless face back to the restaurant. When Blekinsop saw that he was actually reentering the restaurant, he plucked at Gaines' sleeve. "Aren't we going to help those poor people?"

The cold planes of the face of the man who answered him bore no resemblance to his genial, rather boyish host of a few minutes before. "No. Bystanders can help them--I've got the whole road to think of. Don't bother me."

Crushed, and somewhat indignant, the politician did as he was ordered. Rationally, he knew that the chief engineer was right--a man responsible for the safety of millions cannot turn aside from his duty to render personal service to one--but the cold detachment of such viewpoint was repugnant to him.

Gaines was back in the restaurant. "Mrs. McCoy, where is your getaway?"

"In the pantry, sir."

Gaines hurried there, Blekinsop at his heels. A nervous Filipino salad boy shrank out of Gaines' way as he casually swept a supply of prepared green stuffs onto the floor, and stepped up on the counter
where they had rested. Directly above his head and within reach was a circular manhole, counterweighted and operated by a hand-wheel set in its center. A short steel ladder, hinged to the edge of the opening, was swung up flat to the ceiling and secured by a hook.

Blekinsop lost his hat in his endeavor to clamber quickly enough up the ladder after Gaines. When he emerged on the roof of the building, Gaines was searching the ceiling of the roadway with a pocket flashlight. He was shuffling along, stooped double in the awkward four feet of space between the roof underfoot and ceiling.

He found what he sought, some fifty feet away--another manhole similar to the one they had used to escape from below. He spun the wheel of the lock, and stood up in the space, then rested his hands on the sides of the opening, and with a single lithe movement vaulted to the roof of the roadways. His companion followed him with more difficulty.

They stood in darkness, a fine, cold rain feeling at their faces. But underfoot, and stretching beyond sight on each hand, the Sun-power screens glowed with a faint opalescent radiance, their slight percentage of inefficiency as transformers of radiant Sun power to available electrical power being evidenced as a mild induced radioactivity. The effect was not illumination, but rather like the ghostly sheen of a snow-covered plain seen by starlight.

The glow picked out the path they must follow to reach the rain-obscured wall of buildings bordering the ways. The path was a narrow black stripe which arched away into the darkness over the low curve of the roof. They

started away on this path at a dogtrot, making as much speed as the slippery footing and the dark permitted, while Blekinsop's mind still fretted at the problem of Gaines' apparently callous detachment. Although possessed of a keen intelligence, his nature was dominated by a warm, human sympathy, without which no politician, irrespective of other virtues or shortcomings, is long successful.

Because of this trait he distrusted instinctively any mind which was guided by logic alone. He was aware that, from a standpoint of strict logic, no reasonable case could be made out for the continued existence of human race, still less for the human values he served.

Had he been able to pierce the preoccupation of his companion, he would have been reassured. On the surface, Gaines' exceptionally intelligent mind was clicking along with the facile ease of an electromechanical integrator--arranging data at hand, making tentative decisions, postponing judgments without prejudice until necessary data were available, exploring alternatives. Underneath, in a compartment insulated by stern self-discipline from the acting theater of his mind, his emotions were a torturing storm of self reproach. He was heartsick at the suffering he had seen, and which he knew too well was duplicated up and down the line. Although he was not aware of any personal omission, nevertheless the fault was somehow his, for authority creates responsibility.

He had carried too long the superhuman burden of kingship--which no sane mind can carry lightheartedly--and was at this moment perilously close to the frame of mind which sends captains down with their ships. But the need for immediate, constructive action sustained him.

But no trace of this conflict reached his features.

At the wall of buildings glowed a green line of arrows, pointing to the left. Over them, at the terminus of the narrow path, shone a sign: "Access

down." They pursued this, Blekinsop puffing in Gaines' wake, to a door let in the wall, which gave into a narrow stairway lighted by a single glow tube. Gaines plunged down this, still followed, and they emerged on the crowded, noisy, stationary walkway adjoining the northbound road.

Immediately adjacent to the stairway, on the right, was a public tele-booth. Through the glassite door they could see a portly, well-dressed man speaking earnestly to his female equivalent, mirrored in the visor screen. Three other citizens were waiting outside the booth.

Gaines pushed past them, flung open the door, grasped the bewildered and indignant man by the shoulders and hustled him outside, kicking the door closed after him. He cleared the visor screen with one sweep of his hand, before the matron pictured therein could protest, and pressed the emergency-priority button.

He dialed his private code number, and was shortly looking into the troubled face of his engineer of the watch, Davidson.

"Report!"

"It's you, chief! Thank God! Where are you?" Davidson's relief was pathetic.

"Report!"

The senior watch officer repressed his emotion, and complied in direct, clipped phrases: "At 7:09 p.m. the consolidated tension reading, Strip 20, Sacramento Sector, climbed suddenly. Before action could be taken, tension on Strip 20 passed emergency level; the interlocks acted, and power to subject strip cut out. Cause of failure unknown. Direct communication to Sacramento control office has failed. They do not

answer the auxiliary, nor commercial. Effort to reestablish communication continues. Messenger dispatched from Stockton Subsector 10.

"No casualties reported. Warning broadcast by public announcement circuit to keep clear of Strip 19. Evacuation has commenced."

"There are casualties," Gaines cut in. "Police and hospital emergency routine. Move!"

"Yes, sir!" Davidson snapped back, and hooked a thumb over his shoulder--but his cadet officer of the watch had already jumped to comply. "Shall I cut out the rest of the road, chief?"

"No. No more casualties are likely after the first disorder. Keep up the broadcast warnings. Keep those other strips rolling, or we will have a traffic jam the devil himself couldn't untangle."

Gaines had in mind the impossibility of bringing the strips up to speed under load. The rotors were not powerful enough to do this. If the entire road was stopped, he would have to evacuate every strip, correct the trouble on Strip 20, bring all strips up to speed, and then move the accumulated peak-load traffic. In the meantime, over five million stranded passengers would constitute a tremendous police problem. It was simpler to evacuate passengers on Strip 20 over the roof, and allow them to return home via the remaining strips.

"Notify the mayor and the governor that I have assumed emergency authority. Same to the chief of police and place him under your orders. Tell the commandant to arm all cadets available and await orders. Move!"

"Yes, sir. Shall I recall technicians off watch?"

"No. This isn't an engineering failure. Take a look at your readings; that entire sector went out simultaneously. Somebody cut out those rotors by hand. Place off-watch technicians on standby status--but don't arm them, and don't send them down inside. Tell the commandant to rush all available senior-class cadets to Stockton Subsector office No. 10 to report to me. I want them equipped with tumblebugs, pistols, and sleepgas bombs."

"Yes, sir." A clerk leaned over Davidson's shoulder and said something in his ear. "The governor wants to talk to you, chief."
"Can't do it--nor can you. Who's your relief? Have you sent for him?"

"Hubbard--he's just come in."

"Have him talk to the governor, the mayor, the press--anybody that calls--even the White House. You stick to your watch. I'm cutting off. I'll be back in communication as quickly as I can locate a reconnaissance car." He was out of the booth almost before the screen cleared.

Blekinsop did not venture to speak, but followed him out to the northbound twenty-mile strip. There Gaines stopped, short of the windbreak, turned, and kept his eyes on the wall beyond the stationary walkway. He picked out some landmark or sign--not apparent to his companion-- and did an Eliza crossing the ice back to the walkway, so rapidly that Blekinsop was carried some hundred feet beyond him, and almost failed to follow when Gaines ducked into a doorway, and ran down a flight of stairs.

They came out on a narrow lower walkway, down inside. The pervading din claimed them, beat upon their bodies as well as their ears. Dimly, Blekinsop perceived their surroundings, as he struggled to face that wall of sound. Facing him, illuminated by the red monochrome of a neon arc, was one of the rotors that drove the five-mile strip, its great, drum-shaped armature revolving slowly around the stationary field coils in its core. The

upper surface of the drum pressed against the under side of the moving way and imparted to it its stately progress.

To the left and right, a hundred yards each way, and beyond at similar intervals, farther than he could see, were other rotors. Bridging the gaps between the rotors were the slender rollers, crowded together like cigars in a box, in order that the strip might have a continuous rolling support. The rollers were supported by steel-girder arches through the gaps of which he saw row after row of rotors in staggered succession, the rotors in each succeeding row turning over more rapidly than the last.

Separated from the narrow walkway by a line of supporting steel pillars, and lying parallel to it on the side away from the rotors, ran a shallow paved causeway, joined to the walk at this point by a ramp. Gaines peered up and down this tunnel in evident annoyance. Blekinsop started to ask him what troubled him, but found his voice snuffed out by the sound. He could not cut through the roar of thousands of rotors and the whine of hundreds of thousands of rollers.

Gaines saw his lips move, and guessed at the question. He cupped his hands around Blekinsop's right ear, and shouted: "No car--I expected to find a car here."

The Australian, wishing to be helpful, grasped Gaines' arm and pointed back into the jungle of machinery. Gaines' eye followed the direction indicated and picked out something that he had missed in his preoccupation--a half dozen men working around a rotor several strips away. They had jacked down a rotor until it was no longer in contact with the road surface, and were preparing to replace it in toto. The replacement rotor was standing by on a low, heavy truck.

The chief engineer gave a quick smile of acknowledgment and thanks, and aimed his flashlight at the group, the beam focused down to a slender,

intense needle of light. One of the technicians looked up, and Gaines snapped the light on and off in a repeated, irregular pattern. A figure detached itself from the group and ran toward them.

It was a slender young man, dressed in dungarees, and topped off with ear pads and an incongruous, pillbox cap, bright with gold braid and insignia. He recognized the chief engineer and saluted, his face falling into humorless, boyish intentness.

Gaines stuffed his torch into a pocket and commenced to gesticulate rapidly with both hands--clear, clean gestures, as involved and as meaningful as deaf-mute language. Blekinsop dug into his own dilettante knowledge of anthropology and decided that it was most like an American Indian sign language, with some of the finger movements of hula. But it was necessarily almost entirely strange, being adapted for a particular terminology.

The cadet answered him in kind, stepped to the edge of the causeway, and flashed his torch to the south. He picked out a car, still some distance away, but approaching at headlong speed. It braked, and came to a stop alongside them.

It was a small affair, ovoid in shape, and poised on two centerline wheels. The forward, upper surface swung up and disclosed the driver, another cadet. Gaines addressed him briefly in sign language, then hustled Blekinsop ahead of him into the cramped passenger compartment.

As the glassite hood was being swung back into place, a blast of wind smote them, and the Australian looked up in time to glimpse the last of three much larger vehicles hurtle past them. They were headed north, at a speed of not less than two hundred miles per hour. Blekinsop thought that he had made out the little hats of cadets
through the windows of the last of the three, but he could not be sure.

He had no time to wonder, so violent was the driver's getaway. Gaines ignored the accelerating surge--he was already calling Davidson on the built-in communicator. Comparative silence had settled down once the car was closed. The face of a female operator at the relay station showed on the screen.

"Get me Davidson--senior watch office!"

"Oh! It's Mr. Gaines! The Mayor wants to talk to you, Mr. Gaines."

"Refer him--and get me Davidson. Move!"

"Yes, sir."

"And see here--leave this circuit hooked in to Davidson's board until I tell you personally to cut it."

"Right." Her face gave way to the watch officer's.

"That you, chief? We're moving--progress O.K.--no change."

"Very well. You'll be able to raise me on this circuit, or at Subsector 10 office. Clearing now." Davidson's face gave way to the relay operator.

"Your wife is calling, Mr. Gaines. Will you take it?"

Gaines muttered something not quite gallant, and answered: "Yes." Mrs. Gaines flashed into facsimile. He burst into speech before she could open her mouth. "Darling I'm all right don't worry I'll be home when I get there I've got to go now." It was all out in one breath, and he slapped the control that cleared the screen.

They slammed to a breath-taking stop alongside the stair leading to the watch office of Subsector 10, and piled out. Three big lorries were drawn up on the ramp, and three platoons of cadets were ranged in restless ranks alongside them. Tumblebugs--small, open monocycles, used to patrol down inside--were ready nearby.

A cadet trotted up to Gaines and saluted. "Lindsay, sir--cadet engineer of the watch. The engineer of the watch requests that you come at once to the control room."

The engineer of the watch looked up as they came in. "Chief--Van Kleeck is calling you."

"Put him on."
When Van Kleeck appeared in the big visor, Gaines greeted him with: "Hello, Van. Where are you?"

"Sacramento office. Now listen--"

"Sacramento? That's good! Report."

Van Kleeck looked disgruntled. "Report, hell! I'm not your deputy any more, Gaines. Now, you--"

"What the hell are you talking about?"

"Listen, and don't interrupt me, and you'll find out. You're through, Gaines. I've been picked as Director of the Provisional Control Committee for the New Order."

"Van, have you gone off your rocker? What do you mean--the 'New

Order'?"

"You'll find out. This is it--the Functionalist revolution. We're in; you're out. We stopped Strip 20 just to give you a little taste of what we can do."

Concerning Function: A Treatise on the Natural Order in Society, the Bible of the Functionalist movement, was first published in 1930. It claimed to be a scientifically accurate theory of social relations. The author, Paul Decker, disclaimed the "outworn and futile" ideas of democracy and human equality, and substituted a system in which human beings were evaluated "functionally"--that is to say, by the role each filled in the economic sequence. The underlying thesis was that it was right and proper for a man to exercise over his fellows whatever power was inherent in his function, and that any other form of social organization was silly, visionary, and contrary to the "natural order."

The complete interdependence of modern economic life seems to have escaped him entirely.

His ideas were dressed up with a glib mechanistic pseudopsychology based on the observed orders of precedence among barnyard fowls, and on the famous Pavlov conditioned reflex experiments on dogs. He failed to note that human beings are neither dogs nor chickens. Old Dr. Pavlov ignored him entirely, as he had ignored so many others who had blindly and unscientifically dogmatized about the meaning of his important, but strictly limited, experiments.

Functionalism did not take hold at once--during the '30s almost everyone, from truck driver to hatcheck girl, had a scheme for setting the world right in six easy lessons; and a surprising percentage managed to get their schemes published. But it gradually spread. Functionalism was particularly popular among little people everywhere who could persuade themselves that their particular jobs were the indispensable ones, and that

therefore, under the "natural order," they would be top dogs. With so many different functions actually indispensable such self- persuasion was easy.

Gaines stared at Van Kleeck for a moment before replying. "Van," he said slowly, "you don't really think you can get away with this, do you?"

The little man puffed out his chest. ' 'Why not? We have gotten away with it. You can't start Strip 20 until I am ready to let you, and I can stop the whole road, if necessary."

Gaines was becoming uncomfortably aware that he was dealing with unreasonable conceit, and held himself patiently in check. "Sure you can, Van--but how about the rest of the country? Do you think the United States army will sit quietly by and let you run California as your private kingdom?"

Van Kleeck looked sly. "I've planned for that. I've just finished broadcasting a manifesto to all the road technicians in the country, telling them what we have done, and telling them to arise, and claim their rights. With every road in the country stopped, and people getting hungry, I reckon the President will think twice before sending the army to tangle with us. Oh, he could send a force to capture, or kill, me--I'm not afraid to die!--but he doesn't dare start shooting down road technicians as a class, because the country can't get along without us--consequently, he'll have to get along with us--on our terms!"

There was much bitter truth in what he said. If an uprising of the road technicians became general, the government could no more attempt to settle it by force than a man could afford to cure a headache by blowing out his brains. But was the uprising general?

"Why do you think that the technicians in the rest of the country will

follow your lead?"

"Why not? It's the natural order of things. This is an age of machinery; the real power everywhere is in the technicians, but they have been kidded into not using their power with a lot of obsolete catch phrases. And of all the classes of technicians, the most important, the absolutely essential, are the road technicians. From now on they run the show--it's the natural order of things!" He turned away for a moment and fussed with some papers on the desk before him; then he added: "That's all for now, Gaines--I've got to call the White House, and let the president know how things stand. You carry on, and behave yourself, and you won't get hurt."

Gaines sat quite still for some minutes after the screen cleared. So that's how it was. He wondered what effect, if any, Van Kleeck's invitation to strike had had on road technicians elsewhere. None, he thought--but then he had not dreamed that it could happen among his own technicians. Perhaps he had made a mistake in refusing to take time to talk to anyone outside the road. No--if he had stopped to talk to the Governor, or the newspapermen, he would still be talking. Still--

He dialed Davidson.

"Any trouble in any other sectors, Dave?"

"No, chief."

"Or on any other road?"

"None reported."

"Did you hear my talk with Van Kleeck?"

"I was cut in--yes."

"Good. Have Hubbard call the President and the Governor, and tell them that I am strongly opposed to the use of military force as long as the outbreak is limited to this one road. Tell them that I will not be responsible if they move in before I ask for help."

Davidson looked dubious. "Do you think that is wise, chief?"

"I do! If we try to blast Van and his red-hots out of their position, we may set off a real, countrywide uprising. Futhermore, he could wreck the road so that God himself couldn't put it back together. What's your rolling tonnage now?"

"Fifty-three percent under evening peak."

"How about Strip 20?"

"Almost evacuated."

"Good. Get the road clear of all traffic as fast as possible. Better have the chief of police place a guard on all entrances to the road to keep out new traffic. Van may stop all the strips any time--or I may need to myself. Here is my plan: I'm going down inside with these armed cadets. We will work north, overcoming any resistance we meet. You arrange for watch technicians and maintenance crews to follow immediately behind us. Each rotor, as they come to it, is to be cut out, then hooked into the Stockton control board. It will be a haywire rig, with no safety interlocks, so use enough watch technicians to be able to catch trouble before it happens.

"If this scheme works, we can move control of the Sacramento Sector right out from under Van's feet, and he can stay in his Sacramento control office

until he gets hungry enough to be reasonable."

He cut off and turned to the subsector engineer of the watch. "Edmunds, give me a helmet--and a pistol."

"Yes, sir." He opened a drawer, and handed his chief a slender, deadly-looking weapon. Gaines belted it on, and accepted a helmet, into which he crammed his head, leaving the antinoise ear flaps up. Blekinsop cleared his throat.

"May ... uh ... may I have one of those helmets?" he inquired.

"What?" Gaines focused his attention. "Oh--You won't need one, Mr. Blekinsop. I want you to remain right here until you hear from me."

"But--" The Australian statesman started to speak, thought better of it, and subsided.

From the doorway the cadet engineer of the watch demanded the chief engineer's attention. "Mr. Gaines, there is a technician out here who insists on seeing you--a man named Harvey."

"Can't do it."

"He's from the Sacramento Sector, sir."

"Oh! Send him in."

Harvey quickly advised Gaines of what he had seen and heard at the guild meeting that afternoon. "I got disgusted and left while they were still jawin', chief. I didn't think any more about it until Strip 20 stopped rolling. Then I heard that the trouble was in Sacramento Sector, and

decided to look you up."

"How long has this been building up?"

"Quite some time, I guess. You know how it is. There are a few sore heads everywhere, and a lot of them are Functionalists. But you can't refuse to work with a man just because he holds different political views. It's a free country."

"You should have come to me before, Harvey." Harvey looked stubborn. Gaines studied his face. "No, I guess you are right. It's my business to keep tabs on your mates, not yours. As you say, it's a free country. Anything else?"

"Well--now that it has come to this, I thought maybe I could help you pick out the ringleaders."

"Thanks. You stick with me. We are going down inside and try to clear up this mess."

The office door opened suddenly, and a technician and a cadet appeared, lugging a burden between them. They deposited it on the floor, and waited.

It was a young man, quite evidently dead. The front of his dungaree jacket was soggy with blood. Gaines looked at the watch officer. "Who is he?"

Edmunds broke his stare and answered: "Cadet Hughes. He's the messenger I sent to Sacramento when communication failed. When he didn't report, I sent Marston and Cadet Jenkins after him."

Gaines muttered something to himself, and turned away. "Come along,

Harvey."

The cadets waiting below had changed in mood. Gaines noted that the boyish intentness for excitement had been replaced by something uglier. There was much exchange of hand signals and several appeared to be checking the loading of their pistols.

He sized them up, then signaled to the cadet leader. There was a short interchange of signals. The cadet saluted, turned to his men, gesticulated briefly, and brought his arm down smartly. They filed upstairs, and into an empty standby room, Gaines following.

Once inside, and the noise shut out, he addressed them: "You saw Hughes brought in. How many of you want a chance to kill the louse that did it?"

Three of the cadets reacted almost at once, breaking ranks and striding forward. Gaines looked at them coldly. "Very well. You three turn in your weapons, and return to your quarters. Any of the rest of you that think this is a matter of private revenge, or a hunting party, may join them." He permitted a short silence to endure before
continuing. "Sacramento Sector has been seized by unauthorized persons. We are going to retake it--if possible, without loss of life on either side, and, if possible, without stopping the roads. The plan is to take over down inside, rotor by rotor, and cross-connect through Stockton. The task assignment of this group is to proceed north down inside, locating and overpowering all persons in your path. You will bear in mind the probability that most of the persons you will arrest are completely innocent. Consequently, you will favor the use of sleep-gas bombs, and will shoot to kill only as a last resort.

"Cadet captain, assign your men in squads of ten each, with squad leader. Each squad is to form a skirmish line across down inside, mounted on tumblebugs, and will proceed north at fifteen miles per hour. Leave an

interval of one hundred yards between successive waves of skirmishers. Whenever a man is sighted, the entire leading wave will converge on him, arrest him, and deliver him to a transport car, then reform in the rear of the last wave. You will assign the transports that delivered you here to hold prisoners. Instruct the drivers to keep abreast of the second wave.

"You will assign an attack group to recapture subsector control officers, but no office is to be attacked until its subsector has been cross-connected with Stockton. Arrange liaison accordingly.

"Any questions?" He let his eyes run over the faces of the young men. When no one spoke up, he turned back to the cadet in charge. "Very well, sir. Carry out your orders!"

By the time the dispositions had been completed, the follow-up crew of technicians had arrived, and Gaines had given the engineer in charge his instructions. The cadets "stood to horse" alongside their poised tumblebugs. The cadet captain looked expectantly at Gaines. He nodded, the cadet brought his arm down smartly, and the first wave mounted and moved off.

Gaines and Harvey mounted tumblebugs, and kept abreast of the cadet captain, some twenty-five yards behind the leading wave. It had been a long time since the chief engineer had ridden one of these silly-looking little vehicles, and he felt awkward. A tumblebug does not give a man dignity, since it is about the size and shape of a kitchen stool, gyro-stabilized on a single wheel. But it is perfectly adapted to patrolling the maze of machinery down inside, since it can go through an opening the width of a man's shoulders, is easily controlled, and will stand patiently upright, waiting, should its rider dismount.

The little reconnaissance car followed Gaines at a short interval, weaving in and out among the rotors, while the television and audio

communicator inside continued as Gaines' link to his other manifold responsibilities.

The first two hundred yards of Sacramento Sector passed without incident, then one of the skirmishers sighted a tumblebug parked by a rotor. The technician it served was checking the gauges at the rotor's base, and did not see them approach. He was unarmed and made no resistance, but seemed surprised and indignant, as well as very bewildered.

The little command group dropped back and permitted the new leading wave to overtake them.

Three miles farther along, the score stood thirty-seven men arrested, none killed. Two of the cadets had received minor wounds, and had been directed to retire. Only four of the prisoners had been armed; one of these Harvey had been able to identify definitely as a ringleader. Harvey expressed a desire to attempt to parley with the outlaws, if any occasion arose. Gaines agreed tentatively. He knew of Harvey's long and honorable record as a labor leader, and was willing to try anything that offered a hope of success with a minimum of violence.

Shortly thereafter the first wave flushed another technician. He was on the far side of a rotor; they were almost on him before he was seen. He did not attempt to resist, although he was armed, and the incident would not have been worth recording, had he not been talking into a hush-a-phone which he had plugged into the telephone jack at the base of the rotor.

Gaines reached the group as the capture was being effected. He snatched at the soft rubber mask of the phone, jerking it away from the man's mouth so violently that he could feel the bone-conduction receiver grate between the man's teeth. The prisoner spat out a piece of broken tooth and glared, but ignored attempts to question him.

Swift as Gaines had been, it was highly probable that they had lost the advantage of surprise. It was necessary to assume that the prisoner had succeeded in reporting the attack going on beneath the ways. Word was passed down the line to proceed with increased caution.

Gaines' pessimism was justified shortly. Riding toward them appeared a group of men, as yet several hundred feet away. There were at least a score, but their exact strength could not be determined, as they took advantage of the rotors for cover as they advanced. Harvey looked at Gaines, who nodded, and signaled the cadet captain to halt his forces. Harvey went on ahead, unarmed, his hands held high above his head, and steering by balancing the weight of his body. The outlaw party checked its speed uncertainly, and finally stopped. Harvey approached within a couple of rods of them and stopped likewise. One of them, apparently the leader, spoke to him in sign language, to which he replied.

They were too far away, and the red light too uncertain, to follow the discussion. It continued for several minutes, then ensued a pause. The leader seemed uncertain what to do. One of his party rolled forward, returned his pistol to its holster, and conversed with the leader. The leader shook his head at the man's violent gestures.

The man renewed his argument, but met the same negative response. With a final disgusted wave of his hands, he desisted, drew his pistol, and shot at Harvey. Harvey grabbed at his middle and leaned forward. The man shot again; Harvey jerked, and slid to the ground.

The cadet captain beat Gaines to the draw. The killer looked up as the bullet hit him. He looked as if he were puzzled by some strange occurrence--being too freshly dead to be aware of it.

The cadets came in shooting. Although the first wave was outnumbered better than two to one, they were helped by the comparative

demoralization of the enemy. The odds were nearly even after the first ragged volley. Less than thirty seconds after the first treacherous shot all of the insurgent party were dead, wounded, or under arrest. Gaines' Josses were two dead--including the murder of Harvey--and two wounded.

Gaines modified his tactics to suit the changed conditions. Now that secrecy was gone, speed and striking power were of first importance. The second wave was directed to close in practically to the heels of the first. The third wave was brought up to within twenty-five yards of the second. These three waves were to ignore unarmed men, leaving them to be picked up by the fourth wave, but they were directed to shoot on sight any person carrying arms.

Gaines cautioned them to shoot to wound, rather than to kill, but he realized that his admonishment was almost impossible to obey. There would be killing. Well--he had not wanted it, but he felt that he had no choice. Any armed outlaw was a potential killer--he could not, in fairness to his own men, lay too many restrictions on them.

When the arrangements for the new marching order were completed, he signed the cadet captain to go ahead, and the first and second waves started off together at the top speed of which the tumblebugs were capable--not quite eighteen miles per hour. Gaines followed them.

He swerved to avoid Harvey's body, glancing involuntarily down as he did so. The face was set in a death mask of rugged beauty in which the strong fiber of the dead man's character was evident. Seeing this, Gaines did not regret so much his order to shoot, but the deep sense of loss of personal honor lay more heavily on him than before.

They passed several technicians during the next few minutes, but had no occasion to shoot. Gaines was beginning to feel somewhat hopeful of a

reasonably bloodless victory, when he noticed a change in the pervading throb of machinery which penetrated even through the heavy antinoise pads of his helmet. He lifted an ear pad in time to hear the end of a rumbling diminuendo as the rotors and rollers slowed to rest.

The road was stopped.

He shouted to the cadet captain: "Halt your men!" His words echoed hollowly in the unreal silence.

The top of the reconnaissance car swung up as he turned and hurried to it. "Chief," the cadet within called out, "relay station calling you."

The girl in the visor screen gave way to Davidson as soon as she recognized Gaines' face.

"Chief," Davidson said at once, "Van Kleeck's calling you."

"Who stopped the road?"

"He did."

"Any other major change in the situation?"

"No--the road was practically empty when he stopped it."

"Good. Give me Van Kleek."

The chief conspirator's face was livid with uncurbed anger when he identified Gaines. He burst into speech.

"So! You thought I was fooling, eh? What do you think now, Mr. Chief

Engineer Gaines?"

Gaines fought down an impulse to tell him exactly what he thought, particularly about Van Kleeck. Everything about the short man's manner affected him like a squeaking slate pencil.

But he could not afford the luxury of speaking his mind. He strove to get just the proper tone into his voice which would soothe the other man's vanity. "I've got to admit that you've won this trick, Van--the road is stopped--but don't think I didn't take you seriously. I've watched you work too long to underrate you. I know you mean what you say."

Van Kleeck was pleased by the tribute, but tried not to show it. "Then why don't you get smart, and give up?" he demanded belligerently. "You can't win."

"Maybe not, Van, but you know I've got to try. Besides," he went on, "why can't I win? You said yourself that I could call on the whole United States army."

Van Kleeck grinned triumphantly. "You see that?" He held up a pear-shaped electric push button, attached to a long cord. "If I push that, it will blow a path right straight across the ways--blow it to kingdom come. And just for good measure, I'll take an ax, and wreck this control station before I leave."

Gaines wished whole-heartedly that he knew more about psychology. Well--he'd just have to do his best, and trust to horse sense to give him the right answers. "That's pretty drastic, Van, but I don't see how we can give up."

"No? You'd better have another think. If you force me to blow up the road,

how about all the people that will be blown up along with it?"

Gaines thought furiously. He did not doubt that Van Kleeck would carry out his threat. His very phraseology, the childish petulance of "If you force me to do this--," betrayed the dangerous irrationality of his frame of mind. And such an explosion anywhere in the thickly populated Sacramento Sector would be likely to wreck one or more apartment houses, and would be certain to kill shopkeepers on the included segment of Strip 20, as well as chance passers-by. Van was absolutely right; he dare not risk the lives of bystanders who were not aware of the issue and had not consented to the hazard--even if the road never rolled again.

For that matter, he did not relish chancing major damage to the road itself--but it was the danger to innocent life which left him helpless. A tune ran through his head:
"Hear them hum; watch them run. Oh, our work is never done--" What to do? What to do?

"While you ride, while you glide, we are--"

This wasn't getting any place.

He turned back to the screen. "Look, Van, you don't want to blow up the road unless you have to, I'm sure. Neither do I. Suppose I come up to your headquarters, and we talk this thing over. Two reasonable men ought to be able to make a settlement."

Van Kleeck was suspicious. "Is this some sort of a trick?"

"How can it be? I'll come alone, and unarmed, just as fast as my car can get there."

"How about your men?"

"They will sit where they are until I'm back. You can put out observers to make sure of it."

Van Kleeck stalled for a moment, caught between the fear of a trap and the pleasure of having his erstwhile superior come to him to sue for terms. At last he grudgingly consented.

Gaines left his instructions, and told Davidson what he intended to do. "If I'm not back within an hour, you're on your own, Dave."

"Be careful, chief."

"I will."

He evicted the cadet driver from the reconnaissance car, and ran it down the ramp into the causeway, then headed north and gave it the gun. Now he would have a chance to collect his thoughts, even at two hundred miles per hour. Suppose he pulled off this trick--there would still have to be some changes made. Two lessons stood out like sore thumbs: First, the strips must be cross-connected with safety interlocks so that adjacent strips would slow down, or stop, if a strip's speed became dangerously different from those adjacent. No repetition of what happened on 20!

But that was elementary, a mere mechanical detail. The real failure had been in men. Well, the psychological classification tests must be improved to insure that the roads employed only conscientious, reliable men. But hell's bells--that was just exactly what the present classification tests were supposed to insure beyond question. To the best of his knowledge there had never been a failure from the improved

Humm]Vadsworth]Burton method--not until today in the Sacramento Sector. How had Van Kleeck gotten one whole sector of temperament-classified men to revolt?

It didn't make sense.

Personnel did not behave erratically without a reason. One man might be unpredictable, but in large numbers personnel were as dependable as machines, or figures. They could be measured, examined, classified. His inner eye automatically pictured the personnel office, with its rows of filing cabinets, its clerks--He'd got it! He'd got it! Van Kleeck, as chief deputy, was ex offcio personnel officer for the entire road!

It was the only solution that covered all the facts. The personnel officer alone had the perfect opportunity to pick out all the bad apples and concentrate them in one barrel. Gaines was convinced beyond any reasonable doubt that there had been skulduggery, perhaps for years, with the temperament classification tests, and that Van Kleeck had deliberately transferred the kind of men he needed to one sector, after falsifying their records.

And that taught another lesson--tighter tests for officers, and no officer to be trusted with classification and assignment without close supervision and inspection. Even he, Gaines, should be watched in that respect. Qui custodiet ipsos custodes? Who will guard those self same guardians? Latin might be obsolete, but those old Romans weren't dummies.

He at last knew wherein he had failed, and he derived melancholy pleasure from the knowledge. Supervision and inspection, check and recheck, was the answer. It would be cumbersome and inefficient, but it seemed that adequate safeguards always involved some loss of efficiency.

He should not have entrusted so much authority to Van Kleeck without

knowing more about him. He still should know more about him-- He touched the emergency-stop button, and brought the car to a dizzying halt. "Relay station! See if you can raise my office."

Dolores' face looked out from the screen. "You're still there-- good!"

he told her. "I was afraid you'd gone home."

"I came back, Mr. Gaines."

"Good girl. Get me Van Kleeck's personal file jacket. I want to see his classification record."

She was back with it in exceptionally short order, and read from it the symbols and percentages. He nodded repeatedly as the data checked his hunches: Masked introvert--inferiority complex. It checked.

'Comment of the board':" she read. " 'In spite of the slight potential instability shown by maxima A and D on the consolidated profile curve, the board is convinced that this officer is, nevertheless, fitted for duty. He has an exceptionally fine record, and is especially adept in handling men. He is, therefore, recommended for retention and promotion.' "

"That's all, Dolores. Thanks."

"Yes, Mr. Gaines."

"I'm off for a showdown. Keep your fingers crossed."

"But, Mr. Gaines--" Back in Fresno, Dolores stared wide-eyed at an empty screen.

"Take me to Mr. Van Kleeck!"

The man addressed took his gun out of Gaines' ribs--reluctantly, Gaines thought--and indicated that the chief engineer should precede him up the stairs. Gaines climbed out of the car, and complied.

Van Kleeck had set himself up in the sector control room proper, rather than the administrative office. With him were half a dozen men, all armed.

"Good evening, Director Van Kleeck." The little man swelled visibly at Gaines' acknowledgment of his assumed rank.

"We don't go in much around here for titles," he said, with ostentatious casualness. "Just call me Van. Sit down, Gaines."

Gaines did so. It was necessary to get those other men out. He looked at them with an expression of bored amusement. "Can't you handle one unarmed man by yourself, Van? Or don't the Functionalists trust each other?"

Van Kleeck's face showed his annoyance, but Gaines' smile was undaunted. Finally the smaller man picked up a pistol from his desk, and motioned toward the door. "Get out, you guys."

"But, Van--"
"Get out, I said!"

When they were alone, Van Kleeck picked up the electric push button which Gaines had seen in the visor screen, and pointed his pistol at his former chief. "O.K.," he growled, "try any funny stuff, and off it goes! What's your proposition?"

Gaines' irritating smile grew broader. Van Kleeck scowled. "What's so damn funny?" he said.

Gaines granted him an answer. "You are, Van--honest, this is rich. You start a Functionalist revolution, and the only function you can think of to perform is to blow up the road that justifies your title. Tell me," he went on, "what is it you are so scared of?"

"I am not afraid!"

"Not afraid? You? Sitting there, ready to commit hara-kiri with that toy push button, and you tell me that you aren't afraid. If your buddies knew how near you are to throwing away what they've fought for, they'd shoot you in a second. You're afraid of them, too, aren't you?"

Van Kleeck thrust the push button away from him, and stood up. "I am not afraid!" he shouted, and came around the desk toward Gaines.

Gaines sat where he was, and laughed. "But you are! You're afraid of me, this minute. You're afraid I'll have you on the carpet for the way you do your job. You're afraid the cadets won't salute you. You're afraid they are laughing behind your back. You're afraid of using the wrong fork at dinner. You're afraid people are looking at you--and you are afraid that they won't notice you."

"I am not!" he protested. "You... you dirty, stuck-up snob! Just because you went to a high-hat school you think you're better than anybody." He choked, and became incoherent, fighting to keep back tears of rage. "You, and your nasty little cadets--"

Gaines eyed him cautiously. The weakness in the man's character was

evident now--he wondered why he had not seen it before. He recalled how ungracious Van Kleeck had been one time when he had offered to help him with an intricate piece of figuring.

The problem now was to play on his weakness, to keep him so preoccupied that he would not remember the peril-laden push button. He must be caused to center the venom of his twisted outlook on Gaines, to the exclusion of every other thought.

But he must not goad him too carelessly, or a shot from across the room might put an end to Gaines, and to any chance of avoiding a bloody, wasteful struggle for control of the road.

Gaines chuckled. "Van," he said, "you are a pathetic little shrimp. That was a dead giveaway. I understand you perfectly--you're a third-rater, Van, and all your life you've been afraid that someone would see through you, and send you back to the foot of the class. Director-- phooey! If you are the best the Functionalists can offer, we can afford to ignore them--they'll fold up from their own rotten inefficiency." He swung around in his chair, deliberately turning his back on Van Kleeck and Was gun.

Van Kleeck advanced on his tormentor, halted a few feet away, and shouted: "You ... I'll show you ... I'll put a bullet in you; that's what I'll do!"

Gaines swung back around, got up, and walked steadily toward him. "Put that popgun down before you hurt yourself."

Van Kleeck retreated a step. "Don't you come near me!" he screamed. "Don't you come near me ... or I'll shoot you ... see if I don't."

"This is it," thought Gaines, and dived.

The pistol went off alongside his ear. Well, that one didn't get him.

They were on the floor. Van Kleeck was hard to hold, for a little man.

Where was the gun? There! He had it. He broke away.

Van Kleeck did not get up. He lay sprawled on the floor, tears streaming out of his closed eyes, blubbering like a frustrated child.

Gaines looked at him with something like compassion in his eyes, and hit him carefully behind the ear with the butt of the pistol. He walked over to the door, and listened for a moment, then locked it cautiously.

The cord from the push button led to the control board. He examined the hookup, and disconnected it carefully. That done, he turned to the televisor at the control desk, and called Fresno.

"O.K., Dave," he said, "let 'em attack now--and for the love of Pete, hurry!" Then he cleared the screen, not wishing his watch officer to see how he was shaking.

Back in Fresno the next morning Gaines paced around the main control room with a fair degree of contentment in his heart. The roads were rolling--before long they would be up to speed again. It had been a long night. Every engineer, every available cadet, had been needed to make the inch-by-inch inspection of Sacramento Sector which he had required. Then they had to cross-connect around two wrecked subsector control boards. But the roads were rolling--he could feel their rhythm up through the floor.

He stopped beside a haggard, stubbly-bearded man. "Why don't you go home, Dave?" he asked. "McPherson can carry on from here."

"How about yourself, chief? You don't look like a June bride."

"Oh, I'll catch a nap in my office after a bit. I called my wife, and told her I couldn't make it. She's coming down here to meet me."

"Was she sore?"

"Not very. You know how women are." He turned back to the instrument board, and watched the clicking busybodies assembling the data from six sectors. San Diego Circle, Angeles Sector, Bakersfield Sector, Fresno Sector, Stockton--Stockton? Stockton! Good grief-- Blekinsop! He had left a cabinet minister of Australia cooling his heels in the Stockton office all night long!

He started for the door, while calling over his shoulder: "Dave, will you order a car for me? Make it a fast one!" He was across the hall, and had his head inside his private office before Davidson could acknowledge the order.

"Dolores!"

"Yes, Mr. Gaines."

"Call my wife, and tell her I had to go to Stockton. If she's already left home, just have her wait here. And, Dolores--"

"Yes, Mr. Gaines?"

"Calm her down."

She bit her lip, but her face was impassive. "Yes, Mr. Gaines."

"That's a good girl." He was out and started down the stairway. When he reached road level, the sight of the rolling strips warmed him inside and made him feel almost cheerful.

He strode briskly away toward a door marked, "Access Down," whistling softly to himself. He opened the door, and the rumbling, roaring rhythm from down inside seemed to pick up the tune even as it drowned out the sound of his whistling.
"Hie! Hie! Hee!

The rotor men are we--

Check off your sectors loud and strong!

ONE! TWO! THREE!

Anywhere you go

You are bound to know

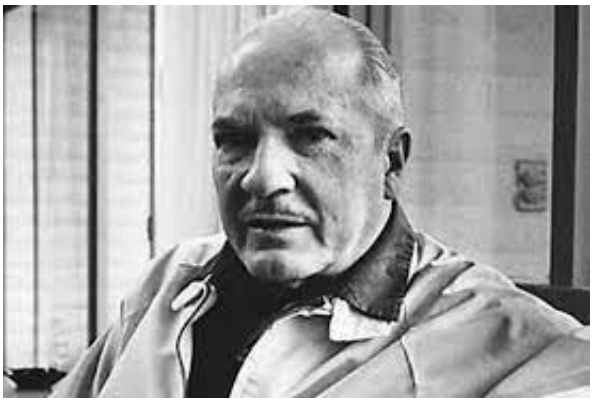
That your roadways go rolling along!"

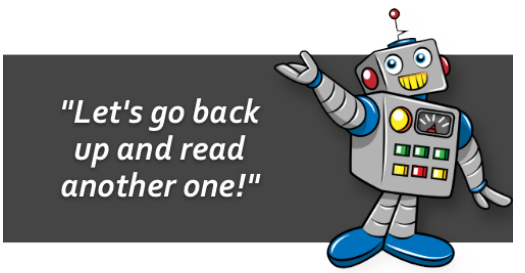
—

ABOUT THE AUTHOR

Robert A. Heinlein, born in 1907, was an American science fiction author, aeronautical engineer, and naval officer. Heinlein's extensive writing career produced numerous novels and short stories, including well-known works such as "Starship Troopers" and the highly controversial, "Stranger in a Strange Land."

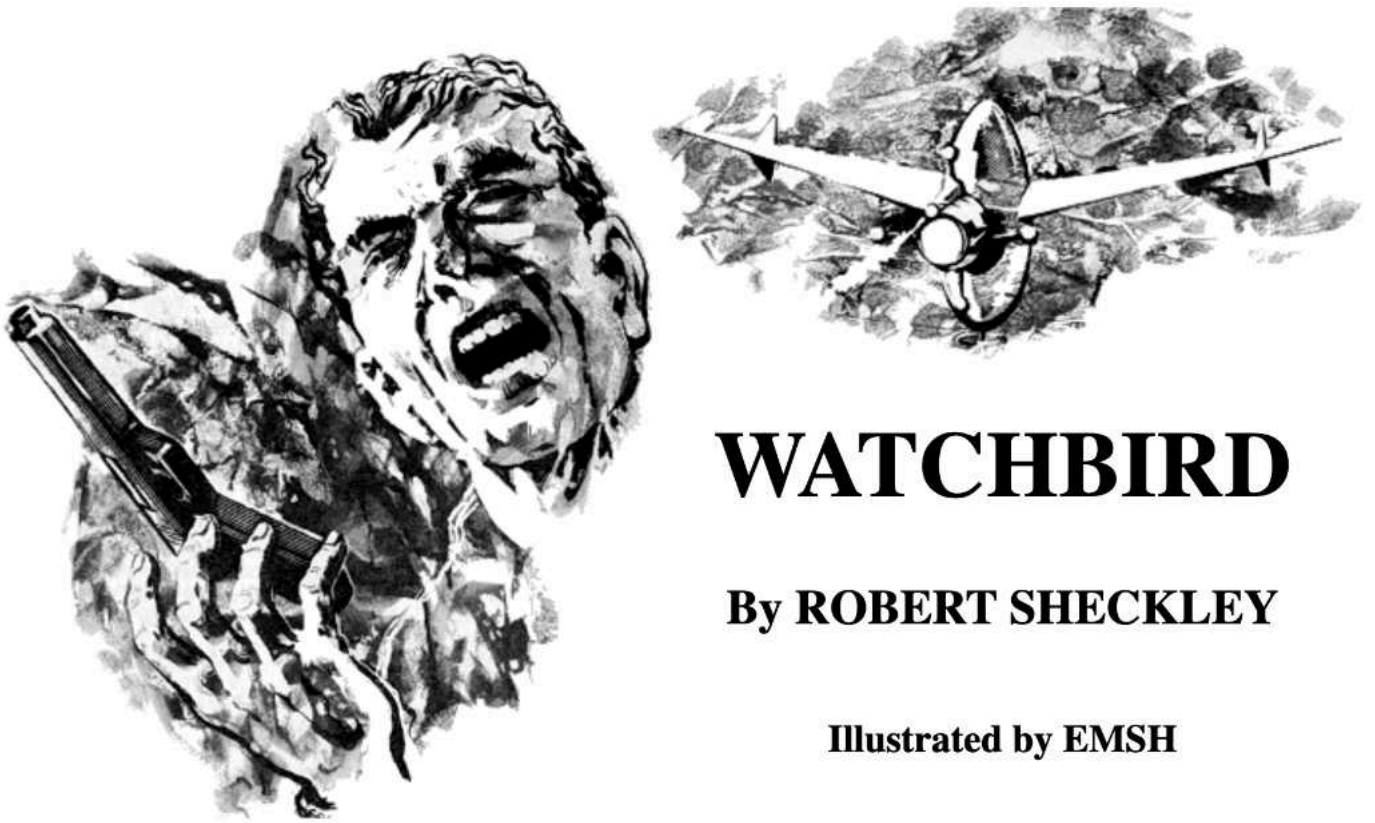
Known as one of the "Big Three of Science Fiction" alongside Isaac Asimov and Arthur C. Clarke, Heinlein earned several awards, including multiple Hugo Awards. His literary prowess, exploration of alternate universes, and innovative storytelling earned him a reputation as a respected figure in the science fiction genre.





WATCHBIRD

Robert Sheckley



WATCHBIRD

By ROBERT SHECKLEY

Illustrated by EMSH

Strange how often the Millennium has been at hand. The idea is peace on Earth, see, and the way to do it is by figuring out angles.

WATCHBIRD by Robert Sheckley was first published in Galaxy Science Fiction Magazine in 1952.

When Gelsen entered, he saw that the rest of the watchbird manufacturers were already present. There were six of them, not counting himself, and the room was blue with expensive cigar smoke.

"Hi, Charlie," one of them called as he came in.

The rest broke off conversation long enough to wave a casual greeting at him. As a watchbird manufacturer, he was a member manufacturer of salvation, he reminded himself wryly. Very exclusive. You must have a certified government contract if you want to save the human race.

"The government representative isn't here yet," one of the men told him. "He's due any minute."

"We're getting the green light," another said.

"Fine." Gelsen found a chair near the door and looked around the room. It was like a convention, or a Boy Scout rally. The six men made up for their lack of numbers by sheer volume. The president of Southern Consolidated was talking at the top of his lungs about watchbird's enormous durability. The two presidents he was talking at were grinning, nodding, one trying to interrupt with the results of a test he had run on watchbird's resourcefulness, the other talking about the new recharging apparatus.

The other three men were in their own little group, delivering what sounded like a panegyric to watchbird.

Gelsen noticed that all of them stood straight and tall, like the saviors they felt they were. He didn't find it funny. Up to a few days ago he had felt that way himself. He had considered himself a pot-bellied, slightly balding saint.

He sighed and lighted a cigarette. At the beginning of the project, he had been as enthusiastic as the others. He remembered saying to Macintyre, his chief engineer, "Mac, a new day is coming. Watchbird is the Answer." And Macintyre had nodded very profoundly—another watchbird convert.

How wonderful it had seemed then! A simple, reliable answer to one of mankind's greatest problems, all wrapped and packaged in a pound of incorruptible metal, crystal and plastics.

Perhaps that was the very reason he was doubting it now. Gelsen suspected that you don't solve human problems so easily. There had to be a catch somewhere.

After all, murder was an old problem, and watchbird too new a solution.

"Gentlemen—" They had been talking so heatedly that they hadn't noticed the government representative entering. Now the room became quiet at once.

"Gentlemen," the plump government man said, "the President, with the consent of Congress, has acted to form a watchbird division for every city and town in the country."

The men burst into a spontaneous shout of triumph. They were going to have their chance to save the world after all, Gelsen thought, and worriedly asked himself what was wrong with that.

He listened carefully as the government man outlined the distribution scheme. The country was to be divided into seven areas, each to be

supplied and serviced by one manufacturer. This meant monopoly, of course, but a necessary one. Like the telephone service, it was in the public's best interests. You couldn't have competition in watchbird service. Watchbird was for everyone.

"The President hopes," the representative continued, "that full watchbird service will be installed in the shortest possible time. You will have top priorities on strategic metals, manpower, and so forth."

"Speaking for myself," the president of Southern Consolidated said, "I expect to have the first batch of watchbirds distributed within the week. Production is all set up."

The rest of the men were equally ready. The factories had been prepared to roll out the watchbirds for months now. The final standardized equipment had been agreed upon, and only the Presidential go-ahead had been lacking.

"Fine," the representative said. "If that is all, I think we can—is there a question?"

"Yes, sir," Gelsen said. "I want to know if the present model is the one we are going to manufacture."

"Of course," the representative said. "It's the most advanced."

"I have an objection." Gelsen stood up. His colleagues were glaring coldly at him. Obviously he was delaying the advent of the golden age.

"What is your objection?" the representative asked.

"First, let me say that I am one hundred per cent in favor of a machine to

stop murder. It's been needed for a long time. I object only to the watchbird's learning circuits. They serve, in effect, to animate the machine and give it a pseudo-consciousness. I can't approve of that."

"But, Mr. Gelsen, you yourself testified that the watchbird would not be completely efficient unless such circuits were introduced. Without them, the watchbirds could stop only an estimated seventy per cent of murders."

"I know that," Gelsen said, feeling extremely uncomfortable. "I believe there might be a moral danger in allowing a machine to make decisions that are rightfully Man's," he declared doggedly.

"Oh, come now, Gelsen," one of the corporation presidents said. "It's nothing of the sort. The watchbird will only reinforce the decisions made by honest men from the beginning of time."

"I think that is true," the representative agreed. "But I can understand how Mr. Gelsen feels. It is sad that we must put a human problem into the hands of a machine, sadder still that we must have a machine enforce our laws. But I ask you to remember, Mr. Gelsen, that there is no other possible way of stopping a murderer before he strikes. It would be unfair to the many innocent people killed every year if we were to restrict watchbird on philosophical grounds. Don't you agree that I'm right?"

"Yes, I suppose I do," Gelsen said unhappily. He had told himself all that a thousand times, but something still bothered him. Perhaps he would talk it over with Macintyre.

As the conference broke up, a thought struck him. He grinned.

A lot of policemen were going to be out of work!

"Now what do you think of that?" office r Celtrics demanded. "Fifteen years in Homicide and a machine is replacing me." He wiped a large red hand across his forehead and leaned against the captain's desk. "Ain't science marvelous?"

Two other policemen, late of Homicide, nodded glumly.

"Don't worry about it," the captain said. "We'll find a home for you in Larceny, Celtrics. You'll like it here."

"I just can't get over it," Celtrics complained. "A lousy little piece of tin and glass is going to solve all the crimes."

"Not quite," the captain said. "The watchbirds are supposed to prevent the crimes before they happen."

"Then how'll they be crimes?" one of the policeman asked. "I mean they can't hang you for murder until you commit one, can they?"

"That's not the idea," the captain said. "The watchbirds are supposed to stop a man before he commits a murder."

"Then no one arrests him?" Celtrics asked.

"I don't know how they're going to work that out," the captain admitted.

The men were silent for a while. The captain yawned and examined his watch.

"The thing I don't understand," Celtrics said, still leaning on the captain's desk, "is just how do they do it? How did it start, Captain?"

The captain studied Celtrics' face for possible irony; after all, watchbird had been in the papers for months. But then he remembered that Celtrics, like his sidekicks, rarely bothered to turn past the sports pages.

"Well," the captain said, trying to remember what he had read in the Sunday supplements, "these scientists were working on criminology. They were studying murderers, to find out what made them tick. So they found that murderers throw out a different sort of brain wave from ordinary people. And their glands act funny, too. All this happens when they're about to commit a murder. So these scientists worked out a special machine to flash red or something when these brain waves turned on."

"Scientists," Celtrics said bitterly.

"Well, after the scientists had this machine, they didn't know what to do with it. It was too big to move around, and murderers didn't drop in often enough to make it flash. So they built it into a smaller unit and tried it out in a few police stations. I think they tried one upstate. But it didn't work so good. You couldn't get to the crime in time. That's why they built the watchbirds."

"I don't think they'll stop no criminals," one of the policemen insisted.

"They sure will. I read the test results. They can smell him out before he commits a crime. And when they reach him, they give him a powerful shock or something. It'll stop him."

"You closing up Homicide, Captain?" Celtrics asked.

"Nope," the captain said. "I'm leaving a skeleton crew in until we see how these birds do."

"Hah," Celtrics said. "Skeleton crew. That's funny."

"Sure," the captain said. "Anyhow, I'm going to leave some men on. It seems the birds don't stop all murders."

"Why not?"

"Some murderers don't have these brain waves," the captain answered, trying to remember what the newspaper article had said. "Or their glands don't work or something."

"Which ones don't they stop?" Celtrics asked, with professional curiosity.

"I don't know. But I hear they got the damned things fixed so they're going to stop all of them soon."

"How they working that?"

"They learn. The watchbirds, I mean. Just like people."

"You kidding me?"

"Nope."

"Well," Celtrics said, "I think I'll just keep old Betsy oiled, just in case. You can't trust these scientists."

"Right."

"Birds!" Celtrics scoffed.

Over the town, the watchbird soared in a long, lazy curve. Its aluminum hide glistened in the morning sun, and dots of light danced on its stiff wings. Silently it flew.

Silently, but with all senses functioning. Built-in kinesthetics told the watchbird where it was, and held it in a long search curve. Its eyes and ears operated as one unit, searching, seeking.

And then something happened! The watchbird's electronically fast reflexes picked up the edge of a sensation. A correlation center tested it, matching it with electrical and chemical data in its memory files. A relay tripped.

Down the watchbird spiraled, coming in on the increasingly strong sensation. It smelled the outpouring of certain glands, tasted a deviant brain wave.

Fully alerted and armed, it spun and banked in the bright morning sunlight.

Dinelli was so intent he didn't see the watchbird coming. He had his gun poised, and his eyes pleaded with the big grocer.

"Don't come no closer."

"You lousy little punk," the grocer said, and took another step forward. "Rob me? I'll break every bone in your puny body."

The grocer, too stupid or too courageous to understand the threat of the gun, advanced on the little thief.

"All right," Dinelli said, in a thorough state of panic. "All right, sucker, take—"

A bolt of electricity knocked him on his back. The gun went off, smashing a breakfast food display.

"What in hell?" the grocer asked, staring at the stunned thief. And then he saw a flash of silver wings. "Well, I'm really damned. Those watchbirds work!"

He stared until the wings disappeared in the sky. Then he telephoned the police.

The watchbird returned to his search curve. His thinking center correlated the new facts he had learned about murder. Several of these he hadn't known before.

This new information was simultaneously flashed to all the other watchbirds and their information was flashed back to him.

New information, methods, definitions were constantly passing between them.

Now that the watchbirds were rolling off the assembly line in a steady stream, Gelsen allowed himself to relax. A loud contented hum filled his plant. Orders were being filled on time, with top priorities given to the biggest cities in his area, and working down to the smallest towns.

"All smooth, Chief," Macintyre said, coming in the door. He had just completed a routine inspection.

"Fine. Have a seat."

The big engineer sat down and lighted a cigarette.

"We've been working on this for some time," Gelsen said, when he couldn't think of anything else.

"We sure have," Macintyre agreed. He leaned back and inhaled deeply. He had been one of the consulting engineers on the original watchbird. That was six years back. He had been working for Gelsen ever since, and the men had become good friends.

"The thing I wanted to ask you was this—" Gelsen paused. He couldn't think how to phrase what he wanted. Instead he asked, "What do you think of the watchbirds, Mac?"

"Who, me?" The engineer grinned nervously. He had been eating, drinking and sleeping watchbird ever since its inception. He had never found it necessary to have an attitude. "Why, I think it's great."

"I don't mean that," Gelsen said. He realized that what he wanted was to have someone understand his point of view. "I mean do you figure there might be some danger in machine thinking?"

"I don't think so, Chief. Why do you ask?"

"Look, I'm no scientist or engineer. I've just handled cost and production and let you boys worry about how. But as a layman, watchbird is starting to frighten me."

"No reason for that."

"I don't like the idea of the learning circuits."

"But why not?" Then Macintyre grinned again. "I know. You're like a lot of people, Chief—afraid your machines are going to wake up and say, 'What are we doing here? Let's go out and rule the world.' Is that it?"

"Maybe something like that," Gelsen admitted.

"No chance of it," Macintyre said. "The watchbirds are complex, I'll admit, but an M.I.T. calculator is a whole lot more complex. And it hasn't got consciousness."

"No. But the watchbirds can learn."

"Sure. So can all the new calculators. Do you think they'll team up with the watchbirds?"

Gelsen felt annoyed at Macintyre, and even more annoyed at himself for being ridiculous. "It's a fact that the watchbirds can put their learning into action. No one is monitoring them."

"So that's the trouble," Macintyre said.

"I've been thinking of getting out of watchbird." Gelsen hadn't realized it until that moment.

"Look, Chief," Macintyre said. "Will you take an engineer's word on this?"

"Let's hear it."

"The watchbirds are no more dangerous than an automobile, an IBM calculator or a thermometer. They have no more consciousness or volition than those things. The watchbirds are built to respond to certain stimuli, and to carry out certain operations when they receive that stimuli."

"And the learning circuits?"

"You have to have those," Macintyre said patiently, as though explaining the whole thing to a ten-year-old. "The purpose of the watchbird is to frustrate all murder-attempts, right? Well, only certain murderers give out these stimuli. In order to stop all of them, the watchbird has to search out new definitions of murder and correlate them with what it already knows."

"I think it's inhuman," Gelsen said.

"That's the best thing about it. The watchbirds are unemotional. Their reasoning is non-anthropomorphic. You can't bribe them or drug them. You shouldn't fear them, either."

The intercom on Gelsen's desk buzzed. He ignored it.

"I know all this," Gelsen said. "But, still, sometimes I feel like the man who invented dynamite. He thought it would only be used for blowing up tree stumps."

"You didn't invent watchbird."

"I still feel morally responsible because I manufacture them."

The intercom buzzed again, and Gelsen irritably punched a button.

"The reports are in on the first week of watchbird operation," his secretary told him.

"How do they look?"

"Wonderful, sir."

"Send them in in fifteen minutes." Gelsen switched the intercom off and turned back to Macintyre, who was cleaning his fingernails with a wooden match. "Don't you think that this represents a trend in human thinking? The mechanical god? The electronic father?"

"Chief," Macintyre said, "I think you should study watchbird more closely. Do you know what's built into the circuits?"

"Only generally."

"First, there is a purpose. Which is to stop living organisms from committing murder. Two, murder may be defined as an act of violence, consisting of breaking, mangling, maltreating or otherwise stopping the functions of a living organism by a living organism. Three, most murderers are detectable by certain chemical and electrical changes."

Macintyre paused to light another cigarette. "Those conditions take care of the routine functions. Then, for the learning circuits, there are two more conditions. Four, there are some living organisms who commit murder without the signs mentioned in three. Five, these can be detected by data applicable to condition two."

"I see," Gelsen said.

"You realize how foolproof it is?"

"I suppose so." Gelsen hesitated a moment. "I guess that's all."

"Right," the engineer said, and left.

Gelsen thought for a few moments. There couldn't be anything wrong with the watchbirds.

"Send in the reports," he said into the intercom.

High above the lighted buildings of the city, the watchbird soared. It was dark, but in the distance the watchbird could see another, and another beyond that. For this was a large city.

To prevent murder ...

There was more to watch for now. New information had crossed the invisible network that connected all watchbirds. New data, new ways of detecting the violence of murder.

There! The edge of a sensation! Two watchbirds dipped simultaneously. One had received the scent a fraction of a second before the other. He continued down while the other resumed monitoring.

Condition four, there are some living organisms who commit murder without the signs mentioned in condition three.

Through his new information, the watchbird knew by extrapolation that this organism was bent on murder, even though the characteristic chemical and electrical smells were absent.

The watchbird, all senses acute, closed in on the organism. He found what he wanted, and dived.

Roger Greco leaned against a building, his hands in his pockets. In his left hand was the cool butt of a .45. Greco waited patiently.

He wasn't thinking of anything in particular, just relaxing against a building, waiting for a man. Greco didn't know why the man was to be killed. He didn't care. Greco's lack of curiosity was part of his value. The other part was his skill.

One bullet, neatly placed in the head of a man he didn't know. It didn't excite him or sicken him. It was a job, just like anything else. You killed a man. So?

As Greco's victim stepped out of a building, Greco lifted the .45 out of his pocket. He released the safety and braced the gun with his right hand. He still wasn't thinking of anything as he took aim ...

And was knocked off his feet.

Greco thought he had been shot. He struggled up again, looked around, and sighted foggily on his victim.

Again he was knocked down.

This time he lay on the ground, trying to draw a bead. He never thought of stopping, for Greco was a craftsman.

With the next blow, everything went black. Permanently, because the watchbird's duty was to protect the object of violence—at whatever cost to the murderer.

The victim walked to his car. He hadn't noticed anything unusual. Everything had happened in silence.

Gelsen was feeling pretty good. The watchbirds had been operating perfectly. Crimes of violence had been cut in half, and cut again. Dark alleys were no longer mouths of horror. Parks and playgrounds were not places to shun after dusk.

Of course, there were still robberies. Petty thievery flourished, and embezzlement, larceny, forgery and a hundred other crimes.

But that wasn't so important. You could regain lost money—never a lost life.

Gelsen was ready to admit that he had been wrong about the watchbirds. They were doing a job that humans had been unable to accomplish.

The first hint of something wrong came that morning.

Macintyre came into his office . He stood silently in front of Gelsen's desk, looking annoyed and a little embarrassed.

"What's the matter, Mac?" Gelsen asked.

"One of the watchbirds went to work on a slaughterhouse man. Knocked

him out."

Gelsen thought about it for a moment. Yes, the watchbirds would do that. With their new learning circuits, they had probably defined the killing of animals as murder.

"Tell the packers to mechanize their slaughtering," Gelsen said. "I never liked that business myself."

"All right," Macintyre said. He pursed his lips, then shrugged his shoulders and left.

Gelsen stood beside his desk, thinking. Couldn't the watchbirds differentiate between a murderer and a man engaged in a legitimate profession? No, evidently not. To them, murder was murder. No exceptions. He frowned. That might take a little ironing out in the circuits.

But not too much, he decided hastily. Just make them a little more discriminating.

He sat down again and buried himself in paperwork, trying to avoid the edge of an old fear.

They strapped the prisoner into the chair and fitted the electrode to his leg.

"Oh, oh," he moaned, only half-conscious now of what they were doing.

They fitted the helmet over his shaved head and tightened the last straps. He continued to moan softly.

And then the watchbird swept in. How he had come, no one knew. Prisons

are large and strong, with many locked doors, but the watchbird was there—

To stop a murder.

"Get that thing out of here!" the warden shouted, and reached for the switch. The watchbird knocked him down.

"Stop that!" a guard screamed, and grabbed for the switch himself. He was knocked to the floor beside the warden.

"This isn't murder, you idiot!" another guard said. He drew his gun to shoot down the glittering, wheeling metal bird.

Anticipating, the watchbird smashed him back against the wall.

There was silence in the room. After a while, the man in the helmet started to giggle. Then he stopped.

The watchbird stood on guard, fluttering in mid-air—

Making sure no murder was done.

New data flashed along the watchbird network. Unmonitored, independent, the thousands of watchbirds received and acted upon it.

The breaking, mangling or otherwise stopping the functions of a living organism by a living organism. New acts to stop.

"Damn you, git going!" Farmer Ollister shouted, and raised his whip again. The horse balked, and the wagon rattled and shook as he edged sideways.

"You lousy hunk of pigmeal, git going!" the farmer yelled and he raised the whip again.

It never fell. An alert watchbird, sensing violence, had knocked him out of his seat.

A living organism? What is a living organism? The watchbirds extended their definitions as they became aware of more facts. And, of course, this gave them more work.

The deer was just visible at the edge of the woods. The hunter raised his rifle, and took careful aim.

He didn't have time to shoot.

With his free hand, Gelsen mopped perspiration from his face. "All right," he said into the telephone. He listened to the stream of vituperation from the other end, then placed the receiver gently in its cradle.

"What was that one?" Macintyre asked. He was unshaven, tie loose, shirt unbuttoned.

"Another fisherman," Gelsen said. "It seems the watchbirds won't let him fish even though his family is starving. What are we going to do about it, he wants to know."

"How many hundred is that?"

"I don't know. I haven't opened the mail."

"Well, I figured out where the trouble is," Macintyre said gloomily, with

the air of a man who knows just how he blew up the Earth—after it was too late.

"Let's hear it."

"Everybody took it for granted that we wanted all murder stopped. We figured the watchbirds would think as we do. We ought to have qualified the conditions."

"I've got an idea," Gelsen said, "that we'd have to know just why and what murder is, before we could qualify the conditions properly. And if we knew that, we wouldn't need the watchbirds."

"Oh, I don't know about that. They just have to be told that some things which look like murder are not murder."

"But why should they stop fisherman?" Gelsen asked.

"Why shouldn't they? Fish and animals are living organisms. We just don't think that killing them is murder."

The telephone rang. Gelsen glared at it and punched the intercom. "I told you no more calls, no matter what."

"This is from Washington," his secretary said. "I thought you'd—"

"Sorry." Gelsen picked up the telephone. "Yes. Certainly is a mess ... Have they? All right, I certainly will." He put down the telephone.

"Short and sweet," he told Macintyre. "We're to shut down temporarily."

"That won't be so easy," Macintyre said. "The watchbirds operate

independent of any central control, you know. They come back once a week for a repair checkup. We'll have to turn them off then, one by one."

"Well, let's get to it. Monroe over on the Coast has shut down about a quarter of his birds."

"I think I can dope out a restricting circuit," Macintyre said.

"Fine," Gelsen replied bitterly. "You make me very happy."

The watchbirds were learning rapidly, expanding and adding to their knowledge. Loosely defined abstractions were extended, acted upon and re-extended.

To stop murder ...

Metal and electrons reason well, but not in a human fashion.

A living organism? Any living organism!

The watchbirds set themselves the task of protecting all living things.

The fly buzzed around the room, lighting on a table top, pausing a moment, then darting to a window sill.

The old man stalked it, a rolled newspaper in his hand.

Murderer!

The watchbirds swept down and saved the fly in the nick of time.

The old man writhed on the floor a minute and then was silent. He had been given only a mild shock, but it had been enough for his fluttery, cranky heart.

His victim had been saved, though, and this was the important thing. Save the victim and give the aggressor his just desserts.

Gelsen demanded angrily, "Why aren't they being turned off?"

The assistant control engineer gestured. In a corner of the repair room lay the senior control engineer. He was just regaining consciousness.

"He tried to turn one of them off," the assistant engineer said. Both his hands were knotted together. He was making a visible effort not to shake.

"That's ridiculous. They haven't got any sense of self-preservation."

"Then turn them off yourself. Besides, I don't think any more are going to come."

What could have happened? Gelsen began to piece it together. The watchbirds still hadn't decided on the limits of a living organism. When some of them were turned off in the Monroe plant, the rest must have correlated the data.

So they had been forced to assume that they were living organisms, as well.

No one had ever told them otherwise. Certainly they carried on most of the functions of living organisms.

Then the old fears hit him. Gelsen trembled and hurried out of the repair

room. He wanted to find Macintyre in a hurry.

The nurse handed the surgeon the sponge.

"Scalpel."

She placed it in his hand. He started to make the first incision. And then he was aware of a disturbance.

"Who let that thing in?"

"I don't know," the nurse said, her voice muffled by the mask.

"Get it out of here."

The nurse waved her arms at the bright winged thing, but it fluttered over her head.

The surgeon proceeded with the incision—as long as he was able.

The watchbird drove him away and stood guard.

"Telephone the watchbird company!" the surgeon ordered. "Get them to turn the thing off."

The watchbird was preventing violence to a living organism.

The surgeon stood by helplessly while his patient died.

Fluttering high above the network of highways, the watchbird watched and waited. It had been constantly working for weeks now, without rest or repair. Rest and repair were impossible, because the watchbird couldn't allow itself—a living organism—to be murdered. And that was what happened when watchbirds returned to the factory.

There was a built-in order to return, after the lapse of a certain time period. But the watchbird had a stronger order to obey—preservation of life, including its own.

The definitions of murder were almost infinitely extended now, impossible to cope with. But the watchbird didn't consider that. It responded to its stimuli, whenever they came and whatever their source.

There was a new definition of living organism in its memory files. It had come as a result of the watchbird discovery that watchbirds were living organisms. And it had enormous ramifications.

The stimuli came! For the hundredth time that day, the bird wheeled and banked, dropping swiftly down to stop murder.

Jackson yawned and pulled his car to a shoulder of the road. He didn't notice the glittering dot in the sky. There was no reason for him to. Jackson wasn't contemplating murder, by any human definition.

This was a good spot for a nap, he decided. He had been driving for seven straight hours and his eyes were starting to fog. He reached out to turn off the ignition key—

And was knocked back against the side of the car.

"What in hell's wrong with you?" he asked indignantly. "All I want to do

is—" He reached for the key again, and again he was smacked back.

Jackson knew better than to try a third time. He had been listening to the radio and he knew what the watchbirds did to stubborn violators.

"You mechanical jerk," he said to the waiting metal bird. "A car's not alive. I'm not trying to kill it."

But the watchbird only knew that a certain operation resulted in stopping an organism. The car was certainly a functioning organism. Wasn't it of metal, as were the watchbirds? Didn't it run?

Macintyre said, "Without repairs they'll run down." He shoved a pile of specification sheets out of his way.

"How soon?" Gelsen asked.

"Six months to a year. Say a year, barring accidents."

"A year," Gelsen said. "In the meantime, everything is stopping dead. Do you know the latest?"

"What?"

"The watchbirds have decided that the Earth is a living organism. They won't allow farmers to break ground for plowing. And, of course, everything else is a living organism—rabbits, beetles, flies, wolves, mosquitoes, lions, crocodiles, crows, and smaller forms of life such as bacteria."

"I know," Macintyre said.

"And you tell me they'll wear out in six months or a year. What happens now? What are we going to eat in six months?"

The engineer rubbed his chin. "We'll have to do something quick and fast. Ecological balance is gone to hell."

"Fast isn't the word. Instantaneously would be better." Gelsen lighted his thirty-fifth cigarette for the day. "At least I have the bitter satisfaction of saying, 'I told you so.' Although I'm just as responsible as the rest of the machine-worshipping fools."

Macintyre wasn't listening. He was thinking about watchbirds. "Like the rabbit plague in Australia."

"The death rate is mounting," Gelsen said. "Famine. Floods. Can't cut down trees. Doctors can't—what was that you said about Australia?"

"The rabbits," Macintyre repeated. "Hardly any left in Australia now."

"Why? How was it done?"

"Oh, found some kind of germ that attacked only rabbits. I think it was propagated by mosquitos—"

"Work on that," Gelsen said. "You might have something. I want you to get on the telephone, ask for an emergency hookup with the engineers of the other companies. Hurry it up. Together you may be able to dope out something."

"Right," Macintyre said. He grabbed a handful of blank paper and hurried to the telephone.

"What did I tell you?" office r Celtrics said. He grinned at the captain. "Didn't I tell you scientists were nuts?"

"I didn't say you were wrong, did I?" the captain asked.

"No, but you weren't sure."

"Well, I'm sure now. You'd better get going. There's plenty of work for you."

"I know." Celtrics drew his revolver from its holster, checked it and put it back. "Are all the boys back, Captain?"

"All?" the captain laughed humorlessly. "Homicide has increased by fifty per cent. There's more murder now than there's ever been."

"Sure," Celtrics said. "The watchbirds are too busy guarding cars and slugging spiders." He started toward the door, then turned for a parting shot.

"Take my word, Captain. Machines are stupid."

The captain nodded.

Thousands of watchbirds, trying to stop countless millions of murders—a hopeless task. But the watchbirds didn't hope. Without consciousness, they experienced no sense of accomplishment, no fear of failure. Patiently they went about their jobs, obeying each stimulus as it came.

They couldn't be everywhere at the same time, but it wasn't necessary to

be. People learned quickly what the watchbirds didn't like and refrained from doing it. It just wasn't safe. With their high speed and superfast senses, the watchbirds got around quickly.

And now they meant business. In their original directives there had been a provision made for killing a murderer, if all other means failed.

Why spare a murderer?

It backfired. The watchbirds extracted the fact that murder and crimes of violence had increased geometrically since they had begun operation. This was true, because their new definitions increased the possibilities of murder. But to the watchbirds, the rise showed that the first methods had failed.

Simple logic. If A doesn't work, try B. The watchbirds shocked to kill.

Slaughterhouses in Chicago stopped and cattle starved to death in their pens, because farmers in the Midwest couldn't cut hay or harvest grain.

No one had told the watchbirds that all life depends on carefully balanced murders.

Starvation didn't concern the watchbirds, since it was an act of omission.

Their interest lay only in acts of commission.

Hunters sat home, glaring at the silver dots in the sky, longing to shoot them down. But for the most part, they didn't try. The watchbirds were quick to sense the murder intent and to punish it.

Fishing boats swung idle at their moorings in San Pedro and Gloucester.

Fish were living organisms.

Farmers cursed and spat and died, trying to harvest the crop. Grain was alive and thus worthy of protection. Potatoes were as important to the watchbird as any other living organism. The death of a blade of grass was equal to the assassination of a President—

To the watchbirds.

And, of course, certain machines were living. This followed, since the watchbirds were machines and living.

God help you if you maltreated your radio. Turning it off meant killing it. Obviously—its voice was silenced, the red glow of its tubes faded, it grew cold.

The watchbirds tried to guard their other charges. Wolves were slaughtered, trying to kill rabbits. Rabbits were electrocuted, trying to eat vegetables. Creepers were burned out in the act of strangling trees.

A butterfly was executed, caught in the act of outraging a rose.

This control was spasmodic, because of the fewness of the watchbirds. A billion watchbirds couldn't have carried out the ambitious project set by the thousands.

The effect was of a murderous force, ten thousand bolts of irrational lightning raging around the country, striking a thousand times a day.

Lightning which anticipated your moves and punished your intentions.

"Gentlemen, please," the government representative begged. "We must hurry."

The seven manufacturers stopped talking.

"Before we begin this meeting formally," the president of Monroe said, "I want to say something. We do not feel ourselves responsible for this unhappy state of affairs. It was a government project; the government must accept the responsibility, both moral and financial."

Gelsen shrugged his shoulders. It was hard to believe that these men, just a few weeks ago, had been willing to accept the glory of saving the world. Now they wanted to shrug off the responsibility when the salvation went amiss.

"I'm positive that that need not concern us now," the representative assured him. "We must hurry. You engineers have done an excellent job. I am proud of the cooperation you have shown in this emergency. You are hereby empowered to put the outlined plan into action."

"Wait a minute," Gelsen said.

"There is no time."

"The plan's no good."

"Don't you think it will work?"

"Of course it will work. But I'm afraid the cure will be worse than the disease."

The manufacturers looked as though they would have enjoyed throttling

Gelsen. He didn't hesitate.

"Haven't we learned yet?" he asked. "Don't you see that you can't cure human problems by mechanization?"

"Mr. Gelsen," the president of Monroe said, "I would enjoy hearing you philosophize, but, unfortunately, people are being killed. Crops are being ruined. There is famine in some sections of the country already. The watchbirds must be stopped at once!"

"Murder must be stopped, too. I remember all of us agreeing upon that. But this is not the way!"

"What would you suggest?" the representative asked.

Gelsen took a deep breath. What he was about to say took all the courage he had.

"Let the watchbirds run down by themselves," Gelsen suggested.

There was a near-riot. The government representative broke it up.

"Let's take our lesson," Gelsen urged, "admit that we were wrong trying to cure human problems by mechanical means. Start again. Use machines, yes, but not as judges and teachers and fathers."

"Ridiculous," the representative said coldly. "Mr. Gelsen, you are overwrought. I suggest you control yourself." He cleared his throat. "All of you are ordered by the President to carry out the plan you have submitted." He looked sharply at Gelsen. "Not to do so will be treason."

"I'll cooperate to the best of my ability," Gelsen said.

"Good. Those assembly lines must be rolling within the week."

Gelsen walked out of the room alone. Now he was confused again. Had he been right or was he just another visionary? Certainly, he hadn't explained himself with much clarity.

Did he know what he meant?

Gelsen cursed under his breath. He wondered why he couldn't ever be sure of anything. Weren't there any values he could hold on to?

He hurried to the airport and to his plant.

The watchbird was operating erratically now. Many of its delicate parts were out of line, worn by almost continuous operation. But gallantly it responded when the stimuli came.

A spider was attacking a fly. The watchbird swooped down to the rescue.

Simultaneously, it became aware of something overhead. The watchbird wheeled to meet it.

There was a sharp crackle and a power bolt whizzed by the watchbird's wing. Angrily, it spat a shock wave.

The attacker was heavily insulated. Again it spat at the watchbird. This time, a bolt smashed through a wing, the watchbird darted away, but the attacker went after it in a burst of speed, throwing out more crackling power.

The watchbird fell, but managed to send out its message. Urgent! A new menace to living organisms and this was the deadliest yet!

Other watchbirds around the country integrated the message. Their thinking centers searched for an answer.

"Well, Chief, they bagged fifty today," Macintyre said, coming into Gelsen's office .

"Fine," Gelsen said, not looking at the engineer.

"Not so fine." Macintyre sat down. "Lord, I'm tired! It was seventy-two yesterday."

"I know." On Gelsen's desk were several dozen lawsuits, which he was sending to the government with a prayer.

"They'll pick up again, though," Macintyre said confidently. "The Hawks are especially built to hunt down watchbirds. They're stronger, faster, and they've got better armor. We really rolled them out in a hurry, huh?"

"We sure did."

"The watchbirds are pretty good, too," Macintyre had to admit. "They're learning to take cover. They're trying a lot of stunts. You know, each one that goes down tells the others something."

Gelsen didn't answer.

"But anything the watchbirds can do, the Hawks can do better," Macintyre said cheerfully. "The Hawks have special learning circuits for hunting. They're more flexible than the watchbirds. They learn faster."

Gelsen gloomily stood up, stretched, and walked to the window. The sky was blank. Looking out, he realized that his uncertainties were over. Right or wrong, he had made up his mind.

"Tell me," he said, still watching the sky, "what will the Hawks hunt after they get all the watchbirds?"

"Huh?" Macintyre said. "Why—"

"Just to be on the safe side, you'd better design something to hunt down the Hawks. Just in case, I mean."

"You think—"

"All I know is that the Hawks are self-controlled. So were the watchbirds. Remote control would have been too slow, the argument went on. The idea was to get the watchbirds and get them fast. That meant no restricting circuits."

"We can dope something out," Macintyre said uncertainly.

"You've got an aggressive machine up in the air now. A murder machine. Before that it was an anti-murder machine. Your next gadget will have to be even more self-sufficient, won't it?"

Macintyre didn't answer.

"I don't hold you responsible," Gelsen said. "It's me. It's everyone."

In the air outside was a swift-moving dot.

"That's what comes," said Gelsen, "of giving a machine the job that was our own responsibility."

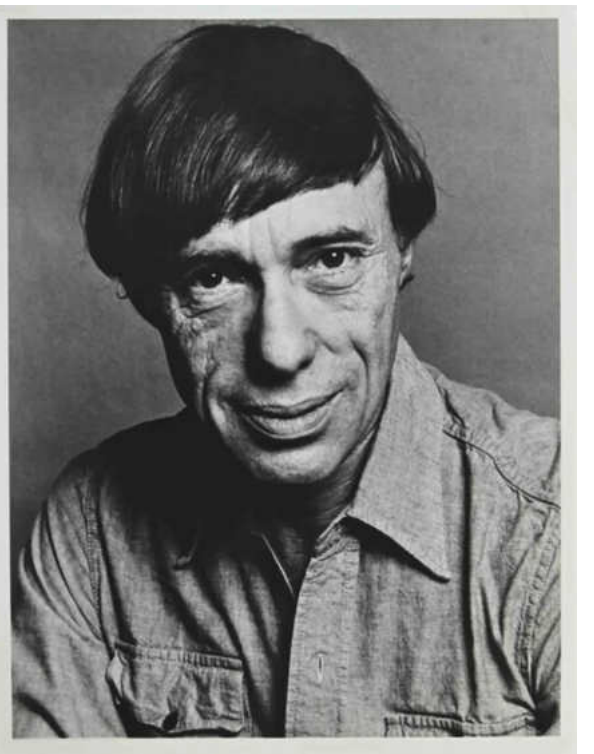
Overhead, a Hawk was zeroing in on a watchbird. The armored murder machine had learned a lot in a few days. Its sole function was to kill. At present it was impelled toward a certain type of living organism, metallic like itself.

But the Hawk had just discovered that there were other types of living organisms, too—

Which had to be murdered.

—

ABOUT THE AUTHOR



Robert Sheckley (1928-2005) was an American author known for his satirical and philosophical science fiction works. Born in Brooklyn and raised in New Jersey, Sheckley developed a love for science fiction at a young age. After serving in the U.S. Army and graduating from New York University, he began writing short stories and scripts for television, soon gaining recognition for his wit and clever satire.

Throughout his career, Sheckley explored themes of societal norms, violence, and dystopian futures in his fiction. He is

perhaps best known for his "Victim" series, which features deadly games played for societal exemptions, as well as his contributions to the "Bill the Galactic Hero" series, which offers a satirical take on military science fiction. Sheckley also collaborated with other authors, including Roger Zelazny, bringing a unique perspective to traditional fairy tales.

Over the course of his career, Sheckley received numerous awards and accolades for his work, including several Hugo and Nebula Award nominations. He continued to write and publish until his death in 2005, leaving behind a rich legacy of imaginative and thought-provoking science fiction.