



IMPERIAL EARTH



ARTHUR C.
CLARKE

RTM

Imperial Earth

Arthur C. Clarke

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For a lost friend

“Remember them as they were; and
write them off.”
—ERNEST HEMINGWAY

For every man has business and desire.
—HAMLET, Act I, Scene 4

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Part I

Titan

A SHRIEK IN THE NIGHT

Duncan Makenzie was ten years old when he found the magic number. It was pure chance; he had intended to call Grandma Ellen, but he had been careless and his fingers must have touched the wrong keys. He knew at once that he had made a mistake, because Grandma's viddy had a two-second delay, even on Auto/Record. This circuit was live immediately.

Yet there was no ringing tone, and no picture. The screen was completely blank, with not even a speckling of interference. Duncan guessed that he had been switched into an audio-only channel, or had reached a station where the camera was disconnected. In any case, this certainly wasn't Grandma's number, and he reached out to break the circuit.

Then he noticed the sound. At first, he thought that someone was breathing quietly into the microphone at the far end, but he quickly realized his mistake. There was a random, inhuman quality about this gentle susurrations; it lacked any regular rhythm, and there were long intervals of complete silence.

As he listened, Duncan felt a growing sense of awe. Here was something completely outside his normal, everyday experience, yet he recognized it almost at once. In his ten years of life, the impressions of many worlds had been imprinted on his mind, and no one who had heard this most evocative of sounds could ever forget it. He was listening to the voice of the wind, as it sighed and whispered across the lifeless landscape a hundred meters above his head.

Duncan forgot all about Grandma, and turned the volume up to its highest level. He lay back on the couch, closed his eyes, and tried to project himself into the unknown, hostile world from which he was protected by all the safety devices that three hundred years of space technology could contrive. Someday, when he had passed his survival tests, he would go up into that world and see with his own eyes the lakes and chasms and low-lying orange clouds, lit by the thin, cold rays of the distant sun. He had looked forward to that day with calm anticipation rather than excitement—the Makenzies were noted for their lack of excitement—but now he suddenly realized what he was missing. So might a child of Earth, on some dusty desert far from the ocean, have pressed a shell against his ear and listened with sick longing to the music of the unattainable sea.

There was no mystery about the sound, but how was it reaching him? It could be coming from any of the hundred million square kilometers lying

above his head. Somewhere—perhaps in an abandoned construction project or experimental station—a live microphone had been left in circuit, exposed to the freezing, poisonous winds of the world above. It was not likely to remain undetected for long; sooner or later it would be discovered and disconnected. He had better capture this message from the outside while it was still there; even if he knew the number he had accidentally called, he doubted if he could ever establish the circuit again.

The amount of audio-visual material that Duncan had stored under `misc` was remarkable, even for an inquisitive ten-year-old. It was not that he lacked organizing ability—that was the most celebrated of all the Makenzie talents—but he was interested in more things than he knew how to index. He had now begun to discover, the hard way, that information not properly classified can be irretrievably lost.

He thought intently for a minute, while the lonely wind sobbed and moaned and brought the chill of space into his warm little cubicle. Then he tapped out `APHA INDEX* WIND SOUNDS* PERM STORE #`.

From the moment he touched the `#` or EXECUTE key, he had begun to capture that voice from the world above. If all went well, he could call it forth again at any time by using the index heading `WIND SOUNDS`. Even if he had made a mistake, and the console's search program failed to locate the recording, it would be *somewhere* in the machine's permanent, nonerasable memory. There was always the hope that he might one day find it again by chance, as was happening all the time with information he had filed under `MISC`.

He decided to let the recording run for another few minutes before completing the interrupted call to Grandma. As luck would have it, the wind must have slackened at about the time he keyed EXECUTE, because there was a long, frustrating silence. Then, out of that silence, came something new.

It was faint and distant, yet conveyed the impression of overwhelming power. First there was a thin scream that mounted second by second in intensity, but somehow never came any closer. The scream rose swiftly to a demonic shriek, with undertones of thunder—then dwindled away as quickly as it had appeared. From beginning to end it lasted less than half a minute. Then there was only the sighing of the wind, even lonelier than before.

For a long, delicious moment, Duncan savored the unique pleasure of fear without danger; then he reacted as he always did when he encountered something new or exciting. He tapped out Karl Helmer's number, and said: "Listen to *this*."

Three kilometers away, at the northern end of Oasis City, Karl waited until the thin scream died into silence. As always, his face gave no hint of his thoughts. Presently he said: "Let's hear it again."

Duncan repeated the playback, confident that the mystery would soon be solved. For Karl was fifteen, and therefore knew everything.

Those dazzling blue eyes, apparently so candid yet already so full of secrets, looked straight at Duncan. Karl's surprise and sincerity were totally convincing as he exclaimed: "You didn't recognize it?"

Duncan hesitated. He had thought of several obvious possibilities—but if he guessed wrongly, Karl would make fun of him. Better to be on the safe side...

"No," he answered. "Did you?"

"Of course," said Karl, in his most superior tone of voice. He paused for effect, then leaned toward the camera so that his face loomed enormous on the screen.

"It's a *Hydrosaurus* on the rampage."

For a fraction of a second, Duncan took him seriously—which was exactly what Karl had intended. He quickly recovered, and laughed back at his friend.

"You're crazy. So you don't know what it is."

For the methane-breathing monster *Hydrosaurus rex* was their private joke—the product of youthful imaginations, inflamed by pictures of ancient Earth and the wonders it had brought forth near the dawn of creation. Duncan knew perfectly well that nothing lived now, or had ever lived, on the world that he called home; only Man had walked upon its frozen surface. Yet if *Hydrosaurus* could have existed, that awesome sound might indeed have been its battle cry, as it leaped upon the gentle *Carbothorium*, wallowing in some ammonia lake...

"Oh. *I* know what made that noise," said Karl smugly. "Didn't you guess? That was a ram-tanker making a scoop. If you call Traffic Control, they'll tell you where it was heading."

Karl had had his fun, and the explanation was undoubtedly correct. Duncan had already thought of it, yet he had hoped for something more romantic. Though it was perhaps too much to expect methane monsters, an everyday spaceship was a disappointing anticlimax. He felt a sense of letdown, and was sorry that he had given Karl another chance to deflate his dreams. Karl was rather good at that.

But like all healthy ten-year-olds, Duncan was resilient. The magic had not been destroyed. Though the first ship had lifted from Earth three centuries before he was born, the wonder of space had not yet been exhausted. There was romance enough in that shriek from the edge of the atmosphere, as the orbiting tanker collected hydrogen to power the commerce of the Solar System.

In a few hours, that precious cargo would be falling sunward, past Saturn's other moons, past giant Jupiter, to make its rendezvous with one of the fueling stations that circled the inner planets. It would take months—even years—to get there, but there was no hurry. As long as cheap hydrogen flowed through the invisible pipeline across the Solar System, the fusion rockets could fly from world to world, as once the ocean liners had plied the

seas of Earth.

Duncan understood this better than most boys of his age; the hydrogen economy was also the story of his family, and would dominate his own future when he was old enough to play a part in the affairs of Titan. It was now almost a century since Grandfather Malcolm had realized that Titan was the key to all the planets, and had shrewdly used this knowledge for the benefit of mankind—and of himself.

So Duncan continued to listen to the recording after Karl had switched off. Over and over again he played back that triumphant cry of power, trying to detect the precise moment when it was finally swallowed up in the gulfs of space. For years it would haunt his dreams; he would wake in the night, convinced that he had heard it again through the roof of rock that protected Oasis from the hostile wilderness above.

And when at last he fell back into sleep, he would always dream of Earth.

DYNASTY

Malcolm Makenzie had been the right man, at the right time. Others before him had looked covetously at Titan, but he was the first to work out all the engineering details and to conceive the total system of orbiting scoops, compressors, and cheap, expendable tanks that could hold their liquid hydrogen with minimum loss as they dropped leisurely sunward.

Back in the 2180s, Malcolm had been a promising young aerospace designer at Port Lowell, trying to make aircraft that could carry useful payloads in the tenuous Martian atmosphere. In those days he had been Malcolm Mackenzie, for the computer mishap that had irrevocably changed the family name did not occur until he emigrated to Titan. After wasting five years in futile attempts at correction, Malcolm had finally co-operated with the inevitable. It was one of the few battles in which the Makenzies had ever admitted defeat, but now they were quite proud of their unique name.

When he had finished his calculations and stolen enough drafting-computer time to prepare a beautiful set of drawings, young Malcolm had approached the Planning Office of the Martian Department of Transportation. He did not anticipate serious criticism, because he knew that his facts and his logic were impeccable.

A large fusion-powered spaceliner could use ten thousand tons of hydrogen on a single flight, merely as inert working fluid. Ninety-nine percent of it took no part in the nuclear reaction, but was hurled from the jets unchanged, at scores of kilometers a second, imparting momentum to the ships it drove between the planets.

There was plenty of hydrogen on Earth, easily available in the oceans; but the cost of lifting megatons a year into space was horrendous. And the other inhabited worlds—Mars, Mercury, Ganymede, and the Moon—could not help. They had no surplus hydrogen at all.

Of course, Jupiter and the other Gas Giants possessed unlimited quantities of the vital element, but their gravitational fields guarded it more effectively than any unsleeping dragon, coiled round some mythical treasure of the Gods. In all the Solar System, Titan was the only place where Nature had contrived the paradox of low gravity and an atmosphere remarkably rich in hydrogen and its compounds.

Malcolm was right in guessing that no one would challenge his figures, or deny the feasibility of the scheme, but a kindhearted senior administrator took it upon himself to lecture young Makenzie on the political and economic

facts of life. He learned, with remarkable speed, about growth curves and forward discounting and interplanetary debts and rates of depreciation and technological obsolescence, and understood for the first time why the solar was backed, not by gold, but by kilowatt-hours.

“It’s an old problem,” his mentor had explained patiently. “In fact, it goes back to the very beginnings of astronautics, in the twentieth century. We couldn’t have commercial space flight until there were flourishing extraterrestrial colonies—and we couldn’t have colonies until there was commercial space transportation. In this sort of bootstrap situation, you have a very slow growth rate until you reach the takeoff point. Then, quite suddenly, the curves start shooting upward, and you’re in business.

“It could be the same with your Titan refueling scheme—but have you any *idea* of the initial investment required? Only the World Bank could possibly underwrite it...”

“What about the Bank of Selene? Isn’t it supposed to be more adventurous?”

“Don’t believe all you’ve read about the Gnomes of Aristarchus; they’re as careful as anyone else. They *have* to be. Bankers on Earth can still go on breathing if they make a bad investment...”

But it was the Bank of Selene, three years later, that put up the five megasols for the initial feasibility study. Then Mercury became interested—and finally Mars. By this time, of course, Malcolm was no longer an aerospace engineer. He had become, not necessarily in this order, a financial expert, a public-relations adviser, a media manipulator, and a shrewd politician. In the incredibly short time of twenty years, the first hydrogen shipments were falling sunward from Titan.

Malcolm’s achievement had been an extraordinary one, now well documented in dozens of scholarly studies, all respectful, though some of them far from flattering. What made it so remarkable—even unique—was the way in which he had converted his hard-won expertise from technology to administration. The process had been so imperceptible that no one realized what was happening. Malcolm was not the first engineer to become a head of state; but he was the first, his critics pointed out sourly, to establish a dynasty. And he had done so against odds that would have daunted lesser men.

In 2195, at the age of forty-four, he had married Ellen Killner, recently emigrated from Earth. Their daughter, Anitra, was the first child to be born in the little frontier community of Oasis, then the only permanent base on Titan, and it was several years before the devoted parents realized the cruel jest that Nature had played upon them.

Even as a baby, Anitra was beautiful, and it was confidently predicted that when she grew up she would be completely spoiled. Needless to say, there were as yet no child psychologists on Titan; so no one noticed that the little girl was too docile, too well behaved—and too silent. Not until she was

almost four years old did Malcolm and Ellen finally accept the fact that Anitra would never be able to speak, and that there was really no one at home in the lovely shell their bodies had fashioned.

The fault lay in Malcolm's genes, not Ellen's. Sometime during his shuttling back and forth between Earth and Mars, a stray photon that had been cruising through space since the cosmic dawn had blasted his hopes for the future. The damage was irreparable, as Malcolm discovered when he consulted the best genetic surgeons of four worlds. It was a chilling thought that he had actually been lucky with Anitra; the results could have been far, far worse....

To the mingled sorrow and relief of an entire world, Anitra had died before she was six years old, and the Makenzie marriage died with her in a flurry of grief and recrimination. Ellen threw herself into her work, and Malcolm departed on what was to be his last visit to Earth. He was gone for almost two years, and in that time he achieved much.

He consolidated his political position and set the pattern of economic development on Titan for the next half-century. And he acquired the son he had now set his heart upon.

Human cloning—the creation of exact replicas of another individual from any cell in the body except the sex cells—had been achieved early in the twenty-first century. Even when the technology had been perfected, it had never become widespread, partly because there were few circumstances that could ever justify it.

Malcolm was not a rich man—there had been no large personal fortunes for a hundred years—but he was certainly not poor. He used a skillful combination of money, flattery, and more subtle pressures to attain his goal. When he returned to Titan, he brought with him the baby who was his identical twin—but half a century younger.

When Colin grew up, there was no way in which he could be distinguished from his clone father at the same age. Physically, he was an exact duplicate in every respect. But Malcolm was no Narcissus, interested in creating a mere carbon copy of himself; he wanted a partner as well as a successor. So Colin's educational program concentrated on the weak points of Malcolm's. Though he had a good grounding in science, he specialized in history, law, and economics. Whereas Malcolm was an engineer-administrator, Colin was an administrator-engineer. While still in his twenties, he was acting as his father's deputy wherever it was legally admissible, and sometimes where it was not. Together, the two Makenzies formed an unbeatable combination, and trying to draw subtle distinctions between their psychologies was a favorite Titanian pastime.

Perhaps because he had never been compelled to fight for any great objective, and had had all his goals formulated before his birth, Colin was more gentle and easygoing than Malcolm—and therefore more popular. No one outside the Makenzie family ever called the older man by his first name; few called Colin anything else. He had no real enemies, and there was only

one person on Titan who disliked him. At least, it was assumed that Malcolm's estranged wife, Ellen, did so, for she refused to acknowledge his existence.

Perhaps she regarded Colin as a usurper, an unacceptable substitute for the son who could never be born to her. If so, it was indeed strange that she was so fond of Duncan.

But Duncan had been cloned from Colin almost forty years later and by that time Ellen had passed through a second tragedy—one that had nothing to do with the Makenzies. To Duncan, she was always *Grandma* Ellen, but he was now old enough to realize that in his heart she combined two generations, and filled a void that earlier ages would have found it impossible to imagine or believe.

If Grandma had any real genetic relationship with him, all trace of it had been lost centuries ago on another world. And yet, by some strange quirk of chance and personality, she had become for him the phantom mother who had never even existed.

INVITATION TO A CENTENNIAL

“And who the hell is George Washington?” asked Malcolm Makenzie.

“Middle-aged Virginia farmer, runs a place called Mount Vernon—”

“You’re joking.”

“I’m not. No relation, of course—old George was childless—but that’s his real name, and he’s perfectly genuine.”

“I suppose you’ve checked with the embassy.”

“Of course, and got a fifty-line print-out of his family tree. Most impressive—half the American aristocracy for the last hundred years. Lots of Cabots and Du Ponts and Kennedys and Kissingers. And before that, a couple of African kings.”

“It may impress *you*, Colin,” interjected Duncan, “but now that I’ve glanced at the program, it all seems a little childish. Grown men pretending to be historical figures. Are they *really* going to throw tea into Boston Harbor?”

Before Colin could answer, Grandfather Malcolm stepped in. A discussion among the three Makenzies—which was something seldom overheard by outsiders—was more in the nature of a monologue than an argument. Because their three personas differed only through the accidents of background and education, genuine disagreements among them were virtually unknown. When difficult decisions had to be made, Duncan and Colin would take opposing viewpoints and debate them before Malcolm—who would listen without saying a word, though his eyebrows could be very eloquent. He seldom had to give a judgment, because the two advocates usually reached a synthesis without much difficulty; but when he did, that was the end of the matter. It was quite a good way to run a family—or a world.

“I don’t know about the tea, which would certainly be a waste at fifty solars a kilo, but you’re being too hard on Mr. Washington and his friends. When we have five hundred years behind us, we’ll be justified in a little pomp and ceremony. And never forget—the Declaration of Independence was one of the most important historical events of the last three thousand years. *We* wouldn’t be here without it. After all, the Treaty of Phobos opens with the words: *When in the course of human events, it becomes necessary for one people...*”

“Quite inappropriate in that context. On the whole, Earth was heartily glad to get rid of us.”

“Perfectly true, but don’t ever let the Terrans hear it.”

“I’m still confused,” said Duncan rather plaintively. “Just what does the

good general want from us? How can we raw colonials contribute to the proceedings?”

“He’s only a professor, not a general,” replied Colin. “They’re extinct, even on Earth. As I see it, a few nicely composed speeches, drawing whatever parallels you can find between our historical situations. A certain exotic charm—you know; a whiff of the frontier, where men still live dangerously. The usual barbarian virility, so irresistible to decadent Terrans of all sexes. And, not least, a low-keyed yet genuine gratitude for the unexpected gift of an open Earth-Titan return ticket with all expenses for a two-month stay. That solves several of our problems, and we should appreciate it.”

“Very true,” Duncan replied thoughtfully, “even though it wrecks our plans for the next five years.”

“It doesn’t wreck them,” said Colin. “It advances them. Time gained is time created. And success in politics—”

“—depends upon the masterful administration of the unforeseen, as you are so fond of saying. Well, this invitation is certainly unforeseen, and I’ll try to master it. Have we sent an official thank you?”

“Only a routine acknowledgment. I suggest that you follow it up, Duncan, with a personal note to President—er—Professor Washington.”

“They’re both right,” said Malcolm, rereading the formal invitation. “It says here: ‘Chairman of the Quincentennial Celebration Committee, and President of the Historical Association of Virginia.’ So you can take your choice.”

“We’ve got to be very careful about this, or someone will bring it up in the Assembly. Was the invitation official, or personal?”

“It’s not government to government, I’m happy to say, since the Committee sponsored it. And the fax was addressed to the Honorable Malcolm Makenzie, *not* to the President.” The Honorable Malcolm Makenzie, also President of Titan, was clearly pleased at this subtle distinction.

“Do I detect in this the fine hand of your good friend Ambassador Farrell?” asked Colin.

“I’m sure the idea never occurred to him.”

“I thought as much. Well, even if we are on firm legal grounds, that won’t stop the objections. There will be the usual cries of privilege, and we’ll be accused once again of running Titan for our personal benefit.”

“I’d like to know who started the word ‘fiefdom’ circulating. I had to look it up.”

Colin ignored the older man’s interruption. As Chief Administrator, he had to face the day-to-day problems of running the world, and could not afford the slight irresponsibility that Malcolm was beginning to show in his old age. It was not senility—Grandfather was still only a hundred and twenty-four—but, rather, the carefree, Olympian attitude of one who had seen and experienced everything, and had achieved all his ambitions.

“There are two points in our favor,” Colin continued. “No official funds are involved, so we can’t be criticized for using government money. And let’s have no false modesty—Earth will *expect* a Makenzie. It might even be regarded as an insult if one of us didn’t go. And as Duncan is the only possibility, that settles the matter.”

“You’re perfectly correct, of course. But not everyone will see it that way. All the families will want to send their younger sons and daughters.”

“There’s nothing to stop them,” Duncan interjected.

“How many could afford it? *We* couldn’t.”

“We could if we didn’t have some expensive extras in mind. So can the Tanaka-Smiths, the Mohadeens, the Schwartzes, the Deweys...”

“But not, I believe, the Helmers.”

Colin spoke lightly, but without humor, and there was a long silence while all three Makenzies shared a single thought. Then Malcolm said slowly: “Don’t underrate Karl. We have only power and brains. But he has genius, and that’s always unpredictable.”

“But he’s crazy,” protested Duncan. “The last time we met, he tried to convince me that there’s intelligent life on Saturn.”

“Did he succeed?”

“Almost.”

“If he’s crazy—which I doubt, despite that famous breakdown—then he’s even more dangerous. Especially to *you*, Duncan.”

Duncan made no attempt to answer. His wiser and older twins understood his feelings, even if they could never fully share them.

“There is one other point,” said Malcolm thoughtfully, “and it may be the most important of all. We may have only ten years in which to change the whole basis of our economy. If you can find an answer to this problem on your trip—even a *hint* of an answer!—you’ll be a hero when you come home. No one will criticize any of your other activities, public or private.”

“That’s a tall order. I’m not a magician.”

“Then perhaps you’d better start taking lessons. If the Asymptotic Drive isn’t pure magic, I don’t know what it is.”

“Just a minute!” said Colin. “Isn’t the first A-Drive ship going to be here in a few weeks?”

“The second. There was that freighter, *Fomalhaut*. I went aboard, but they wouldn’t let me see anything. *Sirius* is the first passenger liner—she enters parking orbit—oh—in about thirty days.”

“Could you be ready by then, Duncan?”

“I very much doubt it.”

“Of course you can.”

“I mean *physiologically*. Even on a crash program, it takes months to prepare for Earth gravity.”

“Um. But this is far too good an opportunity to miss—everything is falling into place beautifully. After all, you were born on Earth.”

“So were you. And how long did *you* take to get ready when you went back?”

Colin sighed.

“It seemed like ages, but by now they must have improved the techniques. Don’t they have neuroprogramming while you sleep?”

“It’s supposed to give you horrible dreams, and I’ll need all the sleep I can get. Still, what’s good for Titan...”

He had no need to complete the quotation, which had been coined by some unknown cynic half a century ago. In thirty years, Duncan had never really doubted this old cliché—once intended to wound, now virtually adopted as a family motto.

What was good for the Makenzies was indeed good for Titan.