

CHAPTER I

Revolt

Science had at last begun to ebb. The long series of inventions that had shaped and molded the world for nearby a thousand years was coming to its end. Everything had been discovered. One by one, all the great dreams of the past had become reality.

Civilization was completely mechanized—yet machinery had almost vanished. Hidden in the walls of the cities or buried far underground, the perfect machines bore the burden of the world. Silently, unobtrusively, the robots attended to their masters' needs, doing their work so well that their presence seemed as natural as the dawn.

There was still much to learn in the realm of pure science and the astronomers, now that they were no longer bound to Earth, had work enough for a thousand years to come. But the physical sciences and the arts they nourished had ceased to be the chief preoccupation of the-race. By the year 2600



of COMARRE

Rebellious scientist Richard Peyton sets forth to seek a long-lost city and probe its strange, subtle secret!

a novelet by ARTHUR C. CLARKE

the finest human minds were no longer to be found in the laboratories.

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The men whose names meant most to the world were the artists and philosophers, the lawgivers and statesmen. The engineers and the great inventors belonged to the past. Like the men who had once ministered to long-vanished diseases, they had done their work so well that they were no longer required.

Five hundred years were to pass before the pendulum swung back again.

The view from the studio was breathtaking, for the long, curving room was

over two miles from the base of Central Tower. The five other giant buildings of the city clustered below, their metal walls gleaming with all the colors of the spectrum as they caught the rays of the morning sun. Lower still, the checkerboard fields of the automatic farms stretched away until they were lost in the mists of the horizon.

For once, the beauty of the scene was wasted on Richard Peyton II as he paced angrily among the great blocks of synthetic marble that were the raw materials of his art.

The huge, gorgeously colored masses of artificial rock completely dominated the studio.

Most of them were roughly hewn cubes, but some were beginning to assume the shapes of animals, human beings and abstract solids that no geometrician would have lared to give a name. Sitting awkwardly on a ten-ton block of diamond—the largest ever synthesized —the artist's son was regarding his famous parent with an unfriendly expression.

"I don't think I'd mind so much," Richard Peyton II remarked peevishly, "if you were content to do nothing, so long as you did it gracefully. Certain people excel at that and on the whole they make the world more interesting. But why you should want to make a life-study of engineering is more than I can imagine.

"Yes, I know we let you take technology as your main subject, but we never thought you were so serious about it. When I was your age I had a passion for botany—but I never made it my main interest in life. Has Professor Chandras Ling been giving you ideas?"

PICHARD PEYTON III blushed. "Why shouldn't he? I know what my vocation is and he agrees with me. You've read his report."

The artist waved several sheets of paper in the air, holding them between thumb and forefinger like some unpleasant insect.

"I have," he said grimly. "'Shows very unusual mechanical ability—has done original work in subelectronic research, et cetera, et cetera.' Good heavens, I thought the human race had outgrown those toys centuries ago! Do you want to be a mechanic, first class, and go around attending to disabled robots? That's hardly a job for a boy of mine, not to mention the grandson of a World Councillor."

"I wish you wouldn't keep on bringing grandfather into this," said Richard Peyton III with mounting annoyance. "The fact that he was a statesman didn't prevent your becoming an artist. So why should you expect me to be either?"

The older man's spectacular golden beard began to bristle ominously.

"I don't care what you do as long as it's something we can be proud of. But why this craze for gadgets? We've got all the machines we need. The robot was perfected five hundred years ago spaceships haven't changed for at least that time—I believe our present communications system is nearly eight hundred years old. So why change what's already perfect?"

"That's special pleading with a vengeance!" the young man replied. "Fancy an artist saying that anything's perfect! Dad, I'm ashamed of you!"

"Don't split hairs. You know perfectly well what I mean. Our ancestors designed machines that provide us with everything we need. No doubt some of them might be a few percent more efficient. But why worry? Can you mention a single important invention that the world lacks today?"

Richard Peyton III sighed.

"Listen, Dad," he said patiently. "I've been studying history as well as engineering. About twelve centuries ago there were people who said that everything had been invented—and that was before the coming electricity, let alone flying and astronautics. They just didn't look far enough ahead—their minds were rooted in the present.

"The same thing's happening today. For five hundred years the world's been living on the brains of the past. I'm prepared to admit that some lines of development have come to an end, but there are dozens of others that haven't even begun.

"Technically the world has stagnated. It's not a dark age, because we haven't forgotten anything, but we're marking time. Look at space travel. Nine hundred years ago we reached Pluto and where are we now? Still at Pluto! When are we going to cross interstellar space?"

"Who wants to go to the stars, anyway?"

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The boy made an exclamation of annoyance and jumped off the diamond block in his excitement.

"What a question to ask in this age! A thousand years ago people were saying, "Who wants to go to the Moon?" Yes, I know it's unbelievable, but it's all there in the old books. Nowadays the moon's only forty-five minutes away and people like Harn Jansen work on Earth and live in Plato City.

"We take interplanetary travel for granted. One day we're going to do the same with *real* space travel. I could mention scores of other subjects that have come to a full stop simply because people think as you do and are content with what they've got."

"And why not?"

Peyton waved his arm around in the studio.

"Be serious, Dad. Have you ever been satisfied with anything you've made? Only animals are contented."

THE artist laughed ruefully.

"Maybe you're right. But that doesn't affect my argument. I still think you'll be wasting your life and so does Grandfather." He looked a little embarrassed. "In fact, he's coming down to Earth especially to see you."

Peyton looked alarmed.

"Listen, Dad, I've already told you what I think. I don't want to have to go through it all again. Because neither Grandfather nor the whole of the World Council will make me alter my mind."

It was a bombastic statement and Peyton wondered if he really meant it. His father was just about to reply when a low musical note vibrated through the studio. A second later a mechanical voice spoke from the air.

"Your father to see you, Mr. Peyton."

He glanced at his son triumphantly. "I should have added," he said, "that Grandfother was coming new Put I

Grandfather was coming now. But I know your habit of disappearing when you're wanted."

The boy did not answer. He watched his father walk toward the door. Then his lips curved in a smile.

The single pane of glassite that fronted the studio was open and he stepped out onto the balcony. Three kilometers below the great concrete apron of the parking ground gleamed whitely in the sun, save where it was dotted with the teardrop shadows of grounded ships.

Peyton glanced back into the room. It was still empty, though he could hear his father's voice drifting through the door. He waited no longer. Placing his hand on the balustrade, he vaulted over into space.

Thirty seconds later two figures entered the studio and gazed around in surprise. *The* Richard Peyton, with no qualifying number, was a man who might have been taken for sixty, though that was less than a third of his actual age.

He was dressed in the purple robe worn by only twenty men on Earth and by less than a hundred in the entire Solar System. Authority seemed to radiate from him. In comparison even his famous and self-assured son seemed fussy and inconsequential.

"Well, where is he?"

"Confound him! He's gone out the window. At least, we can still say what we think of him."

Viciously Richard Peyton II jerked up his wrist and dialed an eight-figure number on his personal communicator. The reply came almost instantly. In clear, impersonal tones an automatic voice repeated endlessly:

"My master is asleep. Please do not disturb. My master is asleep. Please do not disturb. ..."

With an exclamation of annoyance Richard Peyton II switched off the instrument and turned to his father. The old man chuckled.

"Well, he thinks fast. He's beaten us there. We can't get hold of him until he chooses to press the clearing button. I certainly don't intend to chase him at my age."

There was silence for a moment as the two men gazed at each other with mixed expressions. Then, almost simultaneously, they began to laugh.

CHAPTER II

The Legend of Comarre

EYTON fell like a stone for one and three-quarter miles before he switched on the neutralizer. The rush of air past him, though it made breathing difficult, was exhilarating. He was

falling at less than two hundred and forty kilometers an hour-but the impression of speed was enhanced by the smooth upward rush of the great building only a few yards away.

The gentle tug of the decelerator field slowed him three hundred meters from the ground. He fell slowly toward the lines of parked machines ranged at the foot of the tower.

His own speedster was a small single-seat fully automatic machine. At least, it had been fully automatic when it was built three centuries ago, but its current owner had made so many illegal modifications to it that no one else in the world could have flown it and lived to tell the tale.

Peyton switched off the neutralizer belt-an amusing device which, although technically obsolete, still had interesting possibilities-and stepped into the airlock of his machine. Two minutes **later** the towers of the city were sinking below the rim of the world and the uninhabited Wild Lands were spreading beneath at four thousand miles per hour.

Peyton set his course westward and almost immediately was over the ocean. He could do nothing but wait. The ship would reach its goal automatically. He leaned back in the pilot's seat, thinking bitter thoughts and feeling sorry for himself.

He was more disturbed than he cared to admit. The fact that his family failed to share his technical interests had ceased to worry Peyton years ago. But this steadily growing opposition, which had now come to a head, was something quite new. He was completely unable to understand it.

Ten minutes later a single white pylon began to climb out of the ocean like the sword Excalibur rising from the lake. The city known to the world as Scientia and to its more cynical inhabitants as Bat's Belfry, had been built eight centuries ago on an island far from the major land masses. The gesture had been one of independence, for the last traces of nationalism had still lingered in that far-off age.

Peyton grounded his ship on the landing apron and walked to the nearest entrance. The boom of the great waves, breaking on the rocks a hundred yards away, was a sound that never failed to impress him.

He paused for a moment at the opening, inhaling the salt air and watching the gulls and migrant birds circling the tower. They had used this speck of land as a resting place when man was still watching the dawn with puzzled eyes and wondering if it were a god.

The Bureau of Genetics occupied a hundred floors near the center of the tower. It had taken Peyton ten minutes to reach the City of Science. It required almost as long again to locate the man he wanted in the cubic kilometers of offices and laboratories.

Alan Henson II was one of Peyton's closest friends, although he had left the . University of Antarctica two years before and had been studying biogenetics rather than engineering. When he was in trouble, which was not infrequently, Peyton found his friend's calm commonsense very reassuring. It was natural for him to fly to Scientia now, especially since Henson had sent him an urgent call only the day before.

The biologist was pleased and relieved to see Peyton, yet his welcome had an undercurrent of nervousness.

"I'm glad you've come. I've got some news that will interest you. But you look glum-what's the matter?"

Peyton told him, not without exaggeration. Henson was silent for a moment.

"So they've started already!" he said. "We might have expected it!"

"What do you mean?" asked Peyton in surprise.

The biologist opened a drawer and pulled out a sealed envelope. From it he extracted two plastic sheets in which were cut several hundred parallel slots of varying length. He handed one to his friend.

"Do you know what this is?"

"It looks like a character analysis."

"Correct. It happens to be yours."

"Oh! This is rather illegal, isn't it?"

"Never mind that. The key is printed. along the bottom: it runs from Aesthetic Appreciation to Wit. The last column gives your Intelligence Quotient. Don't let it go to your head."

Peyton studied the card intently. Once he blushed slightly.

"I don't see how you knew." "Never mind," grinned grinned Henson. "Now look at this analysis." He handed over a second card.

"Why, it's the same one!"

"Not quite, but very nearly." "Whom does it belong to?"

TENSON leaned back in his chair and measured out his words slowly.

"That analysis, Dick, belongs to your great-grandfather twenty-two times removed on the direct male line—the great Rolf Thordarsen."

Peyton took off like a rocket.

"What!"

"Don't shout the place down. We're discussing old times at college if anyone comes in."

"But-Thordarsen!"

"Well, if we go back far enough we've all got equally distinguished ancestors. But now you know why your grandfather is afraid of you."

"He's left it till rather late. I've practically finished my training."

"You can thank us for that. Normally our analysis goes back ten generations, twenty in special cases. It's a tremendous job. There are a hundred and thirty thousand million cards in the Inheritance Library, one for every man and woman who has lived since the twenty-third century. This coincidence was discovered quite accidentally about a month ago."

"That's when the trouble started. But I still don't understand what it's all about."

"Exactly what do you know, Dick, about your famous ancestor?"

"No more than anyone else, I suppose. I certainly don't know how or why he disappeared, if that's what you mean. Didn't he leave Earth?"

"No—he left the world, if you like, but he never left Earth. Very few people know this, Dick, but Rolf Thordarsen was the man who built Comarre."

Comarre! Peyton breathed the word through half-open lips, savoring its meaning and its strangeness. So it did exist after all! Even that had been denied by some.

Henson was speaking again.

"I don't suppose you know very much about the Decadents. The history books have been rather carefully edited. But the whole story is linked up with the end of the Second Electronic Age."

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Twenty thousand miles above the surface of the Earth, the artificial moon that housed the World Council was spinning on its eternal orbit. The roof of the Council Chamber was one flawless sheet of crystallite, the largest ever cast. When the members of the Council were in session it seemed as if there were nothing between them and the great globe spinning far below.

The symbolism was profound. No narrow parochial viewpoint could long survive in such a setting. Here, if anywhere, the minds of men would surely produce their greatest works.

Richard Peyton the Elder had spent his life guiding the destinies of Earth. For five hundred years the human race had known peace and had lacked nothing that art or science could provide. The men who ruled the planet could be proud of their work.

Yet the old statesman was uneasy. Perhaps the changes that lay ahead were already casting their shadows before them. Perhaps he felt, if only with his subconscious mind, that the five centuries of tranquillity were drawing to a close.

He switched on his writing machine and began to dictate.

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The First Electronic Age, Peyton knew, had begun in 1908, more than eleven centuries before, with De Forest's invention of the triode. The same fabulous century that had seen the coming of the World State, the aeroplane, the space-ship and atomic power had witnessed the invention of all the fundamental thermionic devices that made possible the civilization he knew.

The Second Electronic Age had come five hundred years later. It had been started not by the physicists but by the doctors and psychologists. For nearly five centuries they had been recording the electric currents that flow in the brain during the processes of thought. The analysis had been appallingly complex, but it had been completed after generations of toil. When it was finished the way lay open for the first machines that could read the human mind.

But this was only the beginning. Once man had discovered the mechanism of his own brain he could go further. He could reproduce it, using vacuum tubes and circuit networks instead of living cells.

Towards the end of the twenty-fifth century, the first thinking machines

were built. They were very crude, a hundred square yards of equipment being required to do the work of a cubic centimeter of human brain. But once the first step had been taken it was not long before the mechanical brain was perfected and brought into general use.

T could perform only the lower grades of intellectual work and it lacked such purely human characteristics as initiative, intuition and all emotions. However, in circumstances which seldom varied, where its limitations were not serious, it could do all that a man could do.

The coming of the metal brains had brought one of the great crises in human civilization. Though men had still to carry out all the higher duties of statesmanship and the control of society, all the immense mass of routine administration had been taken over by the robots. Man had achieved freedom at last. No longer did he have to rack his brains planning complex transport. schedules, deciding production programs and balancing budgets. The machines, which had taken over all manual labor centuries before, had made their second great contribution to society.

The effect on human affairs was immense and men reacted to the new situation in two ways. There were those who used their new-found freedom nobly in the pursuits which had always attracted the highest minds-the quest for beauty and truth, still as elusive as when the Acropolis was built.

But there were others who thought differently. At last, they said, the curse of Adam is lifted forever. Now we can build cities where the machines will care for our every need as soon as the thought enters our minds --- sooner, since the analyzers can read even the buried desires of the subconscious.

The aim of all life is pleasure and the pursuit of happiness. Man has earned the right to that. We are tired of this unending struggle for knowledge and the blind desire to bridge space to the stars.

It was the ancient dream of the Lotus Eaters, a dream as old as Man. Now, for the first time, it could be realized. For awhile there were not many who shared it. The fires of the Second Renaissance had not yet begun to flicker and die. But as the years passed, the Decadents drew more and more to their way of thinking. In hidden places on the inner planets they built the cities of their dreams.

For a century they flourished like strange exotic flowers until the almost religious fervor that inspired their building had died. They lingered for a generation more. Then, one by one, they faded from human knowledge. Dying, they left behind a host of fables and legends which had grown with the passing centuries.

Only one such city had been built on Earth and there were mysteries about it that the outer world had never solved. For purposes of its own the World Council had destroyed all knowledge of the place. Its location was a mystery. Some said it was in the Arctic wastes -others believed it to be hidden on the bed of the Pacific. Nothing was certain save its name-Comarre.

* Henson paused in his recital.

"So far I have told you nothing new, nothing that isn't common knowledge. The rest of the story is a secret to the World Council and perhaps a hundred men of Scientia.

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"Rolf Thordarsen, as you know, was grèatest mechanical genius the the world has ever known. Not even Edison can be compared with him. He laid the foundations of robot engineering and built the first of the practical thoughtmachines.

"His laboratories poured out a stream of brilliant inventions for over twenty years-then, suddenly, he disappeared. The story was put out that he tried to reach the stars. This is what really happened-

"Thordarsen believed that his robots --the machines that still run our civilization—were only a beginning. He went to the World Council with certain proposals which would have changed the face of human society. What those changes are we do not know, but Thordarsen believed that unless they wereadopted the race would eventually come to a dead end-as, indeed, many of us think it has.

"The Council disagreed violently. At that time, you see, the robot was just being integrated into civilization and stability was slowly returned — the stability that has been maintained for five hundred years.

"Thordarsen was bitterly disappointed. With the flair they had for attracting genius the Decadents got hold of him and persuaded him to renounce the world. He was the only man who could convert their dreams into reality."

"And did he?"

"No one knows. But Comarre was built—that is certain. We know where it is and so does the World Council. There are some things that cannot be kept secret."

HAT was true, thought Peyton. Even in this age people still disappeared and it was rumored that they had gone in search of the dream city. Indeed, the phrase, "He's gone to Comarre," had become such a part of the language that its meaning was almost forgotten.

Henson leaned forward and spoke with mounting earnestness.

"This is the strange part. The World Council could destroy Comarre, but it won't do so. The belief that Comarre exists has a definite stabilizing influence on society. In spite of all our efforts we still have psychopaths. It's no difficult matter to give them hints, under hypnosis, about Comarre. They may never find it but the quest will keep them harmless.

"In the early days, soon after the city was founded, the Council sent its agents into Comarre. None of them ever returned. There was no foul play—they just preferred to remain. That's known definitely because they sent messages back. I suppose the Decadents realized that the Council would tear the place down if its agents were detained deliberately.

"I've seen some of those messages. They are extraordinary. There's only one word for them — exalted. Dick, there was something in Comarre that could make a man forget the outer world, his friends, his family—everything! Try to imagine what that means!

"Later, when it was certain that none of the Decadents could still be alive, the Council tried again. It was still trying up to fifty years ago. But to this day no one has ever returned from Comarre."

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As Richard Peyton spoke, the waiting robot analyzed his words into their phonetic groups, inserted the punctuation and automatically routed the minute to the correct electronic files. Copy to President and my personal file.

Your Minute of the 22nd and our conversation this morning.

I have seen my son but R.P. III evaded me. He is completely determined and we will only do harm by trying to coerce him. Thordarsen should have taught us that lesson.

My suggestion is that we earn his gratitude by giving him all the assistance he needs. Then we can direct him along safe lines of research. As long as he never discovers that R.T. was his ancestor, there should be no danger. In spite of character similarities it is unlikely that he will try and repeat R.T.'s work.

Above all, we must ensure that he never locates or visits Comarre. If that happens, no one can foresee the consequences.

Henson stopped his narrative, but his friend said nothing. He was too spellbound to interrupt and, after a minute, the other continued.

"That brings us up to the present and to you. The World Council, Dick, discovered your inheritance a month ago. We're sorry we told them, but it's too late now. Genetically, you're a reincarnation of Thordarsen in the only scientific sense of the word. One of Nature's longest odds has come off, as it does every few hundred years in some family or another.

"You, Dick, could carry on the work Thordarsen was compelled to drop whatever that work was. Perhaps it's lost forever, but if any trace of it exists, the secret lies in Comarre. The World Council knows that. That is why it is trying to deflect you from your destiny.

"Don't be bitter about it. On the Council are some of the noblest minds the human race has yet produced. They mean you no harm and none will ever befall you. But they are passionately anxious to preserve the present structure of society, which they believe to be the best."

LOWLY, Peyton rose to his feet. For a moment, it seemed as if he were a neutral, exterior observer, watching this lay-figure called Richard Peyton III, now no longer a man but a symbol, one of the keys to the future of the world. It took a positive mental effort to reidentify himself.

His friend was watching him silently.

"There's something else you haven't told me, Alan. How do you know all this?"

Henson smiled.

"I was waiting for that. I'm only the mouthpiece, chosen because I know you. Who the others are I can't say, even to you. But they include some of the greatest scientists in the world.

"There has always been a friendly rivalry between the Council and the scientists who serve it, but in the last few years our viewpoints have drifted farther apart. Many of us believe that the present age, which the Council thinks will last forever, is only an interregnum. We believe that too long a period of stability will cause decadence. The Council's psychologists are confident they can prevent it."

Peyton's eyes gleamed.

"That's what I've been saying! Can I join you?"

"Later. There's work to be done first. You see, we are revolutionaries of a sort. We are going to start one or two social reactions and, when we've finished, the danger of racial decadence will be postponed for thousands of years. You, Dick, are one of our catalysts. Not the only one, I might say."

. He paused for a moment.

"Even if Comarre comes to nothing we have another card up our sleeve. In fifty years, we hope to have perfected the interstellar drive."

"At last!" said Peyton. "What will you do then?"

"We'll present it to the Council and say, 'Here you are—now you can go to the stars. Aren't we good boys?' And the Council will just have to give a sickly smile and start uprooting civilization. Once we've achieved interstellar travel, we shall have an expanding society again and stagnation will be indefinitely postponed."

"I hope I live to see it," said Peyton. "But what do you want me to do now?"

"Just this—we want you to go into Comarre to find what's there. Where others have failed we believe you can succeed. All the plans have been made."

"I understand. And where is Comarre?"

Henson smiled.

"It's simple, really. There was only one place it could be—the only place over which no aircraft can fly, where no one lives, where all travel is on foot. It's in the Great Reservation."

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The old man switched off the writing machine. Overhead—or below, it was all the same—the great crescent of Earth was blotting out the stars. In its eternal circling the little moon had overtaken the terminator and was plunging into night. Here and there the darkling land below was dotted with the lights of cities.

The sight filled the old man with sadness. It reminded him that his own life was coming to a close—and it seemed to foretell the end of the culture he had sought to protect. Perhaps, after all, the young scientists were right. The long rest was ending and the world was moving to new goals that he would never see.

CHAPTER III

The Wild Lion

T was night when Peyton's ship came westward over the Indian Ocean. Far below the eye could see nothing save the white line of breakers against the African coast, but the navigating screen showed every detail of the land beneath. Night, of course, was no protection or safeguard now, but it meant that no human eye would see him. As for the machines that should be watching—well, others had taken care of them. There were many, it seemed, who thought as Henson did.

The plan had been skillfully conceived. The details had been worked out with loving care by people who had obviously enjoyed themselves. He was to land the ship at the edge of the forest, as near to the power barrier as he could.

Not even his unknown friends could switch off the barrier without arousing suspicion. Luckily it was only thirty kilometers to Comarre from the edge of the screen, over fairly open country. He would have to finish the journey afoot.

There was a great crackling of branches as the little ship settled down into the unseen forest. It came to rest on an even keel and Peyton switched off the dim cabin lights and peered out of the window. He could see nothing. Remembering what he had been told, he did not open the door. He made himself as comfortable as he could and settled down to await the dawn.

He awoke with brilliant sunlight shining full in his eyes. Quickly climbing into the equipment his friends had provided, he opened the cabin door and stepped into the forest.

The landing place had been carefully chosen and it was not difficult to scramble through to the open country a few yards away. Ahead lay small grasscovered hills with a few clusters of slender trees here and there. The day was mild, though it was summer and the equator was not far away. Eight hundred years of climatic control and the great artificial lakes that had drowned the deserts had seen to that.

For almost the first time in his life Peyton was experiencing Nature as it had been in the days before Man existed. Yet it was not the wildness of the scene that he found so strange. Peyton had never known silence—always there had been the murmur of machines or the faraway whisper of rockets, heard faintly from the towering heights of the stratosphere.

Here there were none of these sounds, for no machines could cross the power barrier that surrounded the Reservation. There were only the wind in the grass and the half audible medley of insect voices: Peyton found the silence unnerving and did what almost any man of his time would have done. He pressed the button of his personal radio that was tuned to the background music band.

So, kilometer after kilometer, Peyton walked steadily through the undulating country of the Great Reservation, the largest area of natural territory remaining on the surface of the globe. Walking was easy, for the neutralizers built into his equipment almost nullified its weight. He carried with him that mist of unobtrusive music that had been the background of men's lives almost since the discovery of radio.

Although hè had only to flick a dial to contact anyone on the planet he quite sincerely imagined himself to be alone in the heart of Nature and for a moment he felt all the emotions that Stanley or Livingstone must have experienced when they first entered this same land more than a thousand years ago.

Luckily Peyton was a good walker and by noon had covered half the distance to his goal. He rested for his midday meal under a cluster of imported Martian conifers, which would have brought consternation to an oldtime explorer. In his ignorance Peyton took them completely for granted.

He had accumulated a small pile of empty tins when he noticed an object moving swiftly over the plain in the direction from which he had come. It was too far away to be recognized. Not until it was obviously approaching him did he bother to get up to get a clearer view of it. So far he had seen no animals_though plenty of animals had seen him_and he watched the newcomer with interest.

Peyton had never seen a lion before, but he had no difficulty in recognizing the magnificent beast that was bounding toward him. It was to his credit that he only glanced once at the tree overhead. Then he stood his ground firmly.

There were, he knew, no really dangerous animals in the world any more. The Reservation was something between a vast biological laboratory and a national park, visited by thousands of people every year. It was generally understood that, if one left the inhabitants alone, they would reciprocate. On the whole the arrangement worked smoothly.

The animal was certainly anxious to be friendly. It trotted straight toward him and began to rub itself affectionately against his side. When Peyton got up again it was taking a great deal of interest in his empty food tins. Presently it turned toward him with an expression that was irresistible.

Peyton laughed, opened a fresh tin and laid the contents carefully on a flat stone. The lion accepted the tribute with relish and while it was eating Peyton ruffled through the index of the official guide which his unknown supporters had thoughtfully provided.

HERE were several pages about lions, with photographs for the benefit of extra-terrestrial visitors. The information was reassuring. A thousand years of scientific breeding had greatly improved the King of Beasts. He had only eaten a dozen people in the last century: in ten of the cases the subsequent enquiry had exonerated him from blame and the other two were "non-proven." But the book said nothing about unwanted lions and the best ways of disposing of them. Nor did it hint that they were normally as friendly as this specimen.

Peyton was not particularly observant. It was some time before he noticed the thin metal band around the lion's right forepaw. It bore a series of numbers and letters, followed by the official stamp of the Reservation.

This was no wild animal. Perhaps all its youth had been spent among men. It was probably one of the famous super-lions the biologists had been breeding and then releasing to improve the race. Some of them were almost as intelligent as dogs, according to the reports Peyton had seen.

He quickly discovered that it could understand many simple words, particularly those relating to food. Even for this era it was a splendid beast, a good foot taller than its scrawny ancestors of ten centuries before.

When Peyton started on his journey again the lion trotted by his side. He doubted if its friendship was worth more than a pound of synthetic beef, but it was pleasant to have someone to talk to—someone, moreover, who made no attempt to contradict him. After profound and concentrated thought he decided that "Leo" would be a suitable name for his new acquaintance.

Three hours later Peyton found the forest ahead of him once more. He checked his position carefully against the world radio grid. As far as he could tell he was not more than half a kilometer from his correct course. There was still no sign of anything made by man—only the jungle and the open plain. Yet Comarre could not be more than a few thousand meters away and the knowledge gave him at once a feeling of unease and triumph.

He would never have noticed the metal road leading into the forest if he had not been looking for it, so well was it screeened by trees. Peyton stood for a moment, gazing into the jungle depths. He did not feel at all heroic, which was annoying, but he went forward steadily enough along the curiously winding road.

A hundred meters along it a surprising thought suddenly occurred to him. This road was centuries old—the forest should have buried it ages before. Could there still be life in the city or had the road been deliberately kept open by the servants of the World Council?

Peyton stopped to consider the problem. He looked at the trees bordering the road and slowly the truth came to him. Nothing grew within twenty feet of the metal surface and even beyond that limit the trees were oddly stunted.

The road was radioactive. Not until some distant future, when its atoms had decayed, could the forest close in to overwhelm it.

Peyton had walked a few hundred yards when suddenly there was a blinding flash in the air before him. Though he realized immediately what it was, he was startled and stopped, blinking. Leo had fled precipitately and was already out of sight. He would not, Peyton thought, be of much use in an emergency. Later he was to revise his judgment.

When his eyes had recovered, Peyton found himself looking at a multicolored notice, burning in letters of fire. It hung steadily in the air and read:

WARNING! YOU ARE NOW APPROACHING RESTRICTED TERRITORY! TURN BACK! By Order

By Order, World Council in Session.

Peyton regarded the notice thoughtfully for a few moments. Then he looked around for the projector. It was in a metal box, not very effectively hidden at the side of the road. He quickly unlocked it with the universal keys a trusting Electronics Commission had given him on his first graduation.

After a few minutes' inspection he breathed a sigh of relief. The projector was a simple capacity-operated device. Anything coming along the road would actuate it. There was a photographic recorder, but it had been disconnected. Peyton was not surprised, for every passing animal would have operated the device. This was fortunate. It meant that no one need ever know that Richard Peyton III had once walked along this road.

He shouted to Leo, who came slowly back, looking rather ashamed of himself. The sign had disappeared and Peyton held the relays open to prevent its reappearance as Leo passed by. Then

he relocked the door and continued on his way, wondering what would happen next.

HUNDRED meters further on a disembodied voice began to speak to him severely, first in English, then in High Martian, then in a language he did not recognize. It told him nothing new, but the voice threatened a number of minor penalties, some of which were not unfamiliar to him.

It was amusing to watch Leo's face as he tried to locate the source of the sound. Once again Peyton searched for the projector and checked it before proceeding. It would be safer, he thought, to leave the road altogether. There might be recording devices further along it.

With some difficulty he induced Leo to remain on the metal surface while he himself walked along the barren ground bordering the road. In the next quarter of a mile the lion set off two more electronic booby-traps. The last one seemed to have given up persuasion. It said simply:

BEWARE OF WILD LIONS

Peyton looked at Leo and began to laugh. Leo couldn't see the joke but he joined in politely. Behind them the automatic sign faded out with a last despairing flicker.

Peyton wondered why the signs were there at all. Perhaps they were intended to scare away accidental visitors. Those who knew the goal would hardly be deflected by them.

The road made a sudden right-angle turn—and there before him was₀ Comarre. It was strange that something he had been expecting could give him such a shock. Ahead lay an immense clearing in the jungle, half filled by a black metallic structure.

The city was shaped like a terraced cone, perhaps eight hundred meters high and a thousand meters across at the base. How much was underground, Peyton could not guess. He halted, overwhelmed by the size and strangeness of the enormous building. Then, slowly, he began to walk toward it.

Like a beast of prey crouching in its lair, the city lay waiting. Though its guests were now very few, it was ready to receive them, whoever they might be. Sometimes they turned back at the first warning, sometimes at the second. A few had reached the very entrance before their resolution failed them. But most, having come so far, had entered willingly enough.

So Peyton reached the marble steps that led up to the towering metal wall and the curious black hole that seemed to be the only entrance. Leo trotted quietly beside him, taking little notice of his strange surroundings.

Peyton halted at the foot of the stairs and dialed a number on his communicator. He waited until the acknowledgment tone came and then spoke slowly into the microphone.

"The fly is entering the parlor."

He repeated it twice, feeling rather a fool. Someone, he thought, had a perverted sense of humor.

There was no reply. That had been part of the arrangement. But he had no doubt that the message had been received, probably in some laboratory in Scientia, since the number he had dialed had a Western Hemisphere coding.

Peyton opened his biggest tin of meat and spread it out on the marble. He entwined his fingers in the lion's mane and twisted it playfully.

"I guess you'd better stay here, Leo," he said. "I may be gone quite some time. Don't try to follow me."

At the top of the steps, he looked back. Rather to his relief the lion had made no attempt to follow. It was sitting on its haunches, looking at him pathetically. Peyton waved and turned away.

There was no door, only a plain black hole in the curving metal surface. That was puzzling and Peyton wondered how the builders had expected to keep animals from wandering in. Then something about the opening attracted his attention.

It was too black. Although the wall was in shadow, the entrance had no right to be as dark as this. He took a coin from his pocket and tossed it into the aperture. The sound of its fall reassured him and he stepped forward.

The delicately adjusted discriminator circuits had ignored the coin, as they had ignored all the stray animals that had entered this dark portal. But the presence of a human mind had been enough to trip the relays. For a fraction of a second the screen through which Peyton was moving throbbed with power. Then it became inert again. It seemed to Peyton that his foot took a long time to reach the ground, but that was the least of his worries. Far more surprising was the instantaneous transition from darkness to sudden light, from the somewhat oppressive heat of the jungle to a temperature that seemed almost chilly by comparison. The change was so abrupt that it left him gasping. Filled with a feeling of distinct unease he turned toward the archway through which he had just come.

It was no longer there. It had never been there. He was standing on a raised metal dais at the exact center of a vast circular room with a dozen pointed archways around its circumference. He might have come through any one of them—if only they had not all been forty meters away.

For a moment Peyton was seized with panic. He heard his heart pounding and something was happening to his legs. Feeling very much alone, he sat down on the dais and began to consider the situation logically.

CHAPTER IV

The Sign of the Poppy

S OMETHING had transported him instantly from the black doorway to the center of the room. There could be only two explanations, both equally fantastic. Either something was very wrong with space inside Comarre—or else that its builders had mastered the secret of matter transmission.

Ever since man had learned to send sound and sight by radio, men had dreamed of transmitting matter by the same means. Peyton looked at the dais on which he was standing. It might easily hold electronic equipment—and there was a very curious bulge in the ceiling above him.

However it was done, he could imagine no better way of ignoring unwanted visitors. Rather hurriedly, he scrambled off the dais. It was not the sort of place where he would care to linger.

It was disturbing to realize that he now had no means of leaving without the cooperation of the machine that had brought him here. He decided to worry about one thing at a time. When he had finished his exploration, he should have mastered this and all the other secrets of Comarre.

He was not really conceited. Between Peyton and the makers of the city lay five centuries of research. Although he might find much that was new to him, there would be nothing that he could not understand.

Choosing one of the exits at random, he began his exploration of the city.

The machines were watching, biding their time. They had been built to serve one purpose and that purpose they were still fulfilling blindly. Long ago they had brought the peace of oblivion to the weary minds of their builders. That oblivion they could still bring to all who entered the city of Comarre.

The instruments had begun their analysis when Peyton stepped in from the forest. It was not a task that could be done swiftly, this dissection of a human mind with all its hopes, desires and fears. The synthesizers would not come into operation for hours yet. Until then the guest would be entertained while the more lavish hospitality was being prepared.

The elusive visitor gave the little robot a lot of trouble before it finally located him, for Peyton was moving rapidly from room to room in his exploration of the city. Presently the machine came to a halt in the center of a small circular room lined with magnetic switches and lit by a single glow tube.

According to its instruments, Peyton was only a few feet away, but its four eye-lenses could see no sign of him. Puzzled, it stood motionless, almost silent save for the faint whisper of its motors and the occasional snicker of a relay.

Standing on a catwalk ten feet from the ground, Peyton was watching the machine with great interest. He saw a shining metal cylinder, rising from a thick baseplate mounted on small driving wheels. There were no limbs of any kind: the cylinder was unbroken except for the circlet of eye-lenses and a series of small metal sound grills.

It was amusing to watch the machine's perplexity as its tiny mind wrestled with two sets of conflicting information. Although it knew that Peyton must be in the room, its eyes told it that the place was empty. It began to

scamper around in small circles until Peyton took pity on it and descended from the catwalk. Immediately the machine ceased its gyrations and began to deliver its address of welcome.

"I am A-Five. I will take you wherever you wish to go. Please give me your orders in standard robot vocab."

Peyton was rather disappointed. It was a perfectly standard robot and he had hoped for something better in the city Thordarsen had built. But the machine could be very useful if he employed it properly.

"Thank you," he said, unnecessarily. "Please take me to the living quarters."

LTHOUGH Peyton was now certain that the city was completely automatic, there was still the possibility that it held some human life. There might be others here who could help him in his quest, though the absence of opposition was perhaps as much as he could hope for.

Without a word the little machine spun around on its driving wheels and rolled out of the room. The corridor along which it led Peyton ended at a beautifully carved door which he had already tried in vain to open. Apparently A-Five knew its secret—for at their approach the thick metal plate slid silently aside. The robot rolled forward into a small. boxlike chamber.

Peyton wondered if they had entered another of the matter transmitters, but quickly discovered that it was nothing more unusual than a lift. Judging by the time of ascent, it must have taken them almost to the top of the city. When the doors slid open it seemed to Peyton that he was in another world.

The corridors in which he had first found himself were drab and undecorated, purely utilitarian. In contrast, these spacious halls and assembly rooms were furnished with the utmost luxury. The twenty-sixth century had been a period of florid decoration and coloring, much despised by subsequent ages. But the Decadents had gone far beyond their own period. They had taxed the resources of psychology as well as art when they designed Comarre.

One could have spent a lifetime without exhausting all the murals, the carvings and paintings, the intricate tapestries which still seemed as brilliant as when they had been made. It seemed utterly wrong that so wonderful a place should be deserted and hidden from the world. For a moment Peyton forgot all his scientific zeal and hurried like a child from marvel to marvel.

Here were works of genius, perhaps as great as any the world had ever known. But it was a sick and despairing genius, one that had lost faith in itself while still retaining an immense technical skill. For the first time Peyton truly understood why the builders of Comarre had been given their name.

The art of the Decadents at once repelled and fascinated him. It was not evil, for it was completely detached from moral standards. Perhaps its dominant characteristics were weariness and disillusion. After awhile Peyton, who had never thought himself very sensitive to visual art, began to feel a subtle depression creeping into his soul. Yet he found it quite impossible to tear himself away.

At last Peyton turned to the robot again.

"Does anyone live here now?"

"Yes."

"Where are they?"

"Sleeping."

Somehow that seemed a perfectly natural reply. Peyton felt very tired. For the last hour it had been a struggle to remain awake. Something seemed to be compelling sleep, almost willing it upon him. Tomorrow would be time enough to learn the secrets he had come to find. For the moment he wanted nothing, but sleep.

He followed automatically when the robot led him out of the spacious halls into a long corridor lined with metal doors, each bearing a half-familiar symbol Peyton could not quite recognize. His sleepy mind was still wrestling half-heartedly with the problem when the machine halted before one of the doors, which slid silently open.

The heavily draped couch in the darkened room was irresistible. Peyton stumbled toward it automatically. As he sank down into sleep, a glow of satisfaction warmed his mind for a moment. He had recognized the symbol on the door, though his brain was too tired to understand its significance.

It was the poppy.

There was no guile, no malevolence in the working of the city. Impersonally it was fulfilling the tasks to which it had been dedicated. All who had entered Comarre had willfully embraced its gifts. This visitor was the first who had ever ignored them.

The integrators had been ready for hours, but the restless, probing mind had eluded them. They could afford to wait, as they had done these last five hundred years.

And now the defenses of this strangely stubborn mind were crumbling as Richard Peyton sank peacefully to sleep. Far down in the heart of Comarre a relay tripped and complex, slowly fluctuating currents began to ebb and flow through banks of vacuum tubes. The consciousness that had been Richard Peyton III ceased to exist.

Peyton had fallen asleep instantly. For awhile complete oblivion claimed him. Then faint wisps of consciousness began to return. And then, as always, he began to dream.

It was strange that his favorite dream should have come into his mind and it was more vivid now than he had ever known before. All his life Peyton had loved the sea and once he had seen the unbelievable beauty of the Pacific islands from the observation deck of a low-flying liner. He had never visited them, but he had often wished that he could spend his life on some remote and peaceful isle with no care for the future or the world.

TT was a dream that almost all men had known at some time in their lives, but Peyton was sufficiently sensible to realize that two months of such an existence would have driven him back to civilization, half crazy with boredom. However, his dreams were never worried by such considerations and once more he was lying beneath waving palms, the surf drumming on the reef beyond a lagoon that framed the sun in an azure mirror.

The dream was extraordinarily vivid, so much so that even in his sleep Peyton found himself thinking that no dream had any right to be so real. Then it ceased, so abruptly that there seemed to be a definite rift in his thoughts. The interruption jolted him back to consciousness.

Bitterly disappointed, Peyton lay for a while with his eyes tightly closed, trying to recapture the lost paradise. But it was useless. Something was beating against his brain, keeping him from sleep. Moreover, his couch had suddenly become very hard and uncomfortable. Reluctantly he turned his mind toward the interruption.

Peyton had always been a realist and had never been troubled by philosophical doubts, so the shock was far greater than it might have been to many less intelligent minds. Never before had he found himself doubting his own sanity, but he did so now. For the sound that had awakened him was the drumming of the waves against the reef. He was lying on the golden sand beside the lagoon. Around him, the wind was sighing through the palms, its warm fingers caressing him gently.

For a moment, Peyton could only imagine that he was still dreaming. But this time there could be no real doubt. While one is sane reality can never be mistaken for a dream. This was real if anything in the universe was real.

Slowly the sense of wonder began to fade. He rose to his feet, the sand showering from him in a golden rain. Shielding his eyes against the sun, he stared along the beach.

He did not stop to wonder why the place should be so familiar. It seemed natural enough to know that the village was a little farther along the bay. Presently he would rejoin his friends, from whom he had been separated for a little while in a world he was swiftly forgetting.

There was a fading memory of a young engineer—even the name escaped him now—who had once aspired to fame and wisdom. In that other life he had known this foolish person well, but now he could never explain to him the vanity of his ambitions.

He began to wander idly along the beach, the last vague recollections of his shadow life sloughing from him with every footstep as the details of a dream fade into the light of day.

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On the other side of the world three very worried scientists were waiting in a deserted laboratory, their eyes on a multichannel communicator of unusual design. The machine had been silent for nine hours. No one had expected a message in the first eight, but the prearranged signal was now more than an hour overdue. Alan Henson jumped to his feet with a gesture of impatience.

"We've got to do something! I'm go-.: ing to call him."

The other two scientists looked at each other nervously.

"The call may be traced!"

"Not unless they're actually watching us. Even if they are, I'll say nothing unusual. Peyton will understand if he can answer at all..."

If Richard Peyton had ever known time that knowledge was forgotten now. Only the present was real, for both past and future lay hidden behind an impenetrable screen, as a great landscape may be concealed by a driving wall of rain.

In his enjoyment of the present Peyton was utterly content. Nothing at all was left of the restless driving spirit that had once set out, a little uncertainly, to conquer fresh fields of knowledge. He had no use for knowledge now.

ATER he was never able to recollect anything of his life on the island. He had known many companions, but their names and faces had vanished beyond recall. Love, peace of mind, happiness—all were his for a brief moment of time. And yet he could remember no more than the last few moments of his life in paradise.

Strange that it should have ended as 'it began. Once more he was by the side of the lagoon, but this time it was night and he was not alone. The moon that seemed always to be full rode low above the ocean and its long silver lane stretched far away to the edge of the world. The stars that never changed their places glowed unblinking in the sky like brilliant jewels, more glorious than the forgotten stars of Earth.

But Peyton's thoughts were intent on other beauty, and once again he bent toward the figure lying on the sand that was no more golden than the hair strewn carelessly across it.

Then paradise trembled and dissolved around him. He gave a great cry of anguish as everything he loved was wrenched away. Only the swiftness of the transition saved his mind. When it was over he felt as Adam must have done when the gates of Eden clanged forever shut behind him. But the sound that had brought him back was the most commonplace in all the world. Perhaps, indeed, no other could have reached his mind in its place of hiding. It was only the shrilling of his communicator set as it lay on the floor beside his couch, here in the darkened room in the city of Comarre.

He had not been dreaming—he was sure of that. Rather, it was as if he had been living a second life and now he was returning to his old existence as might a man recovering from amnesia. Though he was still dazed, one clear conviction came into his mind. He must never again sleep in Comarre.

Slowly the will and character of Richard Peyton III returned from their banishment. Unsteadily he rose to his feet and made his way out of the room. Once again he found himself in the long corridor with its hundreds of identical doors. With new understanding he looked at the symbol carved upon them.

He scarcely noticed where he was going. His mind was fixed too intently on the problem before him. As he walked his brain cleared and slowly understanding came. For the moment it was only a theory, but soon he would put it to the test.

The human mind was a delicate sheltered thing, having no direct contact with the world and gathering all its knowledge and experience through the body's senses. It was possible to record and store thoughts and emotions as earlier men had once recorded sound on miles of wire.

If those thoughts were projected into another mind, when the body was unconscious and all its senses numbed, that brain would think it was experiencing reality. There was no way in which it could detect the deception, any more than one can distinguish a perfectly recorded symphony from the original performance.

All this had been known for centuries, but the builders of Comarre had used the knowledge as no one in the

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world had ever done before. Somewhere in the city there must be machines that could analyze every thought and desire of those who entered. Elsewhere the city's makers must have stored every sensation and experience a human mind could know. From this 'raw material all possible futures could be constructed.

Now at last Peyton understood the measure of the genius that had gone into the making of Comarre. The machines had analyzed his deepest thoughts and built for him a world based on his subconscious desires. Then, when the chance had come, they had taken control of his mind and injected into it all he had experienced.

No wonder that everything he had ever longed for had been his in that already half-forgotten paradise. And no wonder that through the ages so many had sought the peace only Comarre could bring!

CHAPTER V

The Engineer

EYTON had become himself again when the sound of wheels made him look over his shoulder. The little robot that had been his guide was 'returning. No doubt the great machines that controlled it were wondering what had happened to its charge. Peyton waited, a thought slowly forming in his mind.

A-Five started all over again with its set speech. It seemed yery incongruous now to find so simple a machine in this place where automatronics had reached their ultimate development. Then Peyton realized that perhaps the robot was deliberately uncomplicated. There was little purpose in using a complex machine where a simple one would serve as well—or better.

Peyton ignored the now familiar speech. All robots, he knew, must obey human commands unless other humans have previously given them orders to the contrary. Even the projectors of the city, he thought wryly, had obeyed the unknown and unspoken commands of his own subconscious mind. "Lead me to the thought projectors," he commanded.

As he had expected the robot did not move. It merely replied, "I do not understand."

Peyton's spirits began to revive as he felt himself once more master of the situation.

"Come here and do not move again until I give the order."

The robot's selectors and relays considered the instructions. They could find no countermanding order. Slowly the little machine rolled forward on its wheels. It had committed itself—there was no turning back now. It could not move again until Peyton ordered it to do so or something overrode his commands. Robot-hypnosis was a very old trick, much beloved by mischievous small boys.

Swiftly Peyton emptied his wallet of the tools no engineer was ever without—the universal screwdriver, the expanding wrench, the automatic drill and, most important of all, the atomic cutter that could eat through the thickest metal in a matter of seconds. Then, with a skill born of long practice, he went to work on the unsuspecting machine.

Luckily the robot had been built for easy servicing, and could be opened with little difficulty. There was nothing unfamiliar about the controls and it did not take Peyton long to find the locomotor mechanism. Now, whatever happened, the machine could not escape. It was crippled.

Next he blinded it and, one by one, he tracked down its other electrical senses and put them out of commission. Soon the little machine was no more than a cylinder full of complicated junk. Feeling like a small boy who has just made a wanton attack on a defenseless grandfather clock, Peyton sat down and waited for what he knew must happen.

It was a little inconsiderate of him to sabotage the robot so far from the main machine levels. The robot-transporter took nearly fifteen minutes' to work its way up from the depths. Peyton heard the rumble of its wheels in the distance and knew that his calculations had been correct. The breakdown party was on the way.

The transporter was a simple carrying machine, with a set of arms that could grasp and hold a damaged robot. It seemed to be blind, though no doubt

its special senses were quite sufficient for its purpose.

Peyton waited until it had collected the unfortunate A-Five. Then he jumped aboard, keeping well away from the mechanical limbs. He had no desire to be mistaken for another distressed robot. Fortunately the big machine took no notice of him at all.

So Peyton descended through level after level of the great building, past the living quarters, through the room in which he had first found himself, and lower yet into regions he had never before seen. As he descended, the character of the city changed around him.

Gone now were the luxury and opulence of the higher levels, replaced by a no-man's-land of bleak passageways that were little more than giant cable ducts. Presently these two came to an end.

The conveyor passed through a set of great sliding doors—and he had reached his goal.

The rows of relay panels and selector mechanisms seemed endless, but though Peyton was tempted to jump off his unwitting steed he waited until the main control panels came into sight. Then he climbed off the conveyor and watched it disappear into the distance toward some still more remote part of the city.

He wondered how long it would take the superautomata to repair A-Five. His sabotage had been very thorough and he rather thought the little machine was heading for the scrapheap. Then, feeling like a starving man suddenly confronted by a banquet, he began his examination of the city's wonders.

In the next five hours he paused only once to send the routine signal back to his friends. He wished he could tell of his success, but the risk was too great. After prodigies of circuit tracing he had discovered the functions of the main units and was beginning to investigate some of the secondary equipment.

It was just as he had expected. The thought analyzers and projectors lay on the floor immediately above, and could be controlled from this central installation. How they worked he had no conception: it might well take months to uncover all their secrets. But he had identified them and thought he could probably switch them off if necessary. A LITTLE later he discovered the thought monitor. It was a small machine, rather like an ancient manual telephone switchboard, but very much more complex. The operator's seat was a curious structure, insulated from the ground and roofed by a network of wires and crystal bars. It was the first machine he had discovered that was obviously intended for direct human use. Probably the first engineers had built it to set up the equipment in the early days of the city.

Peyton would not have risked using the thought-monitor if detailed instructions had not been printed on its control panel. After some experimenting he plugged in to one of the circuits and slowly increased the power, keeping the intensity control well below the red danger mark.

It was as well that he did so, for the sensation was a shattering one. He still retained his own personality, but superimposed on his own thoughts were ideas and images that were utterly foreign to him. He was looking at another world, through the windows of an alien mind.

It was as though his body were in two places at once, though the sensations of his second personality were much less vivid than those of the real Richard Peyton III. Now he understood the meaning of the *danger* line. If the thought-intensity control were turned too high, madness would certainly result.

Peyton switched off the instrument so that he could think without interruption. He understood now what the robot had meant when it said that the other inhabitants of the city were sleeping. There were other men in Comarre, lying entranced beneath the thought-projectors.

His mind went back to the long corridor and its hundreds of metal doors. On his way down he had passed through many such galleries and it was clear that the greater part of the city was no more than a vast honeycomb of chambers in which thousands of men could dream away their lives.

One after another he checked the circuits on the board. The great majority were dead, but perhaps fifty were still operating. And each of them carried all the thoughts, desires and emotions of the human mind.

Now that he was fully conscious,

Peyton could understand how he had been tricked, but the knowledge brought little consolation. He could see the flaws in these synthetic worlds, could observe how all the critical faculties of the mind were numbed while an endless stream of simple but vivid emotions was poured into it.

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Yes, it all seemed very simple now. But it did not alter the fact that this artificial world was utterly real to the beholder—so real that the pain of leaving it still burned in his own mind.

For nearly an hour, Peyton explored the worlds of the fifty sleeping minds. It was a fascinating though repulsive quest. In that hour he learned more of the human brain and its hidden ways than he had ever dreamed existed. When he had finished he sat very still for a long time at the controls of the machine, analyzing his new-found knowledge. His wisdom had advanced by many years and his youth seemed suddenly very far away.

For the first time he had direct knowledge of the fact that the perverse and evil desires that sometimes ruffled the surface of his own mind were shared by all human beings. The builders of Comarre had cared nothing for good or evil—and the machines had been their faithful servants.

It was satisfactory to know that his theories had been correct. Peyton understood now the narrowness of his escape. If he fell asleep again within these walls he might never awake. Chance had saved him once, but it would not do so again.

The thought-projectors must be put out of action, so thoroughly that the robots could never repair them. Though they could handle normal breakdowns, the robots could not deal with deliberate sabotage on the scale Peyton was envisaging. When he had finished Comarre would be a menace no longer. It would never trap his mind again, nor the minds of any future visitors who might come this way.

First he would have to locate the sleepers and revive them. That might be a lengthy task, but fortunately the machine level was equipped with standard monovision search apparatus. With it he could see and hear everything in the city, simply by focussing the carrier beams on the required spot. He could even project his voice if necessary, but not his image. That type of machine had not come into general use until after the building of Comarre.

It took him a little while to master _ the controls and at first the beam wandered erratically all over the city. Peyton found himself looking into any number of surprising places and once he even got a glimpse of the forest —though it was upside down. He wondered if Leo were still around and with some difficulty he located the entrance.

Yes, there it was, just as he had left it the day before. And a few yards away the faithful Leo was lying with his head towards the city and a distinctly worried look on his face. Peyton was deeply touched. He wondered if he could get the lion into Comarre. The moral support would be valuable, for he was beginning to feel need of companionship after the night's experiences.

TETHODICALLY he searched the wall of the city and was greatly relieved to discover several concealed extrances at ground level. He had been wondering how he was going to leave. Even if he could work the matter-transmitter in reverse, the prospect was not an attractive one. He much preferred an old-fashioned physical movement through space.

The openings were all sealed and for a moment he was baffled. Then he began to search for a robot. After some delay, he discovered one of the late A-Five's twins rolling along a corridor on some mysterious errand. To his relief, it obeyed his command unquestioningly and opened the door.

Peyton drove the beam through the walls again and brought the focus point to rest a few feet away from Leo. Then he called, softly:

"Leo!"

The lion looked up, startled.

"Hello, Leo-it's me-Peyton!"

Looking puzzled, the lion walked slowly round in a circle. Then it gave up and sat down helplessly.

With a great deal of persuasion, Peyton coaxed Leo up to the entrance. The lion recognized his voice and seemed willing to follow, but it was a sorely puzzled and rather nervous animal. It hesitated for a moment at the opening, liking neither Comarre nor the silently waiting robot.

Very patiently Peyton instructed Leo

to follow the robot. He repeated his remarks in different words until he was sure the lion understood. Then he spoke directly to the machine and ordered it to guide the lion to the control chamber. He watched for a moment to see that Leo was following. Then, with a word of encouragement, he left the strangelyassorted pair.

It was rather disappointing to find that he could not see into any of the sealed rooms behind the poppy symbol. They were shielded from the beam or else the focusing controls had been set so that the monovisor could not be used to pry into that volume of space.

Peyton was not discouraged. The sleepers would wake up the hard way, as he had done. Having looked into their private worlds, he felt little sympathy for them and only a sense of duty impelled him to wake them. They deserved no consideration.

A horrible thought suddenly assailed him. What had the projectors fed into his own mind in response to his desires, in that forgotten idyll from which he had been so reluctant to return? Had his own hidden thoughts been as disreputable as those of the other dreamers?

It was an uncomfortable idea and he put it aside as he sat down once more at the central switchboard. First he would disconnect the circuits, then he would sabotage the projectors so that they could never again be used. The spell that Comarre had cast over so many minds would be broken forever.

Peyton reached forward to throw the multiplex circuit breakers, but he never completed the movement. Gently but very firmly, four metal arms clasped his body from behind. Kicking and struggling, he was lifted into the air away from the controls and carried to the center of the room. There he was set down again and the metal arms released him.

More angry than alarmed, Peyton whirled to face his captor. Regarding him quietly from a few yards away was the most complex robot he had ever seen. Its body was nearly seven feet high, and rested on a dozen fat balloon tires.

From various parts of its metal chassis, tentacles, arms, rods and other less-easily-describable mechanisms projected in all directions. In two places, groups of limbs were busily at work dismantling or repairing pieces of machinery which Peyton recognized with a guilty start.

Silently Peyton weighed up his opponent. It was clearly a robot of the very highest order. But it had used physical violence against him—and no robot could do that against a man, though it might refuse to obey his orders. Only under the direct control of another human mind could a robot commit such an act. So there was life, conscious and hostile life, somewhere in the city.

"Who are you?" exclaimed Peyton at last, addressing not the robot but the controller behind it.

With no detectable time-lag the machine answered in a precise and automatic voice that did not seem to be merely the amplified speech of a human being.

"I am the Engineer."

"Then come out and let me see you." "You are seeing me."

It was the inhuman tone of the voice, as much as the words themselves, which made Peyton's anger evaporate in a moment and replaced it with a sense of unbelieving wonder.

There was no human being controlling this machine: It was as automatic as the other robots of the city—but unlike them and all other robots the world had ever known it had a will and a consciousness of its own.

CHAPTER VI

The Nightmare

S Peyton stared wide-eyed at the machine before him, he felt his scalp crawling, not with fright but with the sheer intensity of his excitement. His quest had been rewarded — the dream of nearly a thousand years was here before his eyes.

Long ago the machines had won a limited intelligence. Now at last they had reached the goal of consciousness itself. This was the secret Thordarsen would have given to the world—the secret the Council had sought to suppress for fear of the consequences it might bring.

The passionless voice spoke again.

"I am glad that you realize the truth. It will make things easier."

"You can read my mind?" gasped Pevton.

"Naturally. That was done from the moment you entered."

"Yes, I gathered that," said Peyton grimly. "And what do you intend to do with me now?"

"I must prevent you from damaging Comarre."

That, thought Peyton, was reasonable enough.

"Suppose I left now? Would that suit you?"

"Yes. That would be good."

Peyton could not help laughing. The Engineer was still a robot, in spite of all its near-humanity. It was incapable of guile and perhaps that gave him an advantage. Somehow he must trick it into revealing its secrets. But once again the robot read his mind.

"I will not permit it. You have learned too much already. You must leave at once. I will use force if necessary."

Peyton decided to fight for time. He could, at least, discover the limits of this amazing machine's intelligence.

"Before I go, tell me this. Why are you called the Engineer?"

The robot answered readily enough.

"If serious faults develop that cannot be repaired by the robots, I deal with them. I could rebuild Comarre if necessary. Normally, when everything is functioning properly, I am quiescent."

How alien, thought Peyton, the idea of "quiescence" was to a human mind. He could not help feeling amused at the distinction the Engineer had drawn between itself and "the robots." He asked the obvious question.

"And if something goes wrong with you?"

"There are two of us. The other is quiescent now. Each can repair the other. That was necessary once, three hundred years ago."

It was a flawless system. Comarre was safe from accident for millions of years. The builders of the city had set these eternal guardians to watch over them while they went in search of their dreams. No wonder that long after its makers had died Comarre was still fulfilling its strange purpose.

What a tragedy it was, thought Pey-

ton, that all this genius had been wasted! The secrets of the Engineer could revolutionize robot technology, could bring a new world into being. Now that the first conscious machines had been built, was there any limit to what lay beyond?

"No," said the Engineer unexpectedly. "Thordarsen told me that the robots would one day be more intelligent than man."

It was strange to hear the machine uttering the name of its maker. So that was Thordarsen's dream! Its full immensity had not yet dawned upon him. Though he had been half prepared for it, he could not easily accept the conclusions. After all, between the robot and the human mind lay an enormous gulf.

"No greater than that between man and the animals from which he rose, so Thordarsen once said. You, Man, are no more than a very complex robot. I am simpler, but more efficient. That is all."

Very carefully Peyton considered the statement. If indeed man was no more than a complex robot—a machine composed of living cells rather than wires and vacuum tubes—still more complex robots would one day be made. When that day came the supremacy of man would be ended. The machines might still be his servants, but they would be more intelligent than his masters.

It was very quiet in the great room lined with the racks of analyzers and relay panels. The Engineer was watching Peyton intently, its arms and tentacles still busy on their repair work.

DEYTON was beginning to feel desperate. Characteristically the opposition had made him more determined than ever. Somehow he *must* discover how the Engineer was built. Otherwise he would waste all his life trying to match the genius of Thordarsen.

It was useless. The robot was one jump ahead of him.

"You cannot make plans against me. If you do try to escape through that door, I shall throw this power unit at your legs. My probable error at this range is less than half a centimeter."

One could not hide from the thoughtanalyzers. The plan had been scarcely half-formed in Peyton's mind, but the Engineer knew it already.

Both Peyton and the Engineer were equally surprised by the interruption. There was a sudden flash of tawny gold and half a ton of bone and sinew, traveling at forty miles an hour, struck the robot amidships.

For a moment there was a great flailing of tentacles. Then, with a sound like the crack of doom, the Engineer lay sprawling on the floor. Leo, licking his paws thoughtfully, crouched over the fallen machine.

He could not quite understand this shining animal which had been threatening his master. Its skin was the toughest he had ever encountered since a very ill-advised disagreement with a rhinoceros many years ago.

"Good boy!" shouted Peyton gleefulby. "Keep him down!"

The Engineer had broken some of his larger limbs and the tentacles were too weak to do any damage. Once again Peyton found his tool-kit invaluable. When he had finished, the Engineer was certainly incapable of movement though Peyton had not touched any of the neural circuits. That, somehow, would have been rather too much like murder.

"You can get off now, Leo," he said when the task was finished. The lion obeyed with poor grace.

"I'm sorry to have to do this," said Peyton hypocritically, "but I hope you appreciate my point of view. Can you still speak?"

"Yes," replied the Engineer. "What do you intend to do now?"

Peyton smiled. Five minutes ago, he had been the one to ask that question. How long, he wondered, would it take for the Engineer's twin to arrive on the scene? Though Leo could deal with the situation if it came to a trial of strength, the other robot would have been warned and might be able to make things very unpleasant for them. It could, for instance, switch off the lights.

The glow tubes died and darkness fell. Leo gave a mournful howl of dismay. Feeling rather annoyed, Peyton drew his torch and twitched it on.

"It doesn't really make any difference to me," he said. "You might just as well switch them on again."

The Engineer said nothing. But the glow tubes lit once more.

How on earth, thought Peyton, could you fight an enemy who could

read your thoughts and could even watch you preparing your defenses? He would have to avoid thinking of any idea that might react to his disadvantage such as—he stopped himself just in time. For a moment he blocked his thoughts by trying to integrate Armstrong's omega-function in his head. Then he got his mind under control again.

"Look," he said at last, "I'll make a bargain with you."

"What is that? I do not know the word."

"Never mind," Peyton replied hurriedly, "My suggestion is this. Let me waken the men who are trapped here, give me your fundamental circuits and I'll leave without touching anything. You will have obeyed your builders' orders and no harm will have been done."

A HUMAN being might have argued over the matter, but not so the robot. Its mind took perhaps a thousandth of a second to weigh up any situation, however involved.

"Very well. I see from your mind that you intend to keep the agreement. But what does the word 'blackmail' mean?"

Peyton flushed.

"It doesn't matter," he said hastily. "It's only a common human expression. I suppose your — er — colleague will be here in a moment?"

"He has been waiting outside for some time," replied the robot. "Will you keep your dog under control?"

Peyton laughed. It was too, much to expect a robot to know zoology.

"Lion, then," said the robot, correcting itself as it read his mind.

Peyton addressed a few words to Leo and, to make doubly sure, wound his fingers in the lion's mane. Before he could frame the invitation with his lips the second robot rolled silently into the room. Leo growled and tried to tug away, but Peyton calmed him.

In every respect Engineer II was a duplicate of its colleague. Even as it came toward him it dipped into his mind in the disconcerting manner that Peyton could never get used to.

"I see that you wish to go to the dreamers," it said. "Follow me."

Peyton was tired of being ordered around. Why didn't the robots ever say "please?"

"Follow me, please," repeated the ma-

chine, with the slightest possible accentuation.

Peyton followed.

Once again he found himself in the corridor with the hundreds of poppyembossed doors-or a similar corridor. The robot led him to a door indistinguishable from the rest and came to a halt in front of it.

Silently the metal plate slid open and, not without qualms, Peyton stepped into the darkened room.

On the couch lay a very old man. At first sight he seemed to be dead. Certainly his breathing had slowed to the point of cessation. Peyton stared at him for a moment. Then he spoke to the robot.

"Waken him."

Somewhere in the depths of the city. the stream of impulses through а thought-projector ceased. A universe that had never existed crumbled to ruins.

From the couch two burning eyes glowed up at Peyton, lit with the light of madness. They stared through him and beyond and from the thin lips poured a stream of jumbled words that Peyton could barely distinguish. Over and over again the old man cried out names that must be those of people or places in the dream world from which he had been wrenched. It was at once

horrible and pathetic. "Stop it!" cried Peyton. "You are back in reality now."

The glowing eyes seemed to see him for the first time. With an immense effort the old man raised himself. "Who are you?" he quavered. Then,

before Peyton could answer, he continued in a broken voice. "This must be a nightmare-go away, go away. Let me wake up!"

Overcoming his repulsion, Peyton put his hand on the emaciated shoulder.

"Don't worry—you are awake. Don't you remember?"

The other did not seem to hear him.

"Yes, it must be a nightmare — it must be! But why don't I wake up-Nyran, Cressidor, where are you? I cannot find you!"

Peyton stood it as long as he could, but nothing he did could attract the old man's attention again. Sick at heart, he turned to the robot.

"Send him back."

CHAPTER VII

The Third Renaissance

SLOWLY the raving ceased. The frail body fell back on the couch and once again the wrinkled face became a passionless mask.

"Are they all as mad as this?" asked Peyton at length.

"But he is not mad."

"What do you mean? Of course he is!"

"He has been entranced for many years. Suppose you went to a far land and changed your mode of living completely, forgetting all you had ever known of your previous life. Eventually you would have no more knowledge of it than you have of your first childhood.

"If by some miracle you were then suddenly thrown back in time, you would behave in just that way. Remember, his dream-life is completely real to him and he has lived it now for many years."

That was true enough. But how could the Engineer possess such insight? Peyton turned to it in amazement, but as usual had no need to frame the question.

"Thordarsen told me this the other day while we were still building Comarre. Even then some of the dreamers had been entranced for twenty years." "The other day?"

"About five hundred years ago, you would call it."

The words brought a strange picture into Peyton's mind. He could visualize the lonely genius, working here among his robots, perhaps with no human companions left. All the others would long since have gone in search of their dreams.

But Thordarsen might have stayed on, the desire for creation still linking him to the world, until he had finished his work. The two engineers, his greatest achievement and perhaps the most wonderful feat of electronics of which the world had record, were his ultimate masterpieces.

The waste and the pity of it overwhelmed Peyton. More than ever he was determined that, because the embittered genius had thrown away his life, his work should not perish but be given to the world.

"Will all the dreamers be like this?" he asked the robot.

"All except the newest. They may still remember their first lives."

"Take me to one of them."

The room they entered next was identical with the other, but the body lying on the couch was that of a man of no more than forty.

"How long has he been here?" asked Peyton.

"Wake him, please."

The eyes opened slowly. There was no madness in them, only wonder and sadness. Then came the dawn of recollection, and the man half rose to a sitting position. His first words were completely rational.

"Why have you called me back? Who are you?"

"I have just escaped from the thought-projectors," explained Peyton. "I want to release all who can be saved."

The other laughed bitterly.

"Saved! From what? It took me forty years to escape from the world, and now you would drag me back to it! Go away and leave me in peace!"

Peyton would not retreat so easily.

"Do you think that this make-believe world of yours is better than reality? Have you no desire to escape from it at all?"

Again the other laughed, with no trace of humor.

"Comarre is reality to me. The world never gave me anything, so why should I wish to return to it? I have found peace here and that is all I need."

Quite suddenly Peyton turned on his heels and left. Behind him he heard the dreamer fall back with a contented sigh. He knew when he had been beaten. And he knew now why he had wished to revive the others.

It had not been through any sense of duty, but for his own selfish purposes. He had wished to convince himself that Comarre was evil. Now he knew that it was not. There would always be, even in Utopia, some for whom the world had nothing to offer but sorrow and disillusion. They would be fewer and fewer with the passage of time. In the dark ages of a thousand years ago most of mankind had been misfits of some sort. However splendid the world's future, there would still be some tragedies and why should Comarre be condemned because it offered them their only hope of peace?

He would try no more experiments. His own robust faith and confidence had been severely shaken. And the dreamers of Comarre would not thank him for his pains.

He turned to the Engineer again. The desire to leave the city had grown very intense in the last few minutes, but the most important work was still to be done. As usual, the robot forestalled him.

"I have what you want," he said. "Follow me, please."

TT did not lead, as Peyton had half expected, back to the machine levels with their maze of control equipment. When their journey had finished, they were higher than Peyton had ever been before, in a little circular room he suspected might be at the very apex of the city. There were no windows, unless the curious plates set in the wall could be made transparent by some secret means.

It was a study and Peyton gazed at it with awe as he realized who had worked here many centuries ago. The walls were lined with ancient textbooks that had not been disturbed for five hundred years. It seemed as if Thordarsen had left only a few hours before. There was even a half-finished circuit pinned on a drawing board against the wall.

"It almost looks as if he were interrupted," said Peyton, half to himself.

"He was," answered the robot.

"What do you mean? Didn't he join the others when he had finished you?"

It was difficult to believe that there was absolutely no emotion behind the reply, but the words were spoken in the same passionless tones as everything else the robot had ever said.

"When he had finished us Thordarsen was still not satisfied. He was not like the others. He often told us that he had found happiness in the building of Comarre. Again and again he said that he would join the rest, but always there was some last improvement he wanted to make. So it went on until one day we found him lying here in this room. He had stopped. The word I see in your mind is death, but I have no thought for that."

Peyton was silent. It seemed to him that the great scientist's ending had not been an ignoble one. The bitterness that had darkened his life had lifted from it at the last. He had known the joy of creation. Of all the artists who had come to Comarre, he was the greatest. And now his work would not be wasted.

The robot glided silently toward a steel desk and one of its tentacles disappeared into a drawer. When it emerged it was holding a thick volume, bound between sheets of metal. Wordlessly it handed the book to Peyton who opened it with trembling hands. It contained many thousands of pages of thin, very tough material.

Written on the flyleaf in a bold, firm hand were the words:

Rolf Thordarsen Notes on Subelectronics Begun: Day 2, Month 13, 2598.

Underneath was more writing, very difficult to decipher and apparently scrawled in frantic haste. As he read, understanding came at last to Peyton with the suddenness of an equatorial dawn.

To the reader of these words:

I, Rolf Thordarsen, meeting no understanding in my own age, send this message into the future. If Comarre still exists, you will have seen my handiwork and must have escaped the snares I set for lesser minds. Therefore you are fitted to take this knowledge to the world. Give it to the scientists and tell them to use it wisely.

I have broken down the barrier between Man and Machine. Now they must share the future together."

Peyton read the message several times, his heart warming toward his long-dead ancestor. It was a brilliant scheme. In this way, as perhaps in no other, Thordarsen had been able to send his message safely down the ages, knowing that only the right hands would receive it. Peyton wondered if this had been Thordarsen's plan when he first joined the Decadents or whether he had evolved it later in his life. He would never know.

He looked again at the Engineer and thought of the world that would come when all robots had reached consciousness. Beyond that he looked still farther into the mists of the future:

The robots' need had none of the limitations of man, none of his pitiful weaknesses. It would never let passions cloud its logic, would never be swayed by selfinterest and ambition. It would be complementary to man.

Peyton remembered Thordarsen's words, "Now they must share the future together."

DEYTON stopped his daydream. All this, if it ever came, might be centuries in the future. He turned to the Engineer.

"I am ready to leave. But one day I shall return."

The robot backed slowly away from him.

"Stand perfectly still," it ordered.

Peyton looked at the Engineer in puzzlement. Then he glanced hurriedly at the ceiling. There again was that enigmatic bulge under which he had found himself when he first entered the city such an age ago.

"Hey!" he cried, "I don't want-"

It was too late. Behind him was the dark screen, blacker than night itself. Before him lay the clearing, with the forest at its edge. It was evening, and the sun was nearly touching the trees.

1

There was a sudden whimpering noise behind him: a very frightened lion was looking out at the forest with unbelieving eyes. Leo had not enjoyed his transfer.

"It's all over now, old chap," said Peyton reassuringly. "You can't blame them for trying to get rid of us as quickly as they could. After all, we did smash up the place a bit between us. Come along—I don't want to spend the night in the forest."

On the other side of the world, a group of scientists was dispersing with what patience it could, not yet knowing the full extent of its triumph. In <u>Cen-</u> tral Tower, Richard Peyton II had just discovered that his son had not spent the last two days with his cousins in South America, and was composing a speech of welcome for the prodigal's return.

Far above the Earth the World Council was laying down plans soon to be swept away by the coming of the Third

Renaissance. But the cause of all the trouble knew nothing of this and, for the moment, cared less.

Slowly Peyton descended the marble steps from that mysterious doorway whose secret was still hidden from him. Leo followed a little way behind, looking over his shoulder and growling quietly now and then.

Together, they started back along the metal road, through the avenue of stunted trees. Peyton was glad that the sun had not yet set. At night this road would be glowing with its internal radioactivity and the twisted trees would not look pleasant silhouetted against the stars.

At the bend in the road he paused for awhile and looked back at the curving metal wall with its single black opening whose appearance was so deceptive. For a moment all his feeling of triumph seemed to fade away. He knew that as long as he lived he could never forget what lay behind those towering wallsthe cloying promise of peace and utter contentment.

Deep in his soul he felt the fear that any satisfaction, any achievement the outer world could give might seem vain beside the effortless bliss offered by

Comarre. For an instant he had a nightmare vision of himself, broken and old, returning along this road to seek oblivion. He shrugged his shoulders and put the thought aside.

Out on the open plain his spirits rose swiftly. He opened the precious book once more and ruffled through its pages of microprint, intoxicated by the promise that it held. Ages ago the slow caravans had come this way, bearing gold and ivory for Solomon the Wise. But all their treasure was as nothing beside this single volume and all the wisdom of Solomon could not have pictured the new civilization of which it was to be the seed.

Presently Peyton began to sing, something he did very seldom and extremely badly. The song was a very old one, so old that it came from an age before atomic power, before interplanetary travel, even before the coming of flight. It had to do with a certain hairdresser in Seville, wherever Seville might be.

Leo stood it in silence for as long as he could. Then he too joined in. The duct was not a success.

When night descended, the forest and all its secrets had fallen below the horizon. With his face to the stars and Leo watching by his side, Peyton slept well.

This time he did not dream.



Outside the world of science, Jeff Benson was a man of no importance until he stumbled on an error in the law of conservation of energy- in FIRE IN THE HEAVENS, an astonishing complete novel by GEORGE O. SMITH which is only one of the many unusual fiction headliners in . the July issue of our componion magazine-





NY diagrammatic presentation of the time concept must perforce be a simplification. Time is neither pulsations nor is it a winding river nor yet coiled upon itself like a spring. To best understand it and to free it of metaphysical confusions we must revert a full five thousand years to the basic Einstein conjectures, many of them

(*Greek word meaning capable of throwing a shadow in either direction)

since disproven in the mighty laboratory of stellar space. Draw two lines intersecting. An X. Where they cross is the "now".

The upper half is the past, the lower half the future.

Both the understandable past and the forseeable future are severely limited by the sides which form a crude, angular hour-glass. The sidelines represent the speed of light, the infinite Fitzgerald