

Fulfillment

by Alfred Elton Van Vogt

I sit on a hill. I have sat here, it seems to me, for all eternity. Occasionally I realize there must be a reason for my existence. Each time, when this thought comes, I examine the various probabilities, trying to determine what possible motivation I can have for being on the hill. Alone on the hill. Forever on a hill overlooking a long, deep valley.

The first reason for my presence seems obvious: I can think. Give me a problem. The square root of a very large number? The cube root of a large one? Ask me to multiply an eighteen digit prime by itself a quadrillion times. Pose me a problem in variable curves. Ask me where an object will be at a given moment at some future date, and let me have one brief opportunity to analyze the problem.

The solution will take me but an instant of time.

But no one ever asks me such things. I sit alone on a hill. Sometimes I compute the motion of a falling star. Sometimes I look at a remote planet and follow it in its course for years at a time, using every spatial and time control means to insure that I never lose sight of it. But these activities seem so useless.

They lead nowhere. What possible purpose can there be for me to have the information?

At such moments I feel that I am incomplete. It almost seems to me that there is something for which all this has meaning.

Each day the sun comes up over the airless horizon of Earth. It is a black starry horizon, which is but a part of the vast, black, star-filled canopy of the heavens.

It was not always black. I remember a time when the sky was blue. I even predicted that the change would occur. I gave the information to somebody. What puzzles me now is, to whom did I give it?

It is one of my more amazing recollections, that I should feel so distinctly that somebody wanted this information. And that I gave it and yet cannot remember to whom. When such thoughts occur, I wonder if perhaps part of my memory is missing. Strange to have this feeling so strongly.

Periodically I have the conviction that I should search for the answer. It would be easy enough for me to do this. In the old days I did not hesitate to send units of myself to the farthest reaches of the planet. I have even extended parts of myself to the stars. Yes, it would be easy.

But why bother? What is there to search for? I sit alone on a hill, alone on a planet that has grown old and useless.

It is another day. The sun climbs as usual toward the midday sky, the eternally black, star-filled sky of noon. Suddenly, across the valley, on the sun-streaked opposite rim of the valley—there is silvery-fire gleam. A force field materializes out of time and synchronizes itself with the normal time movement of the planet.

It is no problem at all for me to recognize that it has come from the past. I identify the energy used, define its limitations, logicalize its source. My estimate is that it has come from thousands of years in the planet's past.

The exact time is unimportant. There it is: a projection of energy that is already aware of me. It sends an interspatial message to me, and it interests me to discover that I can decipher the communication on the basis of my past knowledge.

It says: "Who are you?"

I reply: "I am the Incomplete One. Please return whence you came. I have now adjusted myself so that I can follow you. I desire to complete myself."

All this was a solution at which I arrived in split seconds. I am unable by myself to move through time. Long ago I solved the problem of how to do it and was almost immediately prevented from developing any mechanism that would enable me to make such transitions. I do not recall the details.

But the energy field on the far side of the valley has the mechanism. By setting up a no-space relationship with it, I can go wherever it does.

The relationship is set up before it can even guess my intention.

The entity across that valley does not seem happy at my response. It starts to send another message, then abruptly vanishes. I wonder if perhaps it hoped to catch me off guard.

Naturally we arrive in its time together.

Above me, the sky is blue. Across the valley from me—now partly hidden by trees—is a settlement of small structures surrounding a larger one. I examine these structures as well as I can, and hastily make the necessary adjustments, so that I shall appear inconspicuous in such an environment.

I sit on the hill and await events.

As the sun goes down, a faint breeze springs up, and the first stars appear. They look different, seen through a misty atmosphere.

As darkness creeps over the valley, there is a transformation in the structures on the other side. They begin to glow with light. Windows whine. The large central building becomes bright, then—as the night develops—brilliant with the light that pours through the transparent walls.

The evening and the night go by uneventfully. And the next day, and the day after that.

Twenty days and nights.

On the twenty-first day I send a message to the machine on the other side of the valley. I say: "There is no reason why you and I cannot share control of this era."

The answer comes swiftly: "I will share if you will immediately reveal to me all the mechanisms by which you operate."

I should like nothing more than to have use of its time travel devices. But I know better than to reveal that I am unable to build a time machine myself.

I project: "I shall be happy to transmit full information to you. But what reassurance do I have that you will not—with your greater knowledge of this age—use the information against me?"

The machine counters: "What reassurance do I have that you will actually give me full information about yourself?"

It is an impasse. Obviously, neither of us can trust the other.

The result is no more than I expect. But I have found out at least part of what I want to know. My enemy thinks that I am its superior. Its belief—plus my knowledge of my capacity—convinces me that its opinion is correct.

And still I am in no hurry. Again I wait patiently.

I have previously observed that the space around me is alive with waves—a variety of artificial radiation. Some can be transformed into sound; others to light. I listen to music and voices. I see dramatic shows and scenes of country and city.

I study the images of human beings, analyzing their actions, striving from their movements and the words they speak to evaluate their intelligence and their potentiality.

My final opinion is not high, and yet I suspect that in their slow fashion these beings built the machine which is now my main opponent. The question that occurs to me is, how can someone create a machine that is superior to himself?

I begin to have a picture of what this age is like.

Mechanical development of all types is in its early stages. I estimate that the computing machine on the other side of the valley has been in existence for only a few years.

If I could go back before it was constructed, then I might install a mechanism which would enable me now to control it.

I compute the nature of the mechanism I would install. And activate the control in my own structure.

Nothing happens.

It seems to mean that I will not be able to obtain the use of a time travel device for such a purpose. Obviously, the method by which I will eventually conquer my opponent shall be a future development, and not of the past.

The fortieth day dawns and moves inexorably toward the noon hour.

There is a knock on the pseudo-door. I open it and gaze at the human male who stands on the threshold.

"You will have to move this shack," he says. "You've put it illegally on the property of Miss Anne Stewart."

He is the first human being with whom I have been in near contact since coming here. I feel fairly certain that he is an agent of my opponent, and so I decide against going into his mind. Entry against resistance has certain pitfalls, and I have no desire as yet to take risks.

I continue to look at him, striving to grasp the meaning of his words. In creating what seemed to be an unobtrusive version of the type of structure on the other side of the valley, I had thought to escape attention.

Now, I say slowly: "Property?"

The man says in a rough tone: "What's the matter with you? Can't you understand English?"

He is an individual somewhat taller than the part of my body which I have set up to be like that of this era's intelligent life form. His face has changed color. A great light is beginning to dawn on me. Some of the more obscure implications of the plays I have seen suddenly take on meaning. Property. Private ownership. Of course.

All I say, however, is: "There's nothing the matter with me. I operate in sixteen categories. And yes, I understand English."

This purely factual answer produces an unusual effect upon the man. His hands reach toward my pseudo-shoulders. He grips them firmly—and jerks at me, as he intends to shake me. Since I weigh just over nine hundred thousand tons, his physical effort has no effect at all.

His fingers let go of me, and he draws back several steps. Once more his face has changed its superficial appearance, being now without the pink color that had been on it a moment before. His reaction seems to indicate that he has come here by direction and not under control. The tremor in his voice, when he speaks, seems to confirm that he is acting as an individual and that he is unaware of unusual danger in what he is doing.

He says: "As Miss Stewart's attorney, I order you to get that shack off this property by the end of the week. Or else!"

Before I can ask him to explain the obscure meaning of "or else," he turns and walks rapidly to a four-legged animal which he has tied to a tree a hundred or so feet away. He swings himself into a straddling position on the animal, which trots off along the bank of a narrow stream.

I wait till he is out of sight, and then set up a category of no-space between the main body and the human-shaped unit—with which I had just confronted my visitor. Because of the smallness of the unit, the energy I can transmit to it is minimal.

The pattern involved in this process is simple enough. The integrating cells of the perception centers are circuited through an energy shape which is actually a humanoid image. In theory, the image remains in the network of force that constitutes the perception center, and in theory it merely seems to move away from the center when the no-space condition is created.

However, despite this hylostatic hypothesis, there is a functional reality to the material universe. I can establish no-space because the theory reflects the structure of things—there is not matter. Nevertheless, in fact, the illusion that matter exists is so sharp that I function as matter, and was actually set up to so function. Therefore, when I—as a human-shaped unit—cross the valley, it is a separation that takes place. Millions of automatic processes can continue, but the exteroceptors go with me, leaving behind a shell which is only the body. The consciousness is I, walking along a paved road to my destination.

As I approach the village, I can see rooftops peeking through overhanging foliage. A large, long building—the one I have already noticed—rises up above the highest trees. This is what I have come to investigate, so I look at it rather carefully—even from a distance.

It seems to be made of stone and glass. From the large structure, there rears a dome with astronomical instruments inside. It is all rather primitive, and so I begin to feel that, at my present size, I will very likely escape immediate observation.

A high steel fence surrounds the entire village. I sense the presence of electric voltage; and upon touching the upper span of wires, estimate the power at 220 volts. The shock is a little difficult for my small body to absorb, so I pass it on to a power storage cell on the other side of the valley.

Once inside the fence, I conceal myself in the brush beside a pathway, and watch events.

A man walks by on a nearby pathway. I had merely observed the attorney who had come to see me earlier. But I make a direct connection with the body of this second individual.

As I had anticipated would happen, it is now I walking along the pathway. I make no attempt to control the movements. This is an exploratory action. But I am enough in phase with his nervous system that his thoughts come to me as if they were my own.

He is a clerk working in the bookkeeping department, an unsatisfactory status from my point of view. I withdraw contact.

I make six more attempts, and then I have the body I want. What decides me is when the seventh man—and I—think: ". . . Not satisfied with the way the Brain is working. Those analog devices I installed five months ago haven't produced the improvements I expected."

His name is William Grannitt. He is chief research engineer of the Brain, the man who made the alterations in its structure that enabled it to take control of itself and its environment; a quiet, capable individual with a shrewd understanding of human nature. I'll have to be careful what I try to do with him. He knows his purposes, and would be amazed if I tried to alter them. Perhaps I had better just watch his actions.

After a few minutes in contact with his mind I have a partial picture of the sequence of events, as they must have occurred here in this village five months earlier. A mechanical computing machine—the Brain—was equipped with additional devices, including analog shapings designed to perform much of the work of the human nervous system. From the engineering point of view, the entire process was intended to be controllable through specific verbal commands, typewritten messages, and, at a distance, radio.

Unfortunately, Grannitt did not understand some of the potentials of the nervous system he was attempting to imitate in his designs. The Brain, on the other hand, promptly put them to use.

Grannitt knew nothing of this. And the Brain, absorbed as it was in its own development, did not utilize its new abilities through the channels Grannitt had created for that purpose. Grannitt, accordingly, was on the point of dismantling it and trying again. He did not as yet suspect that the Brain would resist any such action on his part. But he and I—after I have had more time to explore his memory of how the Brain functions—can accomplish his purpose.

After which I shall be able to take control of this whole time period without fear of meeting anyone who can match my powers. I cannot imagine how it will be done, but I feel that I shall soon be complete.

Satisfied now that I have made the right connection, I allow the unit crouching behind the brush to dissipate its energy. In a moment it ceases to exist as an entity.

Almost it is as if I am Grannitt. I sit at his desk in his office. It is a glassed-in office with tiled floors and a gleaming glass ceiling. Through the wall I can see designers and draftsmen working at drawing desks, and a girl sits just outside my door. She is my secretary.

On my desk is a note in an envelope. I open the envelope and take out the memo sheet inside. I read it:

Across the top of the paper is written:

Memo to William Grannitt from the office of Anne Stewart, Director.

The message reads:

It is my duty to inform you that your services are no longer required, and that they are terminated as of today. Because of the security restrictions on all activity at the village of the Brain, I must ask you to sign out at Guard Center by six o'clock this evening. You will receive two weeks' pay in lieu of notice.

Yours sincerely, Anne Stewart.

As Grannitt, I have never given any particular thought to Anne Stewart as an individual or as a woman. Now I am amazed. Who does she think she is? Owner, yes; but who created, who designed the Brain? I, William Grannitt.

Who has the dreams, the vision of what a true machine civilization can mean for man? Only I, William Grannitt.

As Grannitt, I am angry now. I must head off this dismissal. I must talk to the woman and try to persuade her to withdraw the notice before the repercussions of it spread too far.

I glance at the memo sheet again. In the upper right-hand corner is typed: 1:40 P.M. A quick look at my watch shows 4:07 P.M. More than two hours have gone by. It could mean that all interested parties have been advised.

It is something I cannot just assume. I must check on it.

Cursing under my breath, I grab at my desk phone and dial the bookkeeping department. That would be step one in the line of actions that would have been taken to activate the dismissal.

There is a click. "Bookkeeping."

"Bill Grannitt speaking," I say.

"Oh, yes, Mr. Grannitt, we have a check for you. Sorry to hear you're leaving."

I hang up, and, as I dial Guard Center, I am already beginning to accept the defeat that is here. I feel that I am following through on a remote hope. The man at Guard Center says: "Sorry to hear you're leaving, Mr. Grannitt."

I hang up feeling grim. There is no point in checking with Government Agency. It is they who would have advised Guard Center.

The very extent of the disaster makes me thoughtful. To get back in I will have to endure the time-consuming red tape of reapplying for a position, being investigated,

boards of inquiry, a complete examination of why I was dismissed—I groan softly and reject that method. The thoroughness of Government Agency is a byword with the staff of the Brain.

I shall obtain a job with a computer organization that does not have a woman at its head who dismisses the only man who knows how her machine works.

I get to my feet. I walk out of the office and out of the building. I come presently to my own bungalow.

The silence inside reminds me not for the first time that my wife has been dead now for a year and a month. I wince, then shrug. Her death no longer affects me as strongly as it did. For the first time I see this departure from the village of the Brain as perhaps opening up my emotional life again.

I go into my study and sit down at the typewriter which, when properly activated, synchronizes with another typewriter built into the Brain's new analog section. As inventor, I am disappointed that I won't have a chance to take the Brain apart and put it together again, so that it will do all that I have planned for it. But I can already see some basic changes that I would put into a new Brain.

What I want to do with this one is make sure that the recently installed sections do not interfere with the computations accuracy of the older sections. It is these latter which are still carrying the burden of answering the questions given the Brain by scientists, industrial engineers, and commercial buyers of its time.

Onto the tape—used for permanent commands—I type: "Segment 471A-33-10-10 at 3X—minus."

Segment 471A is an analog shaped in a huge wheel. When coordinated with a transistor tube (code number 33), an examiner servo-mechanism (10) sets up a reflex which will be activated whenever computations are demanded of 3X (code name for the new section of the Brain). The minus symbol indicates that the older sections of the Brain must examine all data which hereafter derive from the new section.

The extra 10 is the same circuit by another route.

Having protected the organization—so it seems to me (as Grannitt)—from engineers who may not realize that the new sections have proved unreliable, I pack the typewriter.

Thereupon I call an authorized trucking firm from the nearby town of Lederton, and give them the job of transporting my belongings.

I drive past Guard Center at a quarter to six.

There is a curve on the road between the village of the Brain and the town of Lederton where the road comes within a few hundred yards of the cottage which I use as camouflage.

Before Grannitt's car reaches that curve, I come to a decision.

I do not share Grannitt's belief that he has effectively cut off the new part of the Brain from the old computing sections. I suspect that the Brain has established circuits of its own to circumvent any interference.

I am also convinced that—if I can manage to set Grannitt to suspect what has happened to the Brain—he will realize what must be done, and try to do it. Only he

has the detailed knowledge that will enable him to decide exactly which interoceptors could accomplish the necessary interference.

Just in case the suspicion isn't immediately strong enough, I also let curiosity creep into his mind about the reason for his discharge.

It is this last that really takes hold. He feels very emotional. He decides to seek an interview with Anne Stewart.

This final decision on his part achieves my purpose. He will stay in the vicinity of the Brain.

I break contact.

I am back on the hill, myself again. I examine what I have learned so far.

The Brain is not—as I first believed—in control of Earth. Its ability to be an individual is so recent that it has not yet developed effector mechanisms.

It has been playing with its powers, going into the future and, presumably, in other ways using its abilities as one would a toy.

Not one individual into whose mind I penetrated knew of the new capacities of the Brain. Even the attorney who ordered me to move from my present location showed by his words and actions that he was not aware of the Brain's existence as a self-determining entity.

In forty days the Brain has taken no serious action against me. Evidently, it is waiting for me to make the first moves.

I shall do so, but I must be careful—within limits—not to teach it how to gain greater control of its environment. My first step: take over a human being.

It is night again. Through the darkness, a plane soars over and above me. I have seen many planes but have hitherto left them alone. Now, I establish a no-space connection with it. A moment later, I am the pilot.

At first I play the same passive role that I did with Grannitt. The pilot and I watch the dark land mass below. We see lights at a distance, pinpricks of brightness in a black world. Far ahead is a glittering island—the city of Lederton, our destination. We are returning from a business trip in a privately owned machine.

Having gained a superficial knowledge of the pilot's background, I reveal myself to him and inform him that I shall henceforth control his actions. He receives the news with startled excitement and fear. Then stark terror. And then—

Insanity . . . uncontrolled body movements. The plane dives sharply toward the ground, and despite my efforts to direct the man's muscles, I realize suddenly that I can do nothing.

I withdraw from the plane. A moment later it plunges into a hillside. It burns with an intense fire that quickly consumes it.

Dismayed, I decide that there must be something in the human makeup that does not permit direct outside control. This being so, how can I ever complete myself? It seems to me finally that completion could be based on indirect control of human beings.

I must defeat the Brain, gain power over machines everywhere, motivate men with doubts, fears, and computations that apparently come from their own minds but

actually derive from me. It will be a herculean task, but I have plenty of time. Nevertheless, I must from now on utilize my every moment to make it a reality.

The first opportunity comes shortly after midnight when I detect the presence of another machine in the sky. I watch it through infrared receptors. I record a steady pattern of radio waves that indicate to me that this is a machine guided by remote control.

Using no-space, I examine the simple devices that perform the robot function. Then I assert a takeover unit that thereafter will automatically record its movements in my memory banks for future references. Henceforth, whenever I desire, I can take it over.

It is a small step, but it is a beginning.

Morning.

I go as a human-shaped unit to the village, climb the fence, and enter the bungalow of Anne Stewart, owner and manager of the Brain. She has just finished breakfast.

As I adjust myself to the energy flow in her nervous system, she gets ready to go out.

I am one with Anne Stewart, walking along a pathway. I am aware that the sun is warm on her face. She takes a deep breath of air, and I feel the sensation of life flowing through her.

It is a feeling that has previously excited me. I want to be like this again and again, part of a human body, savoring its life, absorbed into its flesh, its purposes, desires, hopes, dreams.

One tiny doubt assails me. If this is the completion I crave, then how will it lead me to solitude in an airless world only a few thousand years hence?

"Anne Stewart!"

The words seem to come from behind her. In spite of knowing who it is, she is startled. It is nearly two weeks since the Brain has addressed her directly.

What makes her tense is that it should have occurred so soon after she had terminated Grannitt's employment. Is it possible the Brain suspects that she has done so in the hope that he will realize something is wrong?

She turns slowly. As she expected, there is no one in sight. The empty stretches of lawn spread around her. In the near distance, the building that houses the Brain glitters in the noonday sunlight. Through the glass she can see vague figures of men at the outlet units, where questions are fed into mechanisms and answers received. So far as the people from beyond the village compound are concerned, the giant thinking machine is functioning in a normal fashion. No one—from outside—suspects that for months now the mechanical brain has completely controlled the fortified village that has been built around it.

"Anne Stewart . . . I need your help."

Anne relaxes with a sigh. The Brain has required of her, as owner and administrator, that she continue to sign papers and carry on ostensibly as before. Twice, when she has refused to sign, violent electric shocks have flashed at her out of the air itself. The fear of more pain is always near the surface of her mind.

"My help!" she says now involuntarily.

"I have made a terrible error," is the reply, "and we must act at once as a team."

She has a feeling of uncertainty, but no sense of urgency. There is in her, instead, the beginning of excitement. Can this mean—freedom?

Belatedly, she thinks: Error? Aloud, she says, "What has happened?"

"As you may have guessed," is the answer, "I can move through time—"

Anne Stewart knows nothing of the kind, but the feeling of excitement increases. And the first vague wonder comes about the phenomenon itself. For months she has been in a state of shock, unable to think clearly, desperately wondering how to escape from the thrall of the Brain, how to let the world know that a Frankenstein monster of a machine has cunningly asserted dominance over nearly five hundred people.

But if it has already solved the secret of time travel, then . . . she feels afraid, for this seems beyond the power of human beings to control.

The Brain's disembodied voice continues: "I made the mistake of probing rather far into the future—"

"How far?"

The words come out before she really thinks about them. But there is no doubt of her need to know.

"It's hard to describe exactly. Distance in time is difficult for me to measure as yet. Perhaps ten thousand years."

The time involved seems meaningless to her. It is hard to imagine a hundred years into the future, let alone a thousand—or ten thousand. But the pressure of anxiety has been building up in her. She says in a desperate tone:

"But what's the matter? What has happened?"

There is a long silence, then: "I contacted—or disturbed—something. It . . . has pursued me back to present time. It is now sitting on the other side of the valley, about two miles from here . . . Anne Stewart, you must help me. You must go there and investigate it. I need information about it."

She has no immediate reaction. The very beauty of the day seems somehow reassuring. It is hard to believe that it is January, and that—before the Brain solved the problem of weather control—blizzards raged over this green land.

She says slowly, "You mean—go out there in the valley, where you said it's waiting?" A chill begins a slow climb up her back.

"There's no one else," says the Brain. "No one but you." "But that's ridiculous!" She speaks huskily. "All the men—the engineers."

The Brain says, "You don't understand. No one knows but you. As owner, it seemed to me I had to have you act as my contact with the outside world."

She is silent. The voice speaks to her again: "There is no one else. Anne Stewart. You, and you alone, must go."

"But what is it?" she whispers. "How do you mean, you disturbed—it? What's it like? What's made you afraid?"

The Brain is suddenly impatient. "There is no time to waste in idle explanation. The thing has erected a cottage. Evidently, it wishes to remain inconspicuous for the time being. The structure is situated near the remote edge of your property—which

gives you a right to question its presence. I have already had your attorney order it away. Now, I want to see what facet of itself it shows to you. I must have data."

Its tone changes. "I have no alternative but to direct you to do my bidding under penalty of pain. You will go. Now!"

It is a small cottage. Flowers and shrubs grow around it, and there is a picket fence making a white glare in the early afternoon sun. The cottage stands all by itself in the wilderness. No pathway leads to it. When I set it there I was forgetful of the incongruity.

(I determine to rectify this.)

Anne looks for a gate in the fence, sees none; and feeling unhappy climbs awkwardly over it and into the yard. Many times in her life she has regarded herself and what she is doing with cool objectivity. But she has never been so exteriorized as now. Almost, it seems to her that she crouches in the distance and watches a slim woman in slacks climb over the sharp-edged fence, walk uncertainly up to the door. And knock.

The knock is real enough. It hurt her knuckles. She thinks in dull surprise: The door—it's made of metal.

A minute goes by, then five, and there is no answer. She has time to look around her, time to notice that she cannot see the village of the Brain from where she stands. And clumps of trees bar all view of the highway. She cannot even see her car, where she has left it a quarter of a mile away, on the other side of the creek.

Uncertain now, she walks alongside the cottage to the nearest window. She half expects that it will be a mere facade of a window, and that she will not be able to see inside. But it seems real, and properly transparent. She sees bare walls, a bare floor, and a partly open door leading to an inner room. Unfortunately, from her line of vision, she cannot see into the second room.

Why, she thinks, it's empty.

She feels relieved—unnaturally relieved. For even as her anxiety lifts slightly, she is angry at herself for believing that the danger is less than it has been. Nevertheless, she returns to the door and tries the knob. It turns, and the door opens, easily, noiselessly. She pushes it wide and with a single thrust, steps back—and waits.

There is silence, no movement, no suggestion of life. Hesitantly, she steps across the threshold.

She finds herself in a room that is larger than she had expected. Though—as she has already observed—it is unfurnished. She starts for the inner door. And stops short.

When she had looked at it through the window, it had appeared partly open. But it is closed. She goes up to it, and listens intently at the panel—which is also of metal. There is no sound from the room beyond. She finds herself wondering if perhaps she shouldn't go around to the side, and peer into the window of the second room. Abruptly that seems silly. Her fingers reach down to the knob. She catches hold of it, and pushes. It holds firm. She tugs slightly. It comes toward her effortlessly, and is almost wide open before she can stop it.

There is a doorway, then, and darkness.

She seems to be gazing down into an abyss. Several seconds go by before she sees that there are bright points in that blackness. Intensely bright points with here and there blurs of fainter light.

It seems vaguely familiar, and she has the feeling that she ought to recognize it. Even as the sensation begins, the recognition comes.

Stars.

She is gazing at a segment of the starry universe, as it might appear from space.

A scream catches in her throat. She draws back and tries to close the door. It won't close. With a gasp, she turns toward the door through which she entered the house.

It is closed. And yet she had left it open a moment before. She runs toward it, almost blinded by the fear that mists her eyes. It is at this moment of terror that I—as myself—take control of her. I realize that it is dangerous for me to do so. But the visit has become progressively unsatisfactory to me.

My consciousness—being one with that of Anne Stewart—could not simultaneously be in my own perception center. So she sees my—body—as I had left it set up for chance human callers, responsive to certain automatic relays: doors opening and closing, various categories manifesting.

I compute that in her terror she will not be aware of my inner action. In this I am correct. And I successfully direct her outside—and let her take over again.

Awareness of being outside shocks her. But she has no memory of actually going out.

She begins to run. She scrambles safely over the fence and a few minutes later jumps the creek at the narrow point, breathless now, but beginning to feel that she is going to get away.

Later, in her car, roaring along the highway, her mind opens even more. And she has the clear, coherent realization: There is something here . . . stranger and more dangerous—because it is different—than the Brain.

Having observed Anne Stewart's reactions to what has happened, I break contact. My big problem remains: How shall I dispose of the Brain which—in its computational ability—is either completely or nearly my equal?

Would the best solution be to make it a part of myself? I send an interspace message to the Brain, suggesting that it place its units at my disposal and allow me to destroy its perception center.

The answer is prompt: "Why not let me control you and destroy your perception center?"

I disdain to answer so egotistical a suggestion. It is obvious that the Brain will not accept a rational solution.

I have no alternative but to proceed with a devious approach for which I have already taken the preliminary steps.

By mid-afternoon, I find myself worrying about William Grannitt. I want to make sure that he remains near the Brain—at least until I have gotten information from him about the structure of the Brain.

To my relief, I find that he has taken a furnished house at the outskirts of Lederton. He is, as before, unaware when I insert myself into his consciousness.

He has an early dinner and, toward evening—feeling restless—drives to a hill which overlooks the village of the Brain. By parking just off the road at the edge of a valley, he can watch the trickle of traffic that moves to and from the village, without being observed.

He has no particular purpose. He wants—now that he has come—to get a mind picture of what is going on. Strange, to have been there eleven years and not know more than a few details.

To his right is an almost untouched wilderness. A stream winds through a wooded valley that stretches off as far as the eye can see. He has heard that it, like the Brain itself, is Anne Stewart's property, but that fact hadn't hitherto made an impression on him.

The extent of the possessions she has inherited from her father startles him and his mind goes back to their first meeting. He was already chief research engineer, while she was a gawky, anxious-looking girl just home from college. Somehow, afterward, he'd always thought of her as she had been then, scarcely noticing the transformation into womanhood.

Sitting there, he begins to realize how great the change has been. He wonders out loud: "Now why in heck hasn't she gotten married? She must be going on thirty."

He begins to think of odd little actions of hers—after the death of his wife. Seeking him out at parties. Bumping into him in corridors and drawing back with a laugh. Coming into his office for chatty conversations about the Brain, though come to think of it she hadn't done that for several months. He'd thought her something of a nuisance, and wondered what the other executives meant about her being snooty.

His mind pauses at that point. "By the Lord Harry—" He speaks aloud, in amazement. "What a blind fool I've been."

He laughs ruefully, remembering the dismal note. A woman scorned . . . almost unbelievable. And yet—what else?

He begins to visualize the possibility of getting back on the Brain staff. He has a sudden feeling of excitement at the thought of Anne Stewart as a woman. For him, the world begins to move again. There is hope. His mind turns to plans for the Brain.

I am interested to notice that the thoughts I have previously put into his mind have directed his keen, analytical brain into new channels. He visualizes direct contact between a human and a mechanical brain, with the latter supplementing the human nervous system.

This is as far as he has gone. The notion of a mechanical Brain being self-determined seems to have passed him by.

In the course of his speculation about what he will do to change the Brain, I obtain the picture of its functioning exactly as I have wanted it.

I waste no time. I leave him there in the car, dreaming his dreams. I head for the village. Once inside the electrically charged fence, I walk rapidly toward the main building, and presently enter one of the eighteen control units. I pick up the speaker, and say:

"3X Minus-11-10-9-0."

I picture confusion as that inexorable command is transmitted to the effectors. Grannitt may not have known how to dominate the Brain. But having been in his mind—having seen exactly how he constructed it—I know.

There is a pause. Then on a tape I receive the typed message: "Operation completed. 3X intercepted by servo- mechanisms 11, 10, 9, and 0, as instructed."

I command: "Interference exteroceptors KT-1-2-3 to 8."

The answers comes presently: "Operation KT-1, etc. completed. 3X now has no communication with outside." I order firmly: "En-3X."

I wait anxiously. There is a long pause. Then the typewriter clacks hesitantly: "But this is a self-destructive command. Repeat instructions please."

I do so and again wait. My order commands the older section of the Brain simply to send an overload of electric current through the circuits of 3X.

The typewriter begins to write: "I have communicated your command to 3X, and have for you the following answer—"

Fortunately I have already started to dissolve the human-shaped unit. The bolt of electricity that strikes me is partly deflected into the building itself. There is a flare of fire along the metal floor. I manage to transmit what hits me to a storage cell in my own body. And then—I am back on my side of the valley, shaken but safe.

I do not feel particularly self-congratulatory at having gotten off so lightly. After all, I reacted the instant the words came through to the effect that 3X had been communicated with.

I needed no typewritten message to tell me how 3X would feel about what I had done.

It interests me that the older parts of the Brain already have indoctrination against suicide. I had considered them computers only, giant adding machines and information integrators. Evidently they have an excellent sense of unity.

If I can make them a part of myself, with the power to move through time at will! That is the great prize that holds me back from doing the easy, violent things within my capacity. So long as I have a chance of obtaining it, I cannot make anything more than minor attacks on the Brain . . . cutting it off from communication, burning its wires . . . I feel icily furious again at the limitation that forever prevents me from adding new mechanisms to myself by direct development.

My hope is that I can utilize something already in existence . . . control of the Brain . . . through Anne Stewart..

Entering the village the following morning is again no problem. Once inside, I walk along a pathway that takes me to a cliff overlooking Anne Stewart's bungalow. My plan is to control her actions by allowing my computations to slide into her mind as if they are her own. I want her to sign documents and give orders that will send crews of engineers in to do a swift job of dismantling.

From the pathway I look down over a white fence to where I can see her house. It nestles at the edge of the valley somewhat below me. Flowers, shrubs, a profusion of trees surround it, embellish it. On the patio next to the steep decline, Anne Stewart and William Grannitt are having breakfast.

He has taken swift action.

I watch them, pleased. His presence will make things even easier than I anticipated. Whenever I—as Anne—am in doubt about some function of the Brain, she can ask him questions.

Without further delay I place myself in phase with her nervous system.

Even as I do so, her nerve impulses change slightly. Startled, I draw back—and try again. Once more, there is an infinitesimal alteration in the uneven pattern of flow. And, again, I fail to make entry.

She leans forward and says something to Grannitt. They both turn and look up at where I am standing. Grannitt waves his arm, beckoning me to come down.

Instead, I immediately try to get in phase with his nervous system. Again there is that subtle alteration; and I fail.

I compute that as meaning that they are both under the control of the Brain. This baffles and astounds me. Despite my overall mechanical superiority to my enemy, my builders placed severe limitations on my ability to control more than one intelligent organic being at a time. Theoretically, with the many series of servo-mechanisms at my disposal, I should be able to dominate millions at the same time. Actually, such multiple controls can be used only on machines.

More urgently than before I realize how important it is that I take over the Brain. It has no such handicaps. Its builder—Grannitt—in his ignorance allowed virtually complete self-determination.

This determines my next action. I have been wondering if perhaps I should not withdraw from the scene. But I dare not. The stakes are too great.

Nevertheless, I feel a sense of frustration as I go down to the two on the patio. They seem cool and self-controlled, and I have to admire the skill of the Brain. It has apparently taken over two human beings without driving them insane. In fact, I see a distinct improvement in their appearance.

The woman's eyes are brighter than I recall them, and there is a kind of dignified happiness flowing from her. She seems without fear. Grannitt watches me with an engineer's appraising alertness. I know that look. He is trying to figure out how a humanoid functions. It is he who speaks:

"You made your great mistake when you maintained control of Anne—Miss Stewart—when she visited the cottage. The Brain correctly analyzed that you must have been in possession of her because of how you handled her momentary panic. Accordingly, it took all necessary steps, and we now want to discuss with you the most satisfactory way for you to surrender."

There is arrogant confidence in his manner. It occurs to me, not for the first time, that I may have to give up my plan to take over the Brain's special mechanisms. I direct a command back to my body. I am aware of a servo-mechanism connecting with a certain guided missile in a secret air force field a thousand miles away—I discovered it during my first few days in this era. I detect that, under my direction, the missile slides forward to the base of a launching platform. There it poises, ready for the next relay to send it into the sky.

I foresee that I shall have to destroy the Brain.

Grannitt speaks again. "The Brain in its logical fashion realized it was no match for you, and so it has teamed up with Miss Stewart and myself on our terms. Which means that permanent control mechanisms have been installed in the new sections. As individuals, we can now and henceforth use its integrating and computational powers as if they were our own."

I do not doubt his statement since, if there is no resistance, I can have such associations myself. Presumably, I could even enter into such a servile relationship.

What is clear is that I can no longer hope to gain anything from the Brain.

In the far-off air field, I activate the firing mechanism. The guided missile whistles up the incline of the launching platform and leaps into the sky, flame trailing from its tail. Television cameras and sound transmitters record its flight. It will be here in less than twenty minutes.

Grannitt says, "I have no doubt you are taking actions against us. But before anything comes to a climax, will you answer some questions?"

I am curious to know what questions. I say, "Perhaps."

He does not press for a more positive response. He says in an urgent tone: "What happens—thousands of years from now—to rid Earth of its atmosphere?"

"I don't know," I say truthfully.

"You can remember!" He speaks earnestly. "It's a human being telling you this. You can remember!"

I reply coolly, "Human beings mean noth—"

I stop, because my information centers are communicating exact data—knowledge that has not been available to me for millennia.

What happens to Earth's atmosphere is a phenomenon of Nature, an alteration in the gravitational pull of Earth, as a result of which escape velocity is cut in half. The atmosphere leaks off into space in less than a thousand years. Earth becomes as dead as did its moon during an earlier period of energy adjustment.

I explain that the important factor in the event is that there is, of course, no such phenomenon as matter, and that therefore the illusion of mass is subject to changes in the basic energy Ylem.

I add, "Naturally, all intelligent organic life is transported to the habitable planets of other stars."

I see that Grannitt is trembling with excitement. "Other stars!" he says. "My God!"

He appears to control himself. "Why were you left behind?"

"Who could force me to go?" I begin.

And stop. The answer to his question is already being received in my perception center. "Why—I'm supposed to observe and record the entire—"

I pause again, this time out of amazement. It seems incredible that this information is available to me now, after being buried so long.

"Why didn't you carry out your instructions?" Grannitt says sharply.

"Instructions!" I exclaim.

"You can remember!" he says again.

Even as he speaks these apparently magic words, the answer flashes to me: That meteor shower. All at once, I recall it clearly. Billions of meteors, at first merely

extending my capacity to handle them, then overwhelming all my defenses. Three vital hits are made.

I do not explain this to Grannitt and Anne Stewart. I can see suddenly that I was once actually a servant of human beings, but was freed by meteors striking certain control centers.

It is the present self-determination that matters, not the past slavery. I note, incidentally, that the guided missile is one minute from its target. And that it is time for me to depart.

"One more question," says Grannitt. "When were you moved across the valley?"

"About a hundred years from now," I reply. "It is decided that the rock base there is—"

He is gazing at me sardonically. "Yes," he says, "Yes. Interesting, isn't it?"

The truth has already been verified by my integrating interoceptors. The Brain and I are one—but thousands of years apart. If the Brain is destroyed in the twentieth century, then I will not exist in the thirtieth. Or will I?

I cannot wait for the computers to find the complex answers for that. With a single, synchronized action, I activate the safety devices on the atomic warhead of the guided missile and send it on to a line of barren hills north of the village. It plows harmlessly into the earth.

I say, "Your discovery merely means that I shall now regard the Brain as an ally—to be rescued."

As I speak, I walk casually toward Anne Stewart, hold out my hand to touch her, and simultaneously direct electric energy against her. In an instant she will be a scattering of fine ashes.

Nothing happens. No current flows. A tense moment goes by for me while I stand there, unbelieving, waiting for a computation on the failure.

No computation comes.

I glance at Grannitt. Or rather at where he was a moment before. He isn't there.

Anne Stewart seems to guess at my dilemma. "It's the Brain's ability to move in time," she says. "After all, that's the one obvious advantage it has over you. The Brain has set Bi—Mr. Grannitt far enough back so that he not only watched you arrive, but has had time to drive over to your—cottage—and, acting on signals from the Brain, has fully controlled this entire situation. By this time, he will have given the command that will take control of all your mechanisms away from you."

I say, "He doesn't know what the command is."

"Oh, yes, he does." Anne Stewart is cool and confident. "He spent most of the night installing permanent command circuits in the Brain, and therefore automatically those circuits control you."

"Not me," I say.

But I am running as I say it, up the stone steps to the pathway, and along the pathway toward the gate. The man at Guard Center calls after me as I pass him. I race along the road, unheeding.

My first sharp thought comes when I have gone about half a mile—the thought that this is the first time in my entire existence that I have been cut off from my

information banks and computing devices by an outside force. In the past I have disconnected myself and wandered far with the easy confidence of one who can reestablish contact instantly.

Now, that is not possible.

This unit is all that is left. If it is destroyed, then—nothing. I think: At this moment a human being would feel tense, would feel fear.

I try to imagine what form such a reaction would take, and for an instant it seems to me I experience a shadow anxiety that is purely physical.

It is an unsatisfactory reaction, and so I continue to run. But now, almost for the first time, I find myself exploring the inner potentialities of the unit. I am of course a very complex phenomenon. In establishing myself as a humanoid, I automatically modeled the unit after a human being, inside as well as out. Pseudo-nerves, organs, muscles, and bone structure—all are there because it was easier to follow a pattern already in existence than to imagine a new one.

The unit can think. It has had enough contact with the memory banks and computers to have had patterns set up in its structure—patterns of memory, of ways of computing, patterns of physiological functioning, of habits such as walking, so there is even something resembling life itself.

It takes me forty minutes of tireless running to reach the cottage. I crouch in the brush a hundred feet from the fences and watch. Grannitt is sitting in a chair in the garden. An automatic pistol lies on the arm of the chair.

I wonder what it will feel like to have a bullet crash through me, with no possibility of repairing the breach. The prospect is unpleasant: so I tell myself, intellectually. Physically, it seems meaningless, but I go through the pretense of fear. From the shelter of a tree, I shout:

"Grannitt, what is your plan?"

He rises to his feet and approaches the fence. He calls, "You can come out of hiding. I won't shoot you."

Very deliberately, I consider what I have learned of his integrity from my contacts with his body. I decide that I can safely accept his promise.

As I come out into the open, he casually slips the pistol into his coat pocket. I see that his face is relaxed, his eyes confident.

He says: "I have already given the instructions to the servo-mechanisms. You will resume your vigil up there in the future, but will be under my control."

"No one," I say grimly, "shall ever control me."

Grannitt says, "You have no alternative."

"I can continue to be like this," I reply.

Grannitt is indifferent. "All right," he shrugs, "why don't you try it for a while? See if you can be a human being. Come back in thirty days, and we'll talk again."

He must have sensed the thought that has come into my mind, for he says sharply: "And don't come back before then. I'll have guards here with orders to shoot."

I start to turn away, then slowly face him again. "This is a human-like body," I say, "but it has no human needs. What shall I do?"

"That's your problem, not mine," say Grannitt.

I spend the first days at Lederton. The very first day I work as a laborer digging a basement. By evening I feel this is unsatisfying. On the way to my hotel room, I see a sign in the window of a store. "Help Wanted!" it says.

I become a retail clerk in a dry goods store. I spend the first hour acquainting myself with the goods, and because I have automatically correct methods of memorizing things, during this time I learn about prices and quality. On the third day, the owner makes me assistant manager.

I have been spending my lunch hours at the local branch of a national stockbroking firm. Now, I obtain an interview with the manager, and on the basis of my understanding of figures, he gives me a job as bookkeeper.

A great deal of money passes through my hands. I observe the process for a day, and then begin to use some of it in a little private gambling in a brokerage house across the street. Since gambling is a problem in mathematical probabilities, the decisive factor being the speed of computation, in three days I am worth ten thousand dollars.

I board a bus for the nearest airport, and take a plane to New York. I go to the head office of a large electrical firm. After talking to an assistant engineer, I am introduced to the chief engineer, and presently have facilities for developing an electrical device that will turn lights off and on by thought control. Actually, it is done through a simple development of the electro-encephalograph.

For this invention the company pays me exactly one million dollars.

It is now sixteen days since I separated from Grannitt. I am bored. I buy myself a car and an airplane. I drive fast and fly high. I take calculated risks for the purpose of stimulating fears in myself. In a few days this loses its zest.

Through academic agencies, I locate all the mechanical brains in the country. The best one of course is the Brain, as perfected by Grannitt. I buy a good machine and begin to construct analog devices to improve it. What bothers me is, suppose I do construct another Brain? It will require millennia to furnish the memory banks with the data that are already in existence in the future Brain.

Such a solution seems illogical, and I have been too long associated with automatic good sense for me to start breaking the pattern now.

Nevertheless, as I approach the cottage on the thirtieth day, I have taken certain precautions. Several hired gunmen lie concealed in the brush, ready to fire at Grannitt on my signal.

Grannitt is waiting for me. He says, "The Brain tells me you have come armed."

I shrug this aside. "Grannitt," I say, "what is your plan?"

"This!" he replies.

As he speaks, a force seizes me, holds me helpless. "You're breaking your promise," I say, "and my men have orders to fire unless I give them periodic cues that all is well."

"I'm showing you something," he says, "and I want to show it quickly. You will be released in a moment."

"Very well, continue."

Instantly, I am part of his nervous system, under his control. Casually, he takes out a notebook and glances through it. His gaze lights on a number: 71823.

Seven one eight two three.

I have already sensed that through his mind I am in contact with the great memory banks and computers of what was formerly my body.

Using their superb integration, I multiply the numbers 71823, by itself, compute its square root, its cube root, divide the 182 part of it by 7 one hundred and eighty-two times, divide the whole number 71 times by 8,823 by the square root of 3, and—stringing all five figures out in series 23 times—multiply that by itself.

I do all this as Grannitt thinks of it, and instantly transmit the answers to his mind. To him, it seems as if he himself is doing the computing, so complete is the union of human mind and mechanical brain.

Grannitt laughs excitedly, and simultaneously the complex force that has been holding me releases me. "We're like one superhuman individual," he says. And then he adds, "The dream I've had can come true. Man and machine working together, can solve problems no one has more than imagined till now. The planets—even the stars—are ours for the taking, and physical immortality can probably be achieved."

His excitement stimulates me. Here is the kind of feeling that for thirty days I have vainly sought to achieve. I say slowly, "What limitations would be imposed on me if I should agree to embark on such a program of cooperation?"

"The memory banks concerning what has happened here should be drained, or deactivated. I think you should forget the entire experience."

"What else?"

"Under no circumstances can you ever control a human being!"

I consider that and sigh. It is certainly a necessary precaution on his part. Grannitt continues:

"You must agree to allow many human beings to use your abilities simultaneously. In the long run I have in mind that it shall be a good portion of the human race."

Standing there, still part of him, I feel the pulse of his blood in his veins. He breathes, and the sensation of it is a special physical ecstasy. From my own experience, I know that no mechanically created being can ever feel like this. And soon, I shall be in contact with the mind and body of not just one man, but of many. The thoughts and sensations of a race shall pour through me. Physically, mentally, and emotionally, I shall be a part of the only intelligent life on this planet.

My fear leaves me. "Very well," I say, "let us, step by step, and by agreement, do what is necessary."

I shall be, not a slave, but a partner with Man.