

# *Gene Wolfe*

## THE MARVELOUS BRASS CHESSPLAYING AUTOMATON

Each day Lame Hans sits with his knees against the bars, playing chess with the machine. Though I have seen the game often, I have never learned to play, but I watch them as I sweep. It is a beautiful game, and Lame Hans has told me of its beginnings in the great ages now past; for that reason I always feel a sympathy toward the little pawns with their pencils and wrenches and plain clothing, each figure representing

many generations of those whose labor built the great bishops that split the skies in the days of the old wars.

I feel pity for Lame Hans also. He talks to me when I bring his food, and sometimes when I am cleaning the jail. Let me tell you his story, as I have learned it in the many days since the police drew poor Gretchen out and laid her in the dust of the street. Lame Hans would never tell you himself—for all that big, bulging head, his tongue is slow and halting when he speaks of his own affairs.

It was last summer during the truce that the showman's cart was driven into our village. For a month not a drop of rain had fallen; each day at noon Father Karl rang the church bells, and women went in to pray for rain for their husbands' crops. After dark, many of these same women met to form lines and circles on the slopes of the Schlossberg, the mountain that was once a great building. The lines and circles are supposed to influence the Weatherwatchers, whose winking lights pass so swiftly through the starry sky. For myself, I do not believe it. What men ever made a machine that could see a few old women on the mountainside at night?

So it was when the cart of Herr Heitzmann the mountebank came. The sun was down, but the street still so hot that the dogs would not bark for fear of fainting, and the dust rolled away from the wheels in waves, like grain when foxes run through the fields.

This cart was shorter than a farm wagon, but very high, with such a roof as a house has. The sides had been painted, and even I, who do not play, but have so often watched Albricht the moneylender play Father Karl, or Doctor Eckardt play Burgermeister Landsteiner, recognized the mighty figures of the Queen-Computers who lead the armies of the field of squares into battle; and the haughty King-Generals who command, and if they fall, bring down all.

A small, bent man drove. He had a head large enough for a giant—that was Lame Hans, but I paid little attention to him, not knowing that he and I would be companions here in the jail where I work. Beside him sat Heitzmann the mountebank, and it was he who took one's eyes, which was as he intended. He was tall and thin, with a sharp chin and a large nose and

snapping black eyes. He had velvet trousers and a fine hat which sweat had stained around the band, and long locks of dark hair that hung from under it at odd angles so that one knew he used the finger-comb when he woke, as drunkards do who find themselves beneath a bench. When the small man brought the cart through the innyard gate, I rose from my seat on the jail steps and went across to the inn parlor. And it was a fortunate thing I did so, because it was in this way that I chanced to see the famous game between the brass machine and Professor Baumeister.

Haven't I mentioned Professor Baumeister before? Have you not noticed that in a village such as ours there are always a dozen celebrities? Always a man who is strong (with us that is Willi Schacht, the smith's apprentice), one who eats a great deal, a learned man like Doctor Eckardt, a ladies' man, and so on. But for all these people to be properly admired, there must also be a distinguished visitor to whom to point them out, and here in Oder Spree that is Professor Baumeister, because our village lies midway between the University and Furstenwald, and it is here that he spends the night whenever he journeys from one to the other, much to the enrichment of Scheer the innkeeper. The fact of the matter is that Professor Baumeister has become one of our celebrities himself, only by spending the night here so often. With his broad brown beard and fine coat and tall hat and leather riding breeches, he gives the parlor of our inn the air of a gentlemen's club.

I have heard that it is often the case that the beginning of the greatest drama is as casual as any commonplace event. So it was that night. The inn was full of off-duty soldiers drinking beer, and because of the heat all the windows were thrown open, though a dozen candles were burning. Professor Baumeister was deep in conversation with Doctor Eckardt: something about the war. Herr Heitzmann the mountebank—though I did not know what to call him then—had already gotten his half liter when I came in, and was standing at the bar.

At last, when Professor Baumeister paused to emphasize some point, Herr Heitzmann leaned over to them, and in the most offhand way asked a question. It was peculiar, but the

whole room seemed to grow silent as he spoke, so that he could be heard everywhere, though it was no more than a whisper. He said: "I wonder if I might venture to ask you gentlemen—you both appear to be learned men—if, to the best of your knowledge, there still exists even one of those great computational machines which were perhaps the most extraordinary—I trust you will agree with me?—creations of the age now past."

Professor Baumeister said at once: "No, sir. Not one remains."

"You feel certain of this?"

"My dear sir," said Professor Baumeister, "you must understand that those devices were dependent upon a supply of replacement parts consisting of the most delicate subminiature electronic components. These have not been produced now for over a hundred years—indeed, some of them have been unavailable longer."

"Ah," Herr Heitzmann said (mostly to himself, it seemed, but you could hear him in the kitchen). "Then I have the only one."

Professor Baumeister attempted to ignore this amazing remark, as not having been addressed to himself; but Doctor Eckardt, who is of an inquisitive disposition, said boldly: "You have such a machine, Herr . . . ?"

"Heitzmann. Originally of Berlin, now come from Zurich. And you, my good sir?"

Doctor Eckardt introduced himself, and Professor Baumeister too, and Herr Heitzmann clasped them by the hand. Then the doctor said to Professor Baumeister: "You are certain that no computers remain in existence, my friend?"

The professor said: "I am referring to working computers—machines in operating condition. There are plenty of old hulks in museums, of course."

Herr Heitzmann sighed, and pulled out a chair and sat down at the table with them, bringing his beer. "Would it not be sad," he said, "if those world-ruling machines were lost to mankind forever?"

Professor Baumeister said dryly: "They based their extrapolations on numbers. That worked well enough as long as

money, which is easily measured numerically, was the principal motivating force in human affairs. But as time progressed, human actions became responsive instead to a multitude of incommensurable vectors; the computers' predictions failed, the civilization they had shaped collapsed, and parts for the machines were no longer obtainable or desired."

"How fascinating!" Herr Heitzmann exclaimed. "Do you know, I have never heard it explained in quite that way. You have provided me, for the first time, with an explanation for the survival of my own machine."

Doctor Eckardt said, "You have a working computer, then?"

"I do. You see, mine is a specialized device. It was not designed, like the computers the learned professor spoke of just now, to predict human actions. It plays chess."

"And where do you keep this wonderful machine?" By this time everyone else in the room had fallen silent. Even Scheer took care not to allow the glasses he was drying to clink; and Gretchen, the fat blond serving girl who usually cracked jokes with the soldiers and banged down their plates, moved through the pipe smoke among the tables as quietly as the moon moves in a cloudy sky.

"Outside," Herr Heitzmann replied. "In my conveyance. I am taking it to Dresden."

"And it plays chess."

"It has never been defeated."

"Are you aware," Professor Baumeister inquired sardonically, "that to program a computer to play chess—to play well—was considered one of the most difficult problems? That many judged that it was never actually solved, and that those machines which most closely approached acceptable solutions were never so small as to be portable?"

"Nevertheless," Herr Heitzmann declared, "I have such a machine."

"My friend, I do not believe you."

"I take it you are a player yourself," Herr Heitzmann said. "Such a learned man could hardly be otherwise. Very well. As I said a moment ago, my machine is outside." His hand touched the table between Professor Baumeister's glass and

his own, and when it came away five gold Idiomarks stood there in a neat stack. "I will lay these on the outcome of the game, if you will play my machine tonight"

"Done," said Professor Baumeister.

"I must see your money."

"You will accept a draft on Streicher's, in Furstemvald?"

And so it was settled. Doctor Eckardt held the stakes, and six men volunteered to carry the machine into the inn parlor under Herr Heitzmann's direction.

Six were not too many, though the machine was not as large as might have been expected—not more than a hundred and twenty centimeters high, with a base, as it might be, a meter on a side. The sides and top were all of brass, set with many dials and other devices no one understood.

When it was at last in place, Professor Baumeister viewed it from all sides and smiled. "This is not a computer," he said.

"My dear friend," said Herr Heitzmann, "you are mistaken."

"It is several computers. There are two keyboards and a portion of a third. There are even two nameplates, and one of these dials once belonged to a radio."

Herr Heitzmann nodded. "It was assembled at the very close of the period, for one purpose only—to play chess."

"You still contend that this machine can play?"

"I contend more. That it will win."

"Very well. Bring a board."

"That is not necessary," Herr Heitzmann said. He pulled a knob at the front of the machine, and a whole section swung forward, as the door of a vegetable bin does in a scullery. But the top of this bin was not open as though to receive the vegetables: it was instead a chessboard, with the white squares of brass, and the black of smoky glass, and on the board, standing in formation and ready to play, were two armies of chessmen such as no one in our village had ever seen, tall metal figures so stately they might have been sculptured apostles in a church, one army of brass and the other of some dark metal.

"You may play white," Herr Heitzmann said. "That is generally considered an advantage."

Professor Baumeister nodded, advanced the white king's pawn two squares, and drew a chair up to the board. By the time he had seated himself the machine had replied, moving so swiftly that no one saw by what mechanism the piece had been shifted.

The next time Professor Baumeister acted more slowly, and everyone watched, eager to see the machine's countermove. It came the moment the professor had set his piece in its new position—the black queen slid forward silently, with nothing to propel it.

After ten moves Professor Baumeister said, "There is a man inside."

Herr Heitzmann smiled. "I see why you say that, my friend. Your position on the board is precarious."

"I insist that the machine be opened for my examination."

"I suppose you would say that if a man were concealed inside, the bet would be canceled." Herr Heitzmann had ordered a second glass of beer, and was leaning against the bar watching the game.

"Of course. My bet was that a machine could not defeat me. I am well aware that certain human players can."

"But conversely, if there is no man in the machine, the bet stands?"

"Certainly."

"Very well." Herr Heitzmann walked to the machine, twisted four catches on one side, and with the help of some onlookers removed the entire panel. It was of brass, like the rest of the machine but, because the metal was thin, not so heavy as it appeared.

There was more room inside than might have been thought, yet withal a considerable amount of mechanism: things like shingles the size of little tabletops, all covered with patterns like writing (Lame Hans has told me since that these are called circuit cards). And gears and motors and the like.

When Professor Baumeister had poked among all these mechanical parts for half a minute, Herr Heitzmann asked: "Are you satisfied?"

"Yes," answered Professor Baumeister, straightening up. "There is no one in there."

"But *I* am not," said Herr Heitzmann, and he walked with long strides to the other side of the machine. Everyone crowded around him as he released the catches on that side, lifted away the panel, and stood it against the wall. "Now," he said, "you can see completely through my machine—isn't that right? Look, do you see Doctor Eckardt? Do you see me? Wave to us."

"I am satisfied," Professor Baumeister said. "Let us go on with the game."

"The machine has already taken its move. You may think about your next one while these gentlemen help me replace the panels."

Professor Baumeister was beaten in twenty-two moves. Albricht the moneylender then asked if he could play without betting, and when this was refused by Herr Heitzmann, bet a kilomark and was beaten in fourteen moves. Herr Heitzmann asked then if anyone else would play, and when no one replied, requested that the same men who had carried the machine into the inn assist him in putting it away again.

"Wait," said Professor Baumeister.

Herr Heitzmann smiled. "You mean to play again?"

"No. I want to buy your machine. On behalf of the University."

Herr Heitzmann sat down and looked serious. "I doubt that I could sell it to you. I had hoped to make a good sum in Dresden before selling it there."

"Five hundred kilomarks."

Herr Heitzmann shook his head. "That is a fair proposition," he said, "and I thank you for making it. But I cannot accept."

"Seven hundred and fifty," Professor Baumeister said. "That is my final offer."

"In gold?"

"In a draft on an account the University maintains in Furstenwald—you can present it there for gold the first thing in the morning."

"You must understand," said Herr Heitzmann, "that the machine requires a certain amount of care, or it will not perform properly."

"I am buying it as is," said Professor Baumeister. "As it stands here before us."

"Done, then," said Herr Heitzmann, and he put out his hand.

The board was folded away, and six stout fellows carried the machine into the professor's room for safekeeping, where he remained with it for an hour or more. When he returned to the inn parlor at last, Doctor Eckardt asked if he had been playing chess again.

Professor Baumeister nodded. "Three games."

"Did you win?"

"No, I lost them all. Where is the showman?"

"Gone," said Father Karl, who was sitting near them. "He left as soon as you took the machine to your room."

Doctor Eckardt said, "I thought he planned to stay the night here."

"So did I," said Father Karl. "And I confess I believed the machine would not function without him. I was surprised to hear that our friend the professor had been playing in private."

Just then a small, twisted man, with a large head crowned with wild black hair, limped into the inn parlor. It was Lame Hans, but no one knew that then. He asked Scheer the inn-keeper for a room.

Scheer smiled. "Sitting rooms on the first floor are a hundred marks," he said. He could see by Lame Hans's worn clothes that he could not afford a sitting room.

"Something cheaper."

"My regular rooms are thirty marks. Or I can let you have a garret for ten."

Hans rented a garret room, and ordered a meal of beer, tripe, and kraut. That was the last time anyone except Gretchen noticed Lame Hans that night.

And now I must leave off recounting what I myself saw, and tell many things that rest solely on the testimony of Lame Hans, given to me while he ate his potato soup in his cell. But I believe Lame Hans to be an honest fellow; and as he no longer, as he says, cares much to five, he has no reason to lie.

One thing is certain. Lame Hans and Gretchen the serving girl fell in love that night. Just how it happened I cannot say—I doubt that Lame Hans himself knows. She was sent to prepare the cot in his garret. Doubtless she was tired after drawing beer in the parlor all day, and was happy to sit for a few moments and talk with him. Perhaps she smiled—she was always a girl who smiled a great deal—and laughed at some bitter joke he made. And as for Lame Hans, how many blue-eyed girls could ever have smiled at him, with his big head and twisted leg?

In the morning the machine would not play chess.

Professor Baumeister sat before it for a long time, arranging the pieces and making first one opening and then another, and tinkering with the mechanism; but nothing happened.

And then, when the morning was half gone, Lame Hans came into his room. "You paid a great deal of money for this machine," he said, and sat down in the best chair.

"Were you in the inn parlor last night?" asked Professor Baumeister. "Yes, I paid a great deal: seven hundred and fifty kilomarks."

"I was there," said Lame Hans. "You must be a very rich man to be able to afford such a sum."

"It was the University's money," explained Professor Baumeister.

"Ah," said Lame Hans. "Then it will be embarrassing for you if the machine does not play."

"It does play," said the professor. "I played three games with it last night after it was brought here."

"You must learn to make better use of your knights," Lame Hans told him, "and to attack on both sides of the board at once. In the second game you played well until you lost the queen's rook; then you went to pieces."

The professor sat down, and for a moment said nothing. And then: "You are the operator of the machine. I was correct in the beginning; I should have known."

Lame Hans looked out the window.

"How did you move the pieces—by radio? I suppose there must still be radio-control equipment in existence somewhere."

"I was inside," Lame Hans said. "I'll show you sometime; it's not important. What will you tell the University?"

"That I was swindled, I suppose. I have some money of my own, and I will try to pay back as much as I can out of that—and I own two houses in Furstenwald that can be sold."

"Do you smoke?" asked Lame Hans, and he took out his short pipe, and a bag of tobacco.

"Only after dinner," said the professor, "and not often then."

"I find it calms my nerves," said Lame Hans. "That is why I suggested it to you. I do not have a second pipe, but I can offer you some of my tobacco, which is very good. You might buy a clay from the innkeeper here."

"No, thank you. I fear I must abandon such little pleasures for a long time to come."

"Not necessarily," said Lame Hans. "Go ahead, buy that pipe. This is good Turkish tobacco—would you believe, to look at me, that I know a great deal about tobacco? It has been my only luxury."

"If you are the one who played chess with me last night," Professor Baumeister said, "I would be willing to believe that you know a great deal about anything. You play like the devil himself."

"I know a great deal about more than tobacco. Would you like to get your money back?"

And so it was that that very afternoon (if it can be credited), the mail coach carried away bills printed in large black letters. These said:

IN THE VILLAGE OF ODER SPREE  
BEFORE THE INN OF THE GOLDEN APPLES  
ON SATURDAY  
AT 9:00 O'CLOCK  
THE MARVELOUS BRASS CHESSPLAYING AUTOMATON WILL  
BE ON DISPLAY  
FREE TO EVERYONE  
AND WILL PLAY ANY CHALLENGER  
AT EVEN ODDS  
TO A LIMIT OF DM 2,000,000

Now, you will think from what I have told you that Lame Hans was a cocky fellow, but that is not the case, though like many of us who are small of stature he pretended to be self-reliant when he was among men taller than he. The truth is that though he did not show it he was very frightened when he met Herr Heitzmann (as the two of them had arranged earlier that he should) in a certain malodorous tavern near the Schwarzthor in Furstenwald.

"So there you are, my friend," said Herr Heitzmann. "How did it go?"

"Terribly," Lame Hans replied as though he felt nothing. "I was locked up in that brass snuffbox for half the night, and had to play twenty games with that fool of a scholar. And when at last I got out, I couldn't get a ride here and had to walk most of the way on this bad leg of mine. I trust it was comfortable on the cart seat? The horse didn't give you too much trouble?"

"I'm sorry you've had a poor time of it, but now you can relax. There's nothing more to do until he's convinced the machine is broken and irreparable."

Lame Hans looked at him as though in some surprise. "You didn't see the signs? They are posted everywhere."

"What signs?"

"He's offering to bet two thousand kilomarks that no one can beat the machine."

Herr Heitzmann shrugged. "He will discover that it is inoperative before the contest, and cancel it."

"He could not cancel after the bet was made," said Lame Hans. "Particularly if there were a proviso that if either were unable to play, the bet was forfeited. Some upright citizen would be selected to hold the stakes, naturally."

"I don't suppose he could at that," said Herr Heitzmann, taking a swallow of schnapps from the glass before him. "However, he wouldn't bet *me*—he'd think I knew some way to influence the machine. Still, he's never seen *you*."

"Just what I've been thinking myself," said Lame Hans, "on my hike."

"It's a little out of your line."

"If you'll put up the cash, I'd be willing to go a little out of

my line for my tenth of that land of money. But what is there to do? I make the bet, find someone to hold the stakes, and stand ready to play on Saturday morning. I could even offer to play him—for a smaller bet—to give him a chance to get some of his own back. That is, if he has anything left after paying off. It would make it seem more sporting."

"You're certain you could beat him?"

"I can beat anybody—you know that. Besides, I beat him a score of times yesterday; the game you saw was just the first."

Herr Heitzmann ducked under the threatening edge of a tray carried by an overenthusiastic waiter. "All the same," he said, "when he discovers it won't work . . ."

"I could even spend a bit of time in the machine. That's no problem. It's in a first-floor room, with a window that won't lock."

And so Lame Hans left for our village again, this time considerably better dressed and with two thousand kilomarks in his pocket. Herr Heitzmann, with his appearance considerably altered by a plastiskin mask, left also, an hour later, to keep an eye on the two thousand.

"But," the professor said when Lame Hans and he were comfortably ensconced in his sitting room again, with pipes in their mouths and glasses in their hands and a plate of sausage on the table, "but who is going to operate the machine for us? Wouldn't it be easier if you simply didn't appear? Then you would forfeit."

"And Heitzmann would kill me," said Lame Hans.

"He didn't strike me as the type."

"He would hire it done," Hans said positively. "Whenever he got the cash. There are deserters about who are happy enough to do that kind of work for drinking money. For that matter, there are soldiers who aren't deserters who'll do it—men on detached duty of one kind and another. When you've spent all winter slaughtering Russians, one more body doesn't make much difference." He blew a smoke ring, then ran the long stem of his clay pipe through it as though he were driving home a bayonet. "But if I play the machine and lose, he'll only think you figured things out and got somebody to work

it, and that I'm not as good as he supposed. Then he won't want anything more to do with me."

"All right, then."

"A tobacconist should do well in this village, don't you think? I had in mind that little shop two doors down from here. When the coaches stop, the passengers will see my sign; there should be many who'll want to fill their pouches."

"Gretchen prefers to stay here, I suppose."

Lame Hans nodded. "It doesn't matter to me. I've been all over, and when you've been all over, it's all the same."

Like everyone else in the village, and for fifty kilometers around, I had seen the professor's posters, and I went to bed Friday night full of pleasant anticipation. Lame Hans has told me that he retired in the same frame of mind, after a couple of glasses of good plum brandy in the inn parlor with the professor. He and the professor had to appear strangers and antagonists in public, as will be readily seen; but this did not prevent them from eating and drinking together while they discussed arrangements for the match, which was to be held—with the permission of Burgermeister Landsteiner—in the village street, where an area for the players had been cordoned off and high benches erected for the spectators.

Hans woke (so he has told me) when it was still dark, thinking that he had heard thunder. Then the noise came again, and he knew it must be the artillery, the big siege guns, firing at the Russians trapped in Kostrzyn. The army had built wood-fired steam tractors to pull those guns—he had seen them in Wriezen—and now the soldiers were talking about putting armor on the tractors and mounting cannon, so the knights of the chessboard would exist in reality once more.

The firing continued, booming across the dry plain, and he went to the window to see if he could make out the flashes, but could not. He put on a thin shirt and a pair of cotton trousers (for though the sun was not yet up, it was as hot as if the whole of Brandenburg had been thrust into a furnace) and went into the street to look at the empty shop in which he planned to set up his tobacco business. A squadron of *Ritters* galloped through the village, doubtless on their way to the

siege. Lame Hans shouted, "What do you mean to do? Ride your horses against the walls?" but they ignored him. Now that the truce was broken, Von Koblenz's army would soon be advancing up the Oder Valley, Lame Hans thought. The Russians were said to have been preparing powered balloons to assist in the defense, and this hot summer weather, when the air seemed never to stir, would favor their use. He decided that if he were the Commissar, he would allow Von Koblenz to reach Glogow, and then . . .

But he was not the Commissar. He went back into the inn and smoked his pipe until Frau Scheer came down to prepare his breakfast. Then he went to the professor's room where the machine was kept. Gretchen was already waiting there.

"Now then," Professor Baumeister said, "I understand that the two of you have it all worked out between you." And Gretchen nodded solemnly, so that her plump chin looked like a soft little pillow pressed against her throat.

"It is quite simple," said Lame Hans. "Gretchen does not know how to play, but I have worked out the moves for her and drawn them on a sheet of paper, and we have practiced in my room with a board. We will run through it once here when she is in the machine; then there will be nothing more to do."

"Is it a short game? It won't do for her to become confused."

"She will win in fourteen moves," Lame Hans promised. "But still it is unusual. I don't think anyone has done it before. You will see in a moment."

To Gretchen, Professor Baumeister said: "You're sure you won't be mixed up? Everything depends on you."

The girl shook her head, making her blond braids dance. "No, Herr Professor." She drew a folded piece of paper from her bosom. "I have it all here, and as my Hans told you, we have practiced in his room, where no one could see us."

"You aren't afraid?"

"When I am going to marry Hans, and be mistress of a fine shop? Oh, no, Herr Professor—for that I would do much worse things than to hide in this thing that looks like a stove, and play a game."

"We are ready, then," the professor said. "Hans, you still have not explained how it is that a person can hide in there, when the sides can be removed allowing people to look through the machinery. And I confess I still don't understand how it can be done, or how the pieces are moved."

"Here," said Lame Hans, and he pulled out the board as Herr Heitzmann had done in the inn parlor. "Now will you assist me in removing the left side? You should learn the way it comes loose, Professor—someday you may have to do it yourself." (The truth was that he was not strong enough to handle the big brass sheet by himself, and did not wish to be humiliated before Gretchen.)

"I had forgotten how much empty space there is inside," Professor Baumeister said when they had it off. "It looks more impossible than ever."

"It is simple, like all good tricks," Lame Hans told him. "And it is the sign of a good trick that it is the thing that makes it appear difficult that makes it easy. Here is where the chessboard is, you see, when it is folded up. But when it is unfolded, the panel under it swings out on a hinge to support it, and there are sides, so that a triangular space is formed."

The professor nodded and said, "I remember thinking when I played you that it looked like a potato bin, with the chessboard laid over the top."

"Exactly," Lame Hans continued. "The space is not noticeable when the machine is open, because this circuit card is just in front of it. But see here." And he released a little catch at the top of the circuit card, and pivoted it up to show the empty space behind it. "I am in the machine when it is carried in, but when Heitzmann pulls out the board, I lift this and fit myself under it; then, when the machine is opened for inspection, I am out of view. I can look up through the dark glass of the black squares, and because the pieces are so tall, I can make out their positions. But because it is bright outside, but dim where I am, I cannot be seen."

"I understand," said the professor. "But will Gretchen have enough light in there to read her piece of paper?"

"That was why I wanted to hold the match in the street.

With the board in sunshine, she will be able to see her paper clearly."

Gretchen was on her knees, looking at the space behind the circuit card. "It is very small in there," she said.

"It is big enough," said Lame Hans. "Do you have the magnet?" And then to the professor: "The pieces are moved by moving a magnet under them. The white pieces are brass, but the black ones are of iron, and the magnet gives them a sliding motion that is very impressive."

"I know," said the professor, remembering that he had felt a twinge of uneasiness whenever the machine had shifted a piece. "Gretchen, see if you can get inside."

The poor girl did the best she could, but encountered the greatest difficulty in wedging herself into the small space under the board. Work in the kitchen of the inn had provided her with many opportunities to snatch a mouthful of pastry or a choice potato dumpling or a half stein of dark beer, and she had availed herself of most of them—with the result that she possessed a lush and blooming figure of the sort that appeals to men like Lame Hans, who, having been withered before birth by the isotopes of the old wars, are themselves thin and small by nature. But though full breasts like ripe melons, and a rounded, comfortable stomach and generous hips, may be pleasant things to look at when the moonlight comes in the bedroom window, they are not really well-suited to folding up in a little three-cornered space under a chessboard; and in the end, poor Gretchen was forced to remove her gown, and her shift as well, before she could cram herself, with much gasping and grunting, into it.

An hour later, Willi Schacht the smith's apprentice and five other men carried the machine out into the street and set it in the space that had been cordoned off for the players, and if they noticed the extra weight, they did not complain of it. And there the good people who had come to see the match looked at the machine, and fanned themselves, and said that they were glad they weren't in the army on a day like this—because what must it be to serve one of those big guns, which get hot enough to poach an egg after half a dozen shots, even in ordinary weather? And between moppings and farmings

they talked about the machine, and the mysterious Herr Zimmer (that was the name Lame Hans had given) who was going to play it for two hundred gold kilomarks.

Nine chimes sounded from the old clock in the steeple of Father Karl's church, and Herr Zimmer did not appear.

Doctor Eckardt, who had been chosen again to hold the stakes, came forward and whispered for some time with Professor Baumeister. The professor (if the truth were known) was beginning to believe that perhaps Lame Hans had decided it was best to forfeit after all—though in fact, if anyone had looked, he would have seen Lame Hans sitting at the bar of the inn at that very moment, having a pleasant nip of plum brandy and then another, while he allowed the suspense to build up as a good showman should.

At last Doctor Eckardt climbed upon a chair and announced: "It is now nearly ten. When the bet was made, it was agreed by both parties that if either failed to appear—or appearing, failed to play—the other should be declared the winner. If the worthy stranger, Herr Zimmer, does not make an appearance before ten minutes past ten, I intend to award the money entrusted to me to our respected acquaintance Professor Baumeister."

There was a murmur of excitement at this, but just when the clock began to strike, Lame Hans called from the door of the inn: "WAIT!" Then hats were thrown into the air, and women stood on toetips to see; and fathers lifted their children up as the lame Herr Zimmer made his way down the steps of the inn and took his place in the chair that had been arranged in front of the board.

"Are you ready to begin?" said Doctor Eckardt.

"I am," said Lame Hans, and opened.

The first five moves were made just as they had been rehearsed. But in the sixth, in which Gretchen was to have slid her queen half across the board, the piece stopped a square short.

Any ordinary player would have been dismayed, but Lame Hans was not. He only put his chin on his hand, and contrived (though washing he had not drunk the brandy) a series

of moves within the frame of the fourteen-move game, by which he should lose despite the queen's being out of position. He made the first of these moves; and black moved the queen again, this time in a way that was completely different from anything on the paper Hans had given Gretchen. *She was deceiving me when she said she did not know how to play*, he thought to himself. *And now she finds she can't read the paper in there, or perhaps she has decided to surprise me. Naturally she would learn the fundamentals of the game, when it is played in the inn parlor every night.* (But he knew that she had not been deceiving him.) Then he saw that this new move of the queen's was in fact a clever attack, into which he could play and lose.

And then the guns around Kostrzyn, which had been silent since the early hours of the morning, began to boom again. Three times Lame Hans's hand stretched out to touch his king and make the move that would render it quite impossible for him to escape the queen, and three times it drew back. "You have five minutes in which to move," Doctor Eckardt said. "I will tell you when only thirty seconds remain, and count the last five."

*The machine was built to play chess, thought Lame Hans. Long ago, and they were warlocks in those days. Could it be that Gretchen, in kicking about . . . ?*

Some motion in the sky made him raise his eyes, looking above the board and over the top of the machine itself. An artillery observation balloon (gray-black, a German balloon then) was outlined against the blue sky. He thought of himself sitting in a dingy little shop full of tobacco all day long, and no one to play chess with—no one he could not checkmate easily.

He moved a pawn, and the black bishop slipped out of the king's row to tighten the net.

If he won, they would have to pay him. Heitzmann would think everything had gone according to plan, and Professor Baumeister, surely, would hire no assassins. He launched his counterattack: the real attack at the left side of the board, with a false one down the center. Professor Baumeister came to stand beside him, and Doctor Eckardt warned him not to

distract the player. There had been seven more than fourteen moves—and there was a trap behind the trap.

He took the black queen's knight and lost a pawn. He was sweating in the heat, wiping his brow with his sleeve between moves.

A black rook, squat in its iron sandbags, advanced three squares, and he heard the crowd cheer. "That is mate, Herr Zimmer," Doctor Eckardt announced. He saw the look of relief on Professor Baumeister's face, and knew that his own was blank. Then over the cheering someone shouted: "*Cheatl Cheatr* Gray-black pillbox police caps were forcing their way through the hats and parasols of the spectators.

"There is a man in there! There is someone inside!" It was too clear and too loud—a showman's voice. A tall stranger was standing on the topmost bench waving Heitzmann's sweat-stained velvet hat.

A policeman asked: "The machine opens, does it not, Herr Professor? Open it quickly before there is a riot."

Professor Baumeister said, "I don't know how."

"It looks simple enough," declared the other policeman, and he began to unfasten the catches, wrapping his hand in his handkerchief to protect it from the heat of the brass. "Wait!" ordered Professor Baumeister, but neither one waited; the first policeman went to the aid of the other, and together they lifted away one side of the machine and let it fall against the railing. The movable circuit card had not been allowed to swing back into place, and Gretchen's plump, naked legs protruded from the cavity beneath the chessboard. The first policeman seized them by the ankles and pulled her out until her half-open eyes stared at the bright sky. Doctor Eckardt bent over her and flexed her left arm at the elbow. "Rigor is beginning," he said. "She died of the heat, undoubtedly."

Lame Hans threw himself on her body weeping.

Such is the story of Lame Hans. The captain of police, in his kindness, has allowed me to push the machine to a position which permits Hans to reach the board through the bars of his cell, and he plays chess there all day long, moving first his own white pieces and then the black ones of the machine,

and always losing. Sometimes when he is not quick enough to move the black queen, I see her begin to rock and to slide herself, and the dials and the console lights to glow with impatience; and then Hans must reach out and take her to her new position at once. Do you not think that this is sad for Lame Hans? I have heard that many who have been twisted by the old wars have these psychokinetic abilities without knowing it; and Professor Baumeister, who is in the cell next to his, says that someday a technology may be founded on them.