

## Asimov, Isaac - The Machine That Won the War

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The celebration had a long way to go and even in the silent depths of Multivac's underground chambers, it hung in the air.

If nothing else, there was the mere fact of isolation and silence. For the first time in a decade, technicians were not scurrying about the vitals of the giant computer, the soft lights did not wink out their erratic patterns, the flow of information in and out had halted.

It would not be halted long, of course, for the needs of peace would be pressing. Yet now, for a day, perhaps for a week, even Multivac might celebrate the great time, and rest.

Lamar Swift took off the military cap he was wearing and looked down the long and empty main corridor of the enormous computer. He sat down rather wearily in one of the technician's swing-stools, and his uniform, in which he had never been comfortable, took on a heavy and wrinkled appearance.

He said, "I'll miss it all after a grisly fashion. It's hard to remember when we weren't at war with Deneb, and it seems against nature now to be at peace and to look at the stars without anxiety."

The two men with the Executive Director of the Solar Federation were both younger than Swift. Neither was as gray. Neither looked quite as tired.

John Henderson, thin-lipped and finding it hard to control the relief he felt in the midst of triumph, said, "They're destroyed! They're destroyed! It's what I keep saying to myself over and over and I still can't believe it. We all talked so much, over so many years, about the menace hanging over

Earth and all its worlds, over every human being, and all the time it was true, every word of it. And now we're alive and it's the Denebians who are shattered and destroyed. They'll be no menace now, ever again."

"Thanks to Multivac," said Swift, with a quiet glance at the imperturbable Jablonsky, who through all the war had been Chief Interpreter of science's oracle. "Right, Max?"

Jablonsky shrugged. Automatically, he reached for a cigarette and decided against it. He alone, of all the thousands who had lived in the tunnels within Multivac, had been allowed to smoke, but toward the end he had made definite efforts to avoid making use of the privilege.

He said, "Well, that's what they say." His broad thumb moved in the direction of his right shoulder, aiming upward.

"Jealous, Max?"

"Because they're shouting for Multivac? Because Multivac is the big hero of mankind in this war?" Jablonsky's craggy face took on an air of suitable contempt. "What's that to me? Let Multivac be the machine that won the war, if it pleases them."

Henderson looked at the other two out of the corners of his eyes. In this short interlude that the three had instinctively sought out in the one peaceful corner of a metropolis gone mad; in this entr'acte between the dangers of war and the difficulties of peace; when, for one moment, they might all find surcease; he was conscious only of his weight of guilt.

Suddenly, it was as though that weight were too great to be borne longer. It had to be thrown off, along with the war; now! Henderson said, "Multivac had nothing to do with victory. It's just a machine."

"A big one," said Swift.

"Then just a big machine. No better than the data fed it." For a moment, he stopped, suddenly unnerved at what he was saying.

Jablonsky looked at him, his thick fingers once again fumbling for a cigarette and once again drawing back. "You should know. You supplied the data. Or is it just that you're taking the credit?"

"Wo," said Henderson, angrily. "There is no credit. What do you know of the data Multivac had to use; predigested from a hundred subsidiary computers here on Earth, on the Moon, on Mars, even on Titan. With Titan always delayed and always that feeling that its figures would introduce an unexpected bias."

"It would drive anyone mad," said Swift, with gentle sympathy.

Henderson shook his head. "It wasn't just that. I admit that eight years ago when I replaced Lepont as Chief Programmer, I was nervous. But there was an exhilaration about things in those days. The war was still long-range; an adventure without real danger. We hadn't reached the point where manned vessels had had to take over and where interstellar warps could

swallow up a planet clean, if aimed correctly. But then, when the real difficulties began-

Angrily-he could finally permit anger-he said, "You know nothing about it."

"Well," said Swift. "Tell us. The war is over. We've won."

"Yes." Henderson nodded his head. He had to remember that. Earth had won so all had been for the best. "Well, the data became meaningless."

"Meaningless? You mean that literally?" said Jablonsky.

"Literally. What would you expect? The trouble with you two was that you weren't out in the thick of it. You never left Multivac, Max, and you, Mr. Director, never left the Mansion except on state visits where you saw exactly what they wanted you to see."

"I was not as unaware of that," said Swift, "as you may have thought."

"Do you know," said Henderson, "to what extent data concerning our production capacity, our resource potential, our trained manpower-everything of importance to the war effort, in fact-had become unreliable and untrustworthy during the last half of the war? Group leaders, both civilian and military, were intent on projecting their own improved image, so to speak, so they obscured the bad and magnified the good. Whatever the machines might do, the men who programmed them and interpreted the results had their own skins to think of and competitors to stab. There was no way of stopping that. I tried, and failed."

"Of course," said Swift, in quiet consolation. "I can see that you would."

This time Jablonsky decided to light his cigarette. "Yet I presume you provided Multivac with data in your programming. You said nothing to us about unreliability."

"How could I tell you? And if I did, how could you afford to believe me?" demanded Henderson, savagely. "Our entire war effort was geared to Multivac. It was the one great weapon on our side, for the Denebians had nothing like it. What else kept up morale in the face of doom but the assurance that Multivac would always predict and circumvent any Denebian move, and would always direct and prevent the circumvention of our moves? Great Space, after our Spy-warp was blasted out of

hyperspace we lacked any reliable Denebian data to feed Multivac and we didn't dare make that public."

"True enough," said Swift.

"Well, then," said Henderson, "if I told you the data was unreliable, what could you have done but replace me and refuse to believe me? I couldn't allow that."

"What did you do?" said Jablonsky.

."Since the war is won, I'D tell you what I did. I corrected the data."

"How?" asked Swift.

"Intuition, I presume. I juggled them till they looked right. At first, I hardly dared, I changed a bit here and there to correct what were obvious

impossibilities. When the sky didn't collapse about us, I got braver. Toward the end, I scarcely cared. I just wrote out the necessary data as it was needed. I even had the Multivac Annex prepare data for me according to a private programming pattern I had devised for the purpose."

"Random figures?" said Jablonsky.

"Not at all. I introduced a number of necessary biases."

Jablonsky smiled, quite unexpectedly, his dark eyes sparkling behind the crinkling of the lower lids. "Three times a report was brought me about unauthorized uses of the Annex, and I let it go each time. If it had mattered, I would have followed it up and spotted you, John, and found out what you were doing. But, of course, nothing about Multivac mattered in those days, so you got away with it."

"What do you mean, nothing mattered?" asked Henderson, suspiciously.

"Nothing did. I suppose if I had told you this at the time, it would have spared you your agony, but then if you had told me what you were doing, it would have spared me mine. What made you think Multivac was in working order, whatever the data you supplied it?"

"Not in working order?" said Swift.

"Not really. Not reliably. After all, where were my technicians in the last years of the war? I'll tell you, they were feeding computers on a thousand different space devices. They were gone! I had to make do with kids I couldn't trust and veterans who were out-of-date. Besides, do you think I could trust the solid-state components coming out of Cryogenics in the last years? Cryogenics wasn't any better placed as far as personnel was concerned than I was. To me, it didn't matter whether the data being supplied Multivac were reliable or not. The results weren't reliable. That much I knew."

"What did you do?" asked Henderson.

"I did what you did, John. I introduced the bugger factor. I adjusted matters in accordance with intuition-and that's how the machine won the war."

Swift leaned back in the chair and stretched his legs out before him.

"Such revelations. It turns out then that the material handed me to guide me in my decision-making capacity was a man-made interpretation of man-made data. Isn't that right?"

"It looks so," said Jablonsky.

"Then I perceive I was correct in not placing too much reliance upon it," said Swift.

"You didn't?" Jablonsky, despite what he had just said, managed to look professionally insulted.

"I'm afraid I didn't. Multivac might seem to say, Strike here, not there; do this, not that; wait, don't act. But I could never be certain that what Multivac seemed to say, it really did say; or what it really said, it really meant. I could never be certain."

"But the final report was always plain enough, sir," said Jablonsky. "To those who did not have to make the decision, perhaps. Not to me. The horror of the responsibility of such decisions was unbearable and not even Multivac was sufficient to remove the weight. But the point is I was justified in doubting and there is tremendous relief in that." Caught up in the conspiracy of mutual confession, Jablonsky put titles aside, "What was it you did then, Lamar? After all, you did make decisions. How?"

"Well, it's time to be getting back perhaps but-I'll tell you first. Why not? I did make use of a computer, Max, but an older one than Multivac, much older."

He groped in his own pocket for cigarettes, and brought out a package along with a scattering of small change; old-fashioned coins dating to the first years before the metal shortage had brought into being a credit system tied to a computer-complex.

Swift smiled rather sheepishly. "I still need these to make money seem substantial to me. An old man finds it hard to abandon the habits of youth." He put a cigarette between his lips and dropped the coins one by one back into his pocket.

He held the last coin between his fingers, staring absently at it.

"Multivac is not the first computer, friends, nor the best-known, nor the one that can most efficiently lift the load of decision from the shoulders of the executive. A machine did win the war, John; at least a very simple computing device did; one that I used every time I had a particularly hard decision to make."

With a faint smile of reminiscence, he flipped the coin he held. It glinted in the air as it spun and came down in Swift's outstretched palm. His hand closed over it and brought it down on the back of his left hand. His right hand remained in place, hiding the coin.

"Heads or tails, gentlemen?" said Swift.