

MUALLIM

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Ray Nayler began publishing speculative fiction in 2015 in the pages of *Asimov's*. Since then, his critically acclaimed stories have seen print in *Clarkesworld*, *Analog*, *F&SF*, *Lightspeed*, and *Nightmare*, as well as in several "Best of the Year" anthologies. Ray has lived and worked in Russia, Central Asia, the Caucasus, and the Balkans for nearly two decades. He is a Foreign Service Officer, and previously worked in international educational development, as well as serving in the Peace Corps in Ashgabat, Turkmenistan. A Russian speaker, he has also learned Turkmen, Albanian, Azerbaijani Turkish, and Vietnamese. His time in Azerbaijan brought him to the real village of Khynalyq and introduced him to the Kettid people and the Ketshmits language, inspiring the story that follows. Of course, names, characters, events, and incidents are the products of the author's imagination. Any resemblance to actual persons, living or dead, or actual events (in the past or future) is purely coincidental.

Irada the blacksmith ran a hand over the dents in Muallim's chest. Most were superficial, but one was deeper than the others. The paint here was chipped. She could see some corrosion underneath.

"I'm going to have to remove your whole chest plate, Muallim. It will take some work to repair. In the meantime, I can trade it out for your spare chest plate. I still have it here in the shop. But I haven't had time to fix it. That one is more battered than this one is."

"How long will it take to fix these dents. An hour?" Muallim asked.

"No. More like an afternoon. I can't do it now. Can you come back after school? You can wait in the house. You can help my father with his Ketshmits grammar. You know how he loves that."

"I am scheduled to chop wood for Mrs. Hasanova."

"Tell her you will chop wood tomorrow."

She watched Muallim consider this. They must have programmed this gesture into the robot, the way it tilted its watering can of a head to the side and slightly down, just like a human.

"Yes," Muallim said, "I think that will work. I will stop by Mrs. Hasanova's and tell her I will come tomorrow."

Now Irada noticed there was also a dent in the side of Muallim's head.

"Can your head plating be removed?"

"Yes. Like the chest plate. All of me is built to be locally repaired and maintained."

"I don't know where the attachment points are."

"Have you consulted the manual?"

"You know how the manual is."

"I will show you, then."

"Why didn't you mention the damage to your head?"

"It is superficial."

"Are you sure you won't tell me who did this to you? If we don't put a stop to it, it will happen again."

"I must go to the school, or I will be late."

"Are you avoiding the subject?" Irada asked.

"The first subject is math," Muallim said. "There is no avoiding math."

"Hey—that was a pretty good joke!"

"That was not a joke," Muallim said as it walked out of the yard. "There really is no avoiding math."

Irada watched the robot walking down the road toward the schoolhouse. The family rooster, Aslan, followed, weaving behind Muallim's legs and delivering angry pecks to its heels, which the robot ignored.

* * *

. . . at the end of the five-year program, which could be regarded as a success. There are other issues that are more worrisome, however. For example . . .

"Hey."

Maarja looked up from her work. It was one of the boys, grinning stupidly at her. She didn't know this one's name. He was maybe eight years old. Maarja blew onto her hands and rubbed them together. It was freezing in here, even with the stove lit. Only November, and she was already colder than she had ever been in an Estonian winter back home. It wasn't the temperature—it was the fact there was nowhere to get warm. It was cold everywhere here except in the little circle of heat a stove gave off.

It didn't help that the desk she had taken was at the back of the classroom, away from the stove in the center of the room. She'd taken this desk when she arrived, in an effort to be unobtrusive. And she was too stubborn (*or stupid*, she thought) to change desks now, even though most of the other desks were empty.

"What?"

The boy's other two friends were also grinning at her. She could smell their shoes and their unwashed jackets. One of the other boys nudged the one who had interrupted her. He laughed.

"Hey."

"Yeah," Maarja said, "I got it. Hey. And?"

"Fuck you Michael Jackson," the boy said.

"That doesn't even make sense." Maarja continued writing on the palimpsest. The cold was affecting it too: the page seemed laggy, not keeping up with the pen strokes.

. . . the Muallim is being used inappropriately, causing undue wear and tear on its systems. There also appear to be some mechanical issues that the model of "local repair and maintenance" has not sufficiently addressed. Moreover, I have also noticed several indications of unfortunate positive feedback in subroutines that I think warrant . . .

"Penis," the boy said.

Maarja looked up at him. His eyes were gleaming, waiting for a reaction. The girls were outside, sweeping the yard and collecting bricks of animal manure fuel, called *tezek*, for the stove. Of course they were. These three idiots, meanwhile . . .

"Penis."

“Yes, I heard you the first time.”

She could finish that part later. She moved to the core of the issue.

When the project was initially drafted, the baseline was twenty-five students that would benefit from the Muallim unit. In fact, there appear to be only five students attending the school.

And three of them are these little shits, she thought.

Given this number, none of the initial target outputs will be reached.

She checked her watch. The robot was late. How could a robot be late?

She heard the girls, then, in the courtyard, shouting “Muallim! Teacher! Good morning!”

They continued their chat, but the rest of it was in Ketshmits. This was another annoyance. She had a decent translator loaded in her earbuds for Azerbaijani, which she had been told they were supposed to speak, but almost nobody here spoke anything but their local language, Ketshmits, which was spoken only here and in a few nearby villages, or Russian. The villagers all assumed, of course, that she would know Russian. But she hadn’t loaded her Russian translator because (of course) the governor of the municipality had insisted everyone in the village spoke Azerbaijani. Because that was what the central government wanted him to say. And now she couldn’t download the Russian translator because there was no signal here. Which made it the first place she had ever been to in her life without a signal. She’d driven through some dead patches before, but even in the middle of the Sahara Desert she’d once spent the whole two hours in the back of a Land Rover sexting her latest fling.

Here? Nothing. Some of the Kettid had phones, but they just used them to take pictures of each other.

The girls came in with Muallim, practically hanging on it. Turning its dented head to the class, Muallim limped to its desk and said something in Ketshmits. The boys stood at loose attention. The girls also stood in front of their desks. Maarja once again found herself admiring the thickness of their braids, and marveling at the fact they did not seem cold, although the only thing they wore over their dresses were long sheepskin vests with the wool turned to the inside.

Muallim’s shoulder screeched as it raised its arm to write on the blackboard. Yes, blackboard. The school had a smartboard knowledge terminal some international NGO must have donated a decade or more ago—Maarja had seen it. It was under an oilcloth tarp at the back of the storage shed. When she asked why it had not been installed, the village mayor told her the wall of the schoolhouse wasn’t strong enough to support it.

“They didn’t check that first?” she’d asked.

The mayor had just shrugged. He, at least, spoke some Azerbaijani. “Anyway, the instruction manual was in English and . . . I don’t know. Chinese? We asked for a technician, and for a grant to rebuild the schoolhouse wall, but they never came.”

The boy who had been taunting her was solving a math problem on the board, his hand moving with a surprising quickness, Maarja thought, for someone who thought saying “penis” over and over again was hilarious.

* * *

Irada took the tray of tea in to her father. He was sitting on his dushek on the floor, with Muallim’s repair manual open in his lap.

Her father turned the page, with his left hand. The stump of his right arm twitched when he did it. Even three years after the accident, Irada thought, his body refuses to accept what happened. “They really expect a blacksmith or a joiner to be able to do these things?”

“That’s what the foreigner said. She said she was concerned about the ‘neglect’ to Muallim’s joints.”

Her father squinted at the schematics in his lap. "What are these?"

"The happy face is 'do this' and the sad face is 'don't do this.'"

"I can't tell if they think we are geniuses or idiots."

Irada stabbed a poker into the bricks of tezek in the stove and closed the door. Her father had built the stove ten years ago—that was seven years before the accident. She had been twelve. She remembered because the stove was set up the day before her birthday. Her father had wanted to finish it for her, because she needed a warmer place to do her homework. After the new stove was set up, this room had always been warm. Irada had done most of her homework right where her father was sitting now.

She settled in next to him.

"Idiot geniuses?"

The exploded view of the hip joint showed seven components.

"The tolerances on these are really narrow."

"We made that lock for the schoolhouse door. That can't have been any less complicated."

* * *

Maarja lay on the cot, wrapped in two blankets, staring at a crack in the ceiling. It was the middle of the day, but she had left the schoolhouse early. Her stomach hurt, and she was cold, and she felt like she was better off just writing up the rest of the report here.

This little hut they had given her was attached to the schoolhouse. It had been built for the village teacher, back when the central government was still able to push young students out to the villages for two-year terms. The idea was they would live here and teach for two years, and only then be given their certificates. That had worked for a little while, but eventually the students had all caught on to the fact that they could just give the administrators a bribe and get their diplomas without actually doing the teaching. Once that became well known, people just saved up for the bribe, or took out a loan. Nobody wanted to waste two years of their time—and certainly not in a place like Khynalyg, the highest populated village in the country, surrounded by ancient graveyards larger than the village itself, burning bricks of dried animal manure for fuel to keep warm through the long months of winter.

She remembered when the hexcopter had dropped her at the outskirts and she had walked into the village. The strange graves everywhere, tilted crazily, the stones carved in what seemed like a dozen different scripts and alphabets, but many of them so worn that they had become illegible, just stones again, covered in lichen. She had heard Khynalyg had been settled for over five thousand years. That was two hundred or more generations of the dead, crowding in on the living.

The graves trailed into the village itself, mixed in with the dirt fields where the boys and young men played soccer. Ancient stones jutted from front yards. They lay tumbled at the sides of the roads, which really were nothing but dirt trails through the endless graveyards—graveyards that became this little village of shepherds, and then became graveyards again.

It all added to a sense of futility. It was a feeling that settled in on her before she had even seen the lack of students in the schoolhouse, or the empty houses falling into ruin that made up at least half of this place. What was the use of it all? Khynalyg was a graveyard—all of it. The people who were left here were just its caretakers.

"Where are the other students?" she had asked the mayor, when she saw there were only five students at the school, and not the twenty-five in the baseline survey.

"There was a school bus—just an old Russian jeep—that brought them in from a few other villages," he said. "But it broke down. And early last spring there was a mudslide. Some families left. But there haven't been twenty-five students here for at least a decade."

So, someone had lied.

“When did the school bus break down?”

“Two years ago.”

Maarja just wanted to leave. Who had designed this pilot program? Clearly the solution to this village’s problems wasn’t some extraordinarily expensive robot teacher—it was resettlement. The government needed to help these people get out of here.

She got up and got dressed. Walking down the road, she saw no signs of life in the village except a bright line of wash in someone’s yard, flapping in the mountain wind.

The mayor was, as usual, sitting in his living room drinking tea, with a book open in front of him. His daughter was hard at work in the shop attached to the house. Maarja could hear the sound of her hammer on metal.

The one-armed mayor did not seem surprised to see Maarja. He glanced at her socks.

“I can get you a pair of our traditional socks. They are very comfortable.”

“I have an allergy to wool.”

The mayor blinked. “I have never heard of such a thing. There are people allergic to wool?”

There are probably one or two things in the world you don’t know about, Maarja thought.

“I’m here to talk to you about the Muallim unit. I’ve completed my assessment of the pilot program and made my decision.”

* * *

Muallim lay on the floor in the shop, on an old canvas tarp, with his right arm and leg detached. Irada had the generator running. The power had gone out right around the time her father had started the lathe. Aslan watched the whole process from the doorway of the shop, filled to the tip of his beak with hatred for the robot, occasionally sallying in to stab Muallim’s foot, then fleeing in terror.

Irada leaned down over Muallim and showed it the part, a harmonic drive gear casing. “This notch here: Can you tell if it’s in the right place? I think this was the problem. The old one had scoring all over its casing. I machined this new one, but it doesn’t look right to me.”

Muallim’s arm and leg lay on a workbench nearby.

“That is correct. Did you measure from the old part?”

“I did, but I had to kind of guess at it. The scoring was really bad, and the part had deformed. And I think the diagram in the manual is wrong.”

“Sad face,” said her father, cleaning metal shavings off the lathe.

“Yes, this notch placement is correct,” Muallim said.

“Your Ketshmits is getting really good,” Irada’s father said.

“You are a lazy person,” Muallim answered from the floor. “We have not worked on your grammar book in weeks, and I know you have made no progress. Others cannot learn your dying language if you fail to apply yourself. It takes humans a long time to learn, and much effort.”

“I have been distracted by other things,” Irada’s father said.

“Your daughter is less lazy than you are.”

Irada’s father smiled. “Yes, that is true.”

Irada laughed. “You should live with us, Muallim. I would win all of our family arguments.”

There was a pause.

“No thank you,” Muallim said finally. “I prefer the view from my charging hut’s current location. And I have differences of opinion with your male chicken.”

"Rooster," Irada's father corrected.

"Your Ketsmits dictionary also lies neglected while you mope about and drink tea," Muallim said. "My error is your own fault."

* * *

On Friday morning Maarja found the schoolhouse door locked. It was a bright, clear day and shockingly cold. She had bought a new puffy jacket before flying in to do this evaluation. Some fancy-named fiber she'd researched. The cold didn't penetrate it completely, but everywhere the jacket didn't cover her skin, the air was like ice. Her thighs were freezing in her jeans, even though she had long underwear on underneath, also made from some fancy fiber—apparently a less effective one.

Muallim's charging hut, which she now noticed was exactly the same size as the school outhouse, lay empty. None of the students were in the yard, even though classes were supposed to start in five minutes. Then she saw one of the girls walking past, down the dirt road. The girl had a bundle on her back. Not schoolbooks: a bag of flour.

"School?" Maarja said in English, pointing at the locked door.

The girl shook her head. "There's no school on Friday," she replied in English.

"What?"

"There's never any school on Friday."

Well, that was just great. Now they didn't even go to school on Friday.

"Where is Muallim?"

The girl shrugged. "He goes out walking somewhere."

Maarja wondered what qualified *it* as *he* in this girl's mind. What was her name?

"Walking? Where to?"

The girl pointed down the road, in the direction she had come from.

"Did it leave a long time ago?"

"I saw him in Mrs. Hasanova's . . ." she struggled to find the word, "dvor. Um . . . yard."

Maarja wanted to go back in her own little "charging hut" and maybe sleep another hour. But instead she started walking down the road. So now they had school four days a week. Four days a week, for five kids, including the kid she now thought of as "Fuck You Michael Jackson" (who seemed pretty good at math, she had to admit) and his little comedy team.

The girl walked off with a wave and a "bye-bye." They really liked saying that in English.

"Bye-bye," Maarja said back. Actually, it sounded kind of nice.

The kids would miss their teacher, Maarja thought. No matter how essentially failed this project was, what it proved (once again) was that it isn't difficult for humans to get attached to artificial intelligences. Before she left, Maarja wrote on her palimpsest, flattening it out against the schoolhouse wall:

Though this particular project has well below the baseline number of students needed to recommend continuation, it does show an overall promise, and could be replicated under different conditions, in more viable communities. A few of the students remaining here have shown a strong degree of attachment to the Muallim unit. There are some clear programming issues with the unit, and although some of the sustainability factors were addressed, I don't see signs of full self-sufficiency, though that might have more to do with the community's level of dysfunction than the project design itself.

* * *

The rock clanked off of Muallim's chest. It was not a very large one. A second rock followed, of similar size, but flew wide.

Muallim took several steps forward. The large dog dancing around the robot's legs dove in and attempted a bite, but found no purchase.

The two shepherds were perhaps twenty meters away. The younger one was thirteen, at the most. The older one was in his twenties. Beyond them was the house, with a small potato patch in front of it. A ten-year-old girl, who had just finished putting out the laundry, watched the action from there, shielding her eyes against the sun.

“School is not optional!” Muallim said in Ketschmits. “I am aware of your family difficulties, but it is essential . . .”

Another rock. This one clanged off of Muallim’s head, denting it.

“You are in violation of the law! And you are simply creating more maintenance work for your community! You should be ashamed!”

The boy picked up another rock.

“It does not matter what you do to me,” Muallim said. “You can destroy me if you wish. I will not leave this place until you comply with the law.”

* * *

“You need to come with me!”

Maarja had been lost in thought, walking down the road. Now she stared at the woman in the driver’s seat of the battered old car that had pulled up beside her. It was the blacksmith, the mayor’s daughter. What was her name? Yes, she remembered because she had written it down: Irada. She spoke some English.

The UAZ was so dented it looked as if it had rolled onto its side several times, and all the way onto its roof at least once. Perhaps it had. The doors were missing.

In the back of the UAZ, tools clanked around. The rear seat had been torn out, and the thing had been converted into a sort of truck. There was a jerry can back there, tied to the frame of the car with a rope, and a slightly rusted crowbar. They rattled out through the graveyards.

“Where are we going?” Maarja asked. “I need to be back by the afternoon. The drone is scheduled to pick me up at seventeen hundred.” She had already packed all of her things, in the duffel she used for these kinds of fly-in/fly-out project evaluations. Then she had collapsed into sleep. It must be the altitude here: back home she never slept during the day. Here, she was always tired.

“I know this,” Irada said.

They were a few kilometers outside of the village now.

“Where are we going?”

“There has been an accident.”

“Your father?” But then she saw Irada’s father, the mayor, standing on the side of the road. There was an older woman with him as well.

Here, the road was narrow, and there was a steep defile, with a slate river rushing through the gash of its depth. Irada’s father and the older woman stood at the edge of the road, looking down. Irada saw tears in the woman’s eyes.

“This is Mrs. Hasanova,” the mayor said. “She found him.”

The woman said something in Ketschmits, and pointed into the ravine.

Muallim’s body was perhaps two hundred meters down, on an outcropping of jagged rock, its battered torso and broken limbs scattered over the stones. There was no head: it must have fallen into the river.

Mrs. Hasanova was yelling something at Irada, who said nothing in return, instead just climbing back into the UAZ and looking down.

“What is she saying?”

“She is just upset,” the mayor said. “She blames Irada. She says it is her fault: she was supposed to maintain him, but everyone could see his joints were bad. But it isn’t my daughter’s fault, I am sure of it.”

“Then whose is it?”

“There are people here who have been against Muallim from the beginning. They say he is unnatural. The mufti, for example . . . he has said that Muallim is against God.”

In some ways, Maarja thought, it makes it all easier.

"Even though . . . well, you know my recommendation. But I certainly did not want to see it end like this."

"No," the mayor said. "No one would want that."

"Are you coming back with us?"

"No," the mayor said. "I will gather some men, and we will see if we can bring up the body."

As Maarja and Irada drove back to the village, Maarja said, "The old woman seemed very upset."

"Yes," Irada answered. "Muallim chops . . . chopped wood for her and did other things around her yard. She is old, and it is hard for her."

More inappropriate use. Of course his joints were wearing out. Its joints, Maarja corrected the thought. Yes, it was easy to start getting attached. She even felt a bit sad herself, thinking of the girls clinging to the unit as it came into the schoolhouse. *We are sentimental animals.*

Well, all of that was over now. And the girls would be better off in the city, where they could get proper educations.

They spent a few minutes jouncing over the rutted road in silence. Everywhere along the road, in every tiny meadow, on every little hillock, there were gravestones. There were so many of them that after a while every innocent, isolated stone looked like a gravestone.

"It must be strange for you," Maarja said. "Being a woman, and being the town blacksmith. One of the girls at the school told me your older brother died . . . I am sorry."

A gear ground.

Every rock is a gravestone, Maarja thought to herself, *and now every missed gear is an emotion. I need to leave this place.*

It was a long moment before Irada said, "My older brother died in the same accident that took my father's arm. They were headed to town, in this jeep. It was late in the season. It turned over on the ice. But my brother never wanted to be a blacksmith. He wanted to go to the university. That is where they were driving."

"I am sorry," Maarja said.

"Many have died on that road," Irada said. Then, not turning to look at Maarja, she continued: "For the record, I always wanted to be a blacksmith. Just like my mother before me. Just like her mother before her. And my father always wanted me to be a blacksmith. But my brother wanted me to go to university with him. That is why he taught me English. I think he was just frightened of being alone."

Not knowing what else to say, Maarja said, "Your English is very good."

"Yes," Irada said. "Good enough to tell you when you are wrong."

* * *

Maarja was surprised at how many people came to see her off. As the white U.N. drone hexcopter arced slowly down to the grassy field, there were twenty or so of the villagers gathered. Fuck You Michael Jackson was there, and his gang. Irada was not there. But the two girls from the school were there. Maarja had looked up their names in her notes: Amina and Maral. Maral gave Maarja a *chuka*, a traditional wool shawl she had made herself. Well, even if she could not wear it, she could put the beautiful thing on the wall.

The mayor gave her a pair of colorfully patterned socks.

"They are acrylic," he said, leaning into her translator earbud to be heard over the whirl of U.N. propellers. "Not so traditional! But also, will not give you hives!"

"Did you get the body up?"

"No. We tried, but it was too dangerous. Too far down. No use losing someone else!"

Someone else.

The hexcopter settled on the grass and shut off. Maarja's voice was suddenly loud in the silence.

"It wasn't alive, you know!"

It seemed like everyone was watching the two of them. The mayor straightened himself, and nodded at the translation. His own earbud lagged, she knew. It was several generations old.

"Yes," he finally answered. "I know. But he was our heart. When the last of the muallims . . . the teachers . . . left, it tore the heart from this place. He was a heart transplant. Made of metal. Not a real heart. But he pumped the blood. It was enough. Now . . ." he waved a hand. "Now, who knows?"

"Things will change," Maarja said. "They have to change." She imagined Maral and Amina in dark city clothes, reflected in the glass of the tall buildings around them, new terminals under their arms. "And that will be for the better," she finished.

The mayor nodded. "You are right, of course."

She should say something meaningful. Leave them with something. "When we were driving back into the village," Maarja said, "We passed so many gravestones. After a while, every stone standing on its own looked like a gravestone."

This place is for the dead.

Did he understand?

The mayor nodded. "Yes. Those *are* all gravestones. The poor could never afford to have theirs carved. But their relatives always knew which ones they were."

From the hexcopter's passenger compartment, Maarja watched the village shrink, the dots that had seen her off blend back into the drama of the mountain peaks, the general awe of this place, so far from everything else.

"Another feefo in the bag," the pilot's voice said, broadcast from some control center in suburban Brussels or Ljubljana. "Hope it went okay. You eat any goat meat?"

"Sorry, feefo?"

The voice chuckled. "Fly in, fly out. FIFO. Sorry, drone pilot jargon. You were here what—four days? That's a long time, in a place like this. Headed home?"

"Yes," Maarja said. "For a week or so. Then it's off to the next one."

* * *

There was no electricity here, but the light of the propane lantern was enough to read by. The girl pointed at the page: "I know this word. Rocket. I saw that word in Ruslan's comic book."

"Good," Muallim said, nodding his dented head. "Good. And do you know this one?"

"Robot." The girl smiled. "Like you."

Ruslan shifted, mouthed the word. "Robot," he said in English. Then in Ketshmits: "I am sorry we threw rocks at you, Robot."

"Call me Muallim."

"I am sorry we threw rocks at you, Muallim."

"Well, now you will have to go to school every day. That is punishment enough."

* * *

Irada finished hauling in Muallim's spare chest plate and the rest of the scrap, piling it on a bench in the shop, next to the climbing ropes and harness, the old, scraped helmet.

Her father was in the yard, talking to Mrs. Hasanova and a few of the others. Their voices were so low that she could hear the last of the season's crickets, singing somewhere in a crack in the boards.

"They see what they want to see," her father was saying.

"And with a little help," said Mrs. Hasanova, laughing, "They see what we want them to see."