



EIGHTY-FIVE YEARS AGO,
THE SOVIETS TRIED TO CREATE
THE PERFECT SOLDIER BY
BREEDING APES WITH HUMANS.
IS IT POSSIBLE THEY SUCCEEDED?

THE ISLAND OF DOCTOR IVANOV

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In her office overlooking the Black Sea, within the bullet-ridden campus of the Sukhumi Primate Center, Dr. Anna Djokova waves me over to a chair. She's an elderly woman and smells of soap. On her desk is a miniature Abkhazia flag.

"Can you tell me what you're researching, Doctor?"

"Bulimia, anorexia. I am interested in the monkeys' brains when they are made to have eating disorders. I look at the prefrontal lobe, the neocortex—"

A sound comes from the lower floors of the building—little fists banging against metal. Djokova looks out the window. On the hillside, palm trees brush against a statue of Ivan Pavlov petting a dog. This facility (also known as the Institute of Experimental Pathology and Therapy) is the brainchild of Ilya Ivanov, a biologist renowned for cross-breeding a donkey with a zebra and an antelope with a cow. There is speculation that in the 1920s Joseph Stalin directed Ivanov to create a new race of human-ape hybrids that would serve the Soviet Union as soldier workers. I'm here on the shores of the Black Sea, inside the renegade Republic of Abkhazia, to find out if Ivanov succeeded. Only I don't quite know how to ask.

"I understand you also work in astrophysics?"

Djokova's mouth tightens. "I am low on the necessary specimens, young male ones. The healthy infants, when they are born, are sent to Russia."

Below, the banging gets louder. It's the rhesus monkeys. I saw them earlier in their holding room, a row of metal boxes waiting to be wheeled into the lab.

"Why do the males go to Russia?"

"For the Mars mission. To be trained for the capsule."

Djokova opens a drawer in her desk. She hands me a photo of a macaque in a diaper. The monkey is flat on its



In Sukhumi, the monkey was revered as a Soviet hero.

stomach, but its arms and legs are in the air. It looks like a skydiver in free fall. "The specifications of muscle failure at zero gravity were developed here in my lab," Djokova says.

I look closer at the photo. The diaper is fastened to an operating table. Electrodes cover the monkey's shaved scalp.

"My findings are widely acknowledged. But now we have no more money for this kind of research."

My journey to the subtropics of the Russian Riviera began in Moscow. Ever since Abkhazia attempted to break away from the Republic of Georgia in 1989, that country has responded with bombs, blockades and diplomatic damage control. Land crossings are restricted. The airport in Sukhumi, Abkhazia's capital, has been shelled to rubble. Visitors to the region typically travel from Moscow through the Russian resort city of Sochi, where the 2014 Olympics will be held, and then take a bus to the border.

In 1993, as its war with Georgia approached a stalemate, Abkhazia turned to the north for protection. Russia eventually obliged, with a few conditions: military bases, property rights for its security officials, first dibs on minerals in the mountains and oil in the sea. Abkhazia is now a de facto state

recognized only by Russia, Venezuela, Nicaragua and the Pacific island nation of Nauru. A top U.S. State Department analyst told me the enclave has become a haven for the illegal weapons trade. "It should be safe enough," the analyst assured me, "if you're interested only in monkeys."

In April it was still snowing at Moscow's Domodedovo airport. My flight to Sochi held plenty of oil executives. They were young, tall and extremely rich. A few wives and girlfriends—detached ice queens with long legs and diamonds in their ears and nostrils—sat beside them, wearing expressions of infinite boredom.

In Sochi the airplane door opened to humidity and the smell of the sea. It was just past midnight. My taxi sped along Lenin Street between corridors of palm trees. The Olympics has transformed the city into a honeycomb of construction sites, running around the clock under floodlights. At my hotel, the bartender looked like a Vegas croupier. He'd just started his shift, he told me. After fixing my cocktail, he made a tray of espressos. I thought I was alone at the bar, but I turned to find the lobby filling with prostitutes who had timed their arrival with the landing of our plane.

The next morning I boarded a bus for Abkhazia. Back on Lenin Street, daylight revealed the construction—tourist lodges shaped like ski chalets, a theme park featuring a gigantic luge. On the horizon, the Caucasus lay dusted with snow. A few hours later I was the only remaining passenger on the bus. The driver dropped me at a rusting metal bridge. A welcome banner read REPUBLIC OF ABKHAZIA. It was the kind of banner you'd see advertising a carnival or an artichoke festival. On the other side of the bridge I entered a trailer, where a young woman stamped my passport. My next bus stopped often for crossing cows. On the road, columns of Abkhazians returned on foot from the Russian border, dragging

hand trucks loaded with rice. I was finally nearing Sukhumi, where Soviet scientists tried to create the missing link.

In Mikhail Bulgakov's satirical novel *Heart of a Dog*, a surgeon implants human testicles into a mongrel from the streets of Moscow. After the operation, the creature sheds his fur, stands on two legs and barks the rhetoric of Stalin. "Oh, the marvelous confirmation of the theory of evolution!" the surgeon's assistant exclaims.

Bulgakov wrote his novel in 1925. The next year, the primate center started taking shape. Reports of experiments involving human-chimpanzee hybrids in the Soviet Union had been circulating in émigré newspapers since the late 1920s, but few observers took them seriously. The rumors persisted, fueled by an ambiguous 1926 memo from the Politburo ordering the creation of a "living war machine." Stalin was purported to have told Ivanov, the nation's leading animal-breeding scientist, "I want a new invincible human being, insensitive to pain, resistant and indifferent to the food they eat."

Since the breakup of the Soviet Union, the Russian government has gradually approved the publication of previously classified Stalin-era archives. One document revealed a special commission created in 1929 to evaluate "Ivanov's proposed anthropoid interspecies hybridization experiments." Did Ivanov really conduct these experiments? If so, what methods did he use—and what were the results?

Sukhumi's "monkey sanctuary," as the locals now call it, rises above Abkhazia's capital at the top of a winding road lined with eucalyptus trees. A crumbling stone staircase leads to a neoclassical entrance hall, its windows shattered, its walls cratered with shrapnel. The Russian government, no doubt aware of the research facility's condition, offers only a minimal subsidy. Many employees report to work without pay. Over the past 20 years, the primate center has doubled as a zoo to help pay its bills. A woman sells bags of orange slices beside a sign that reads DO NOT FEED THE ANIMALS.

After paying the entrance fee, you step through a small museum. Stuffed chimpanzees, baboons and macaques occupy the display cases. On the wall, a diorama shows an evolutionary tree with humans and chimps on the uppermost branch, just above orangutans, gorillas and bonobos. (We share 98.4 percent of our DNA with chimpanzees.) Photos show Nikita Khrushchev and Ho Chi Minh grinning beside the monkey cages. During the primate center's glory days, scientists in Abkhazia conducted groundbreaking research on leukemia, radiation and the biological effects of space travel. The largest display features a tribute to Yerousha and Dryoma, rhesus monkeys that were launched into space for 13 days. Dryoma earned medals for his service and retired to Havana as Mikhail Gorbachev's personal gift to Fidel Castro. Meanwhile, you have to look hard for any trace of Ivanov in the institute's museum. His black-and-white photograph occupies the bottom shelf of a corner cabinet, together with his manual on artificial insemination.

In the mid-1920s the Soviet Union embarked on a campaign of radical scientific experimentation to transform one of the world's most primitive agricultural countries into a leading research center for plants and animals. Biologists developed new hybrids of vegetables and grains, many still in use today. Livestock farmers, invited to suggest areas for future research, complained of unproductive hens and brood mares failing to conceive. Could anything be done?

Ivanov, son of a treasury official, studied physiology at Kharkov University and trained in the laboratory of Ivan Pavlov. He was the first Russian to institutionalize genetic experimentation and began selective breeding in stud farms. By his 30s he had developed his own artificial insemination methods, which involved a spermicidal sponge and catheter. He'd also gained an international reputation by creating hybrids previously unseen.

Outside the primate center museum I caught up with senior technical scientist Nona Aiba. She was making her way to the monkey cages. Like most of the staff, Aiba works the occasional shift as a guide. A family visiting from Moscow—a young couple with two boys—hurried along beside her. The mother carried a box of biscuits, the father a bag of orange slices. We came into a courtyard, where cages formed a semicircle. At the first enclosure, macaques came leaping to the bars.

The boys screamed with delight. They placed biscuits and orange slices into the monkeys' outstretched palms. I took the opportunity to ask Aiba a few questions.

"Can you tell me anything about Ilya Ivanov?"

Aiba smirked. "His research is no longer a secret," she said. A crucifix hung from her neck. "But we do not like to talk about him."

I held my voice steady. "Did he manage to inseminate any chimps? Or maybe humans?"

More macaques scaled the front of the cage. Four-digit numbers were tattooed on their chests in blue ink. On a ledge, the older macaques huddled together. A smaller male screeched for a biscuit and was elbowed aside. He climbed to the top of the cage, positioned his ass between the bars and aimed his shit at a stray dog.

Aiba directed our conversation to the war with Georgia. During the worst days of the blockade, there had been little food for humans, let alone animals. The most dedicated staffers kept the sanctuary going. "For two years," Aiba said, "we were given only a loaf of bread for our weekly salary. You cannot imagine how difficult this was."

Some monkeys were released into the woods, where, it was hoped, they'd fend for themselves. Most were never seen again. A few returned to the edges of the sanctuary and waited for the humans to come back. These survivors and their offspring make up the current population of the center—nearly 400 rhesus monkeys, other macaques and baboons, traumatized from the war and diseased from inbreeding.

Aiba steered us to the center of the courtyard, where a statue of a female baboon looks out toward the Black Sea. The animal

it commemorates lived to the age of 40. She had given birth to 207 babies with multiple partners. Across the former Soviet Union, absurd monuments are as plentiful as potatoes—but in front of the giant baboon mother, even the tourists from Moscow stopped and smiled. "It is the largest monkey statue in the world," Aiba said.

The real baboons waited quietly in the distance. Baboons are much bigger than macaques and possess an unnerving stare. The first cage held an isolated female with bloated red genitalia. As we approached, she rubbed the front of her face across the metal bars, back and forth, with a noise so loud it was hard to hear anything else. In an adjacent cage, six males started to hoot and grunt. The oldest was clearly in control. He had shoulder-length silver hair, and he sat on his hands in the center of the cement floor, surrounded by feces. One of the younger males was grooming him.

"This one we call the Professor," Aiba said. "He got his name after we had to let the animals go. When the hardest fighting was over and we were finally able to come back, we found a lot of bodies—on the steps, at the bottoms of the palm trees. Most had starved, but some had been shot by Georgian soldiers. We carried the dead to the crematorium. In the library, we found the Professor. He probably smelled something in the old bindings. He was sitting at a desk with an open book, and he looked as though he was reading."

By now the Professor had eaten almost all the food. Each time a treat came into the cage, he bit and scratched the other baboons until they retreated. Even though he had a mouthful of oranges and biscuits, and another pile of food at his feet, the other baboons cowered in the corner.

"The last time I went into the Professor's cage," Aiba said, "he attacked me, too."

I wandered off in the direction of the crematorium. The primate center was even more depressing than I'd imagined. I couldn't look into the monkeys' eyes, and it bothered me that I didn't know why. The crematorium is a low gray building with a brick chimney. It waits, fittingly, at the end of a charred road. I passed a gutted passenger van, its seats burned to the metal. The monkey cages thinned out. A family of rhesus-macaques labeled MULATTOES, seemingly forgotten, had been placed on the road to the crematorium. One of the males rushed to the bars with a semi-erect penis. He stuck it through and rubbed himself while holding out his other hand for a treat.

Nearby, under a palm tree, a woman in a long dress and silk scarves chatted with a female member of the kitchen staff. The first woman, Dr. Saida Anua, had worked in the primate center before the war. She had been chief endocrinologist in the radiation lab.

I must have looked somewhat dejected, or just lost. Anua suggested she accompany me to the crematorium.

An elderly worker pushed a handcart toward us. He recognized Anua, and they inquired after each other's families. I noticed his cart contained EEG paper—a thick stack of it, with a spidery trail of ink where the electrodes had registered their data. After saying good-bye, the worker pushed his cart

back across the rubble, into a building without windows or doors.

“They are trying to rebuild,” Anua said cheerily as we kept walking. “Still conducting their research. Perhaps the Americans can help with funding?”

“I’m only here to find out about Ilya Ivanov,” I said. We’d reached the entrance to the crematorium, but I no longer wanted to go inside.

Anua put her hands on her hips. “The crossbreeding? Why do you want to know about that?”

“I thought the story might be interesting.”

Anua laughed. “Well, you won’t find any records of Ivanov here.” She pointed to a cluster of buildings in the hills. “The volunteers supposedly lived up there, along with a gynecologist. Nothing came of it.”

She studied me awhile, then opened her purse. On a scrap of paper she wrote down an address in Moscow. “Here. This is where all our records were taken, right after the Soviet Union broke apart. At this place you will find Dr. Ivanov’s files.”

The five-story headquarters of the Central State Archive, Moscow Oblast dominates a city block around the corner from a surprisingly decent Uzbek restaurant. An armed security guard sits at a booth inside the door. After I was cleared to enter, I asked the clerk for the Ivanov file. She brought me a box labeled COLLECTION 837, DOSSIER 1 and told me to find a desk in the crowded reading room.

On October 24, 1924, Ilya Ivanov delivered a professionally disastrous research proposal, which would lead ultimately to his exile. Using his techniques of artificial insemination, he would attempt to create a human-primate hybrid. I found no evidence of any military involvement in his research. Ivanov, along with his backers, hoped to establish evolutionary theory, bring credit to Soviet science and provide an alternative model for humankind.

The official response to his proposal was enthusiastic. Lev Fridrichson, a representative of the Commissariat of Agriculture, said Ivanov’s experiments would deliver “a decisive blow to the religious teachings and may aptly be used in our propaganda and in our struggle for the liberation of working people from the power of the Church.” The Soviet Academy believed a hybrid would “provide extraordinarily interesting evidence for a better understanding of the problem of the origin of man.” Ivanov also met with the Pasteur Institute, which had already begun to use apes as models for the study of syphilis, at its outpost in Guinea.

Ivanov initially tried to produce a hybrid by injecting human semen into female primates. Accompanied by his 22-year-old son, Ilya Ilich, he set up operations in the botanical gardens of Camayenne, near the capital of French Guinea. The colonial governor had been briefed on Ivanov’s plans. He deployed officers to help catch chimps and orangutans and keep the experiments secret.

Ivanov’s subjects were carefully chosen—two female chimps named Babette and Syvette. Ivanov constructed elaborate

restraining nets and tested various doses of sleeping gas. He fed Babette and Syvette well, waited until after they’d had their periods and transferred them to smaller cages, with nets twined around their bodies. Then, after administering mild doses of sleeping gas (Ivanov believed females needed to be at least semiconscious to conceive), he injected them with the semen of an unidentified human donor. According to his diary, this process was dangerous. The father-and-son team, whenever entering the cages, carried loaded Brownings. During one examination, the chimps fought back with bites so severe, Ilya had to be taken to the hospital.

Word of the experiments spread to the U.S. The Ku Klux Klan sent Ivanov a threatening letter, insisting his research sullied the human race. Detroit lawyer Howell S. England promised to raise \$100,000, presumably in the hope that positive results would stimulate broader interest in atheism. Robert Yerkes, president of the American Psychological Association and eventual founder of the first primate lab in the U.S., at Yale, declared Ivanov a pioneer. “The effort to create an ideally suitable laboratory chimpanzee,” Yerkes wrote, “may prove useful to those who are seeking an ideal for mankind.” (He would later design his research facility after the Sukhumi Primate Center and gain a \$500,000 grant from the Rockefeller Foundation. A handful of scientists, some of whom have remained anonymous, claim Yerkes definitely created a human-chimpanzee hybrid in his lab and euthanized the infant to avoid the ethical ramifications of its existence.)

In Africa, Ivanov failed to impregnate any primates. He blamed a number of factors—an outbreak of dysentery, inferior equipment, not enough docile animals. He decided to switch gears and inject chimp semen into women. This method had the advantage of safety because the primates did not have to be alive. “It is enough to use testes,” Ivanov wrote, “quickly cut after the animal’s death.” He tried to recruit native women as paid subjects but received only refusals. One hospital in Conakry, administered by the French, offered its assistance—and in the early months of 1927 Ivanov began to identify patients of African origin who had no idea they were being considered for his experiments. But before the project got under way, the local governor impeded its progress, citing a concern for informed consent. Frustrated and running out of funds, Ivanov blamed a “backward” African culture. He sought female subjects who were willing, Russian and white. The Communist Academy agreed to fund his research in Abkhazia.

The Commission on Interspecific Hybridization of Primates hoped Ivanov would “attract the participation of women...whose interest would be of idealistic and not of monetary nature.” Remarkably, the commission was right. (Others have reported that political prisoners were used as subjects, but I found no basis for this.) Many women wrote to Ivanov, asking if they could assist in the eradication of the Christian “bourgeois” family.

There were also desperate cases. As I sat in the archives room with Ivanov’s letters, I glanced at the elderly women beside me.

What eventually happened to his volunteers? “My request is to involve me in your experiment,” one woman from Leningrad wrote. “The idea to serve science infused me with determination to address you, and I implore you not to refuse me.” She even made a case for her fertility, noting she had once been pregnant and “had the pregnancy terminated.” Ivanov promised to keep her informed of when he’d need her services: “The experiments in Sukhumi will be made without doubt.”

On July 1, 1927 Ivanov and son left Africa. They brought with them two gorillas, 13 chimps (including Babette and Syvette), and a 26-year-old orangutan named Tarzan, among others. The orangutan represented Ivanov’s greatest hope. Using microscopic analysis, he had determined that Tarzan’s semen contained the most viable spermatozoa of all his primates.

Though I found no proof that Stalin directed Ivanov’s activities, he almost certainly would have authorized them. In today’s money, Ivanov received more than \$250,000 in support, and the Soviet government honored the primate center with a title: “The Order of the Red Banner of Labor Scientific and Research Institute of Experimental Pathology and Therapy of the Academy of Medical Sciences.”

Almost immediately, things went wrong. Syvette died in her shipping crate. More monkeys died en route or shortly after arrival. Additional African primates were captured, crated and shipped. Ivanov’s human volunteers were ready—they agreed to abstain from sex, maintain absolute secrecy and, with one-year contracts, live in complete isolation with gynecologist O.O. Topchiyeva, a daughter of one of Ivanov’s friends. The file holds no information on the insemination attempts, but the year apparently passed without positive results. Then Tarzan died of a brain hemorrhage. Ivanov ordered five more young adult chimpanzees. These arrived (alive) in the summer of 1930, but Ivanov would not have long to experiment with them. He was arrested that winter.

Public failure in the Soviet Union often meant exile and death. Strangely, Ivanov’s diaries do not indicate any fear of arrest, even though many of his allies at the academy were disappearing. Ivanov was accused of various counterrevolutionary activities—including “using a defective catheter”—and was ultimately exiled to five years in the desolate Kazakh Republic. His chief accuser succeeded him in many of his responsibilities, and without explanation, all hybrid experiments came to a halt. There is no further record of his female volunteers. Less than two years later, Ivanov died of a stroke. Meanwhile, down in Abkhazia, researchers put the monkeys to use in biomedical experiments. Sukhumi would become the model for all future primate labs on the planet.

Over the past century our approach to our closest animal relative has evolved dramatically. Ilya Ivanov might have failed to produce his hybrid, but he risked his reputation—and his life—in the cause of his unusual campaign. Why does he matter? And why should we be resistant to the

notion of a human-chimp cross? Scientists have created many hybrids. Tangelos are now commonplace, and then there are mules and ligers. The first in vitro baby was born in 1978, amid accusations of Frankenstein science; since then about 4 million IVF babies have been born, and a developer of the procedure has been awarded a Nobel Prize. If we tinker with almost every aspect of life—cloning, grafting and splicing genes to suit our needs—why should the human species be sacrosanct? Is our revulsion to a Homo sapiens hybrid simply a product of Judeo-Christian beliefs?

These questions pestered me as I carried the Ivanov file back to the archives clerk. She returned the box to a wall of records spanning hundreds of years of Russian science, and I realized I didn’t need more data—I needed wisdom. Mary Midgley came to mind. England’s preeminent moral philosopher, Midgley studied with Ludwig Wittgenstein and has written dozens of books and articles on subjects ranging from evolution to wickedness, including one of the most discussed examinations of human nature, *Beast and Man*. On my way back from Russia, I joined her for lunch at her home in Newcastle.

I told Midgley about Ivanov’s hybrid experiments, my trip to Abkhazia and what I had learned at the archives. I asked her what she thought of the scientific attempt to redraw the boundaries of our species. Midgley said nothing as she stirred our soup. At 92, she’s still publishing. Drafts of future papers lay scattered around the house.

“I seem to remember this hybrid question,” Midgley finally said. Her eyes—playful, restless, bright blue—flickered in my direction. “It was Desmond Morris who claimed that only for superstitious reasons are we protesting. And I remember thinking exactly what I think now: that he was absolutely wrong. We simply shouldn’t try to create such a thing.”

“Why not?”

“Because it would spend its entire life thinking of itself as an experimental subject. What is the use?”

“To create something new? To investigate the nature of humanity?”

“But why fabricate new animals? We haven’t finished understanding the ones we’ve got.”

I squirmed in my chair, recalling my days as a philosophy undergraduate. I peered at a photograph of a meerkat taped to Midgley’s cupboard. “Well—what about proving evolution?”

“Evolution has been doing jolly well on its own. I don’t think any experimental animal changes that. Anyway, no creature should be treated as a thing—and the more like us it is, the less we should try. Darwin had it right. He said ‘damnable and detestable curiosity’ should never be the basis for experimentation.”

With that, Midgley brought over our tomato soup. We sat across from each other at her kitchen table, unfolded our napkins and turned our conversation to fruit flies.

Maybe philosophers and novelists should be paid more heed. Near the end of Bulgakov’s *Heart of a Dog*, as the sadistic mongrel-man brings ruin to those who

created him, the surgeon laments, “That’s what happens...when the investigator, instead of feeling his way and moving parallel to nature, forces the question and tries to raise the curtain.”

When Ilya Ivanov arrived in the hills of Sukhumi in 1927, he carried the means and determination to build the world’s first colony of human-chimp hybrids. Since then, primates of one kind or another have procreated within his facility. It is not inconceivable for humans and primates to breed. However, humans have 23 pairs of chromosomes, and chimps have 24. Any surviving offspring would probably be burdened with abnormalities. The hybrids would be unable to reproduce (like mules)—but if they were systematically “back-crossed” with more humans, an emerging species might gradually bear children.

Today, most scientists know that primate reproduction requires more than simple artificial insemination. In order to conceive in captivity, chimpanzees need caressing, sensitive handling and affection from their captors. Is it possible that Ivanov’s hybridization methods took a more intimate turn?

Both male and female volunteers offered to take part in Ivanov’s research. Eman Fridman, former chief of informational analysis at Sukhumi, recently wrote that elderly residents at the primate center, long after Ivanov’s death, “asserted ‘authoritatively’ the existence of certain ‘fools who slept with the monkeys.’” Whatever happened, Ivanov was not the only employee at Sukhumi to face arrest. Scientist P.F. Zdrodofsky was thrown in jail, as were a departmental director, two midlevel employees and a man named Feldman who built one of the laboratory wings. Why would the Soviet secret police imprison a builder?

On my final afternoon at the primate center, I came across a badly damaged building with a bicycle parked by an open door. Anua had told me that some members of the staff resided at the center. A few were rumored to be related to Ivanov’s original staffers. The structure I discovered had holes where the windows should have been. Part of the roof had fallen in, and a tree grew out of the top floor. The heat and humidity can make Abkhazia feel like a jungle, but when I came through the door of this building, I felt a chill.

It was damp inside and dark. There was an overpowering smell of mold. A long black cord was stretched along the floor, where a lightbulb hung over a workbench. A pile of fresh wood shavings lay beneath a handsaw. On a shelf were carpentry tools and what appeared to be Christmas tree ornaments. A mug of tea stood beside some pencil drawings. I started to have the uncomfortable sensation of being watched. I walked quickly to the door and back onto the road leading to the museum. After a few steps, I stopped and looked over my shoulder. On the top floor of the building, sticking out of the window holes, were two dark-haired heads turned in my direction. The heads seemed human, but I confess I didn’t look at them for long.