

Younger Voices

The Bad Scientist

by Jesse Bjoraker

The laboratory was dimly lit and reeked of sulfur. The scientist stroked his dark mustache with obvious satisfaction and looked again at his newest prototype, which was beginning to stir on the table.

“Humphrey I. Vernon...” he grinned, revealing a row of pointy teeth. “Could anyone possibly think of a less dangerous sounding name? It’s perfect. For years, I’ve been going about this in entirely the wrong way. I’ve dedicated my considerable genius to designing longer claws and stronger jaws. I’ve made my creatures fierce and fearsome for the full frontal assault, brawny and brutal for the blinding blitzkrieg. And I’m still proud of some of them, especially the Amazon Anaconda, the Nile Crocodile, and the Great White Shark. They have a kind of grotesque majesty to which you’ll never even come close. But as far as biological weapons go, I have to admit that they are, well, almost complete failures. They manage to pick off a human here and there, but there are several billion of those disgusting vermin crawling the earth now, and their numbers are increasing steadily. When I conceived my beasts, I didn’t realize how their great size would actually be a weakness. Because of their great energy needs and slowness to reproduce themselves, there can’t ever be many of them, and because of their obvious visibility they’re easy to shut out or shoot at.

“I’ve had to change my tactics completely, Humphrey. Call it a ‘paradigm shift,’ if you like. Your predecessors were massive and massively complex; you’re diminutive and diabolically simple. They used force and violence; you’ll use stealth and patience. Their weapons were teeth and talons; yours are information, imitation, infiltration, replication. You won’t compete with humans; you’ll use their own tools and tendencies against them. You’re a spy, a saboteur, a hacker, a hijacker, a proselytizer and a terrorist all rolled into one neat little package. You’ll be lethal. They’ll never see you coming.”

The Human Immunodeficiency Virus, or HIV, is one of the smallest living things in existence, about one ten thousandth of a millimeter across. Magnified, it looks like an orange stuffed with cloves or a rubber ball covered with suction cups. Its outside, called the viral envelope, is a smooth, fatty protective sheath that resembles a human cell. The protrusions are glycoproteins, which enable the virus to stick to a human cell, merge its viral envelope with the cell membrane, and then unload

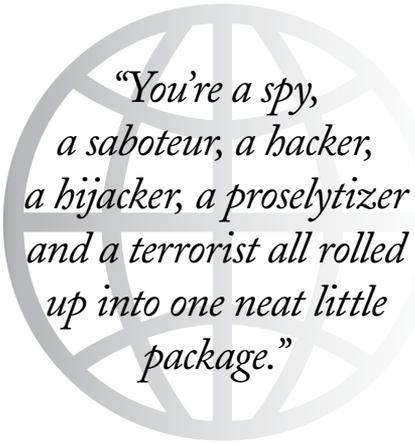
Jesse Bjoraker was born in Tel Aviv, Israel, to missionary parents, and has lived in Pasadena, CA, since 1990. He is a graduate of the US Center for World Mission's INSIGHT program and, more recently, of Wheaton College, where he majored in Philosophy and English.

its cargo into the cell's interior. The core of the virus is a roughly triangular packet of genetic information: two thousand viral proteins encasing a few different enzymes and two strands of RNA.

"You will, however, have to follow my instructions exactly which shouldn't be difficult, because I've programmed you to do nothing else." The scientist stood up and smoothed the wrinkles from the front of his immaculate white lab coat with his delicate hands. His yellow eyes gleamed. "I call it Operation Trojan Horse, although I suppose the allusion is lost upon you. The only entrance to the city is by a waterway on the south side. Tomorrow night you will float in on a small boat with the same identifying markings as the ones all of the citizens have. There's a sizable squad of guards at the gates and another at the docks to keep out the barbarians, but they shouldn't stop you—they won't suspect you and they may not even see you—and just in case they do, you'll be in disguise. Once inside, look for the soldiers' barracks. It shouldn't be hard to find, it's a huge white dome. Here it's impossible to get in by the main entrance, so sneak around to the other side under the cover of darkness, throw up your grappling hook, and climb in through the window. Steal a uniform and make your way to the lieutenant's quarters. Kill him quietly while he's sleeping, however you have to, and hide the body. You'll be impersonating him from now on."

HIV, like a fish, dies if it dries; it only enters a body in the juices of another's. It targets a particular class of immune cell, dendritic cells. Once its core is inside, the enzyme reverse transcriptase copies the one-stranded RNA into two-stranded DNA that is indistinguishable from the cell's DNA. The enzyme viral integrase carries the segment of viral DNA to the cell's nucleus and splices it into the cell's DNA. A cell is like a factory, and DNA is like its assembly instructions; now the virus

uses the cell's machinery to make viral proteins instead. The viral enzyme protease puts these proteins together into new, complete viruses. And these clones—some of which will be mutants—split off from their host cell to find others, taking over not just dendritic cells but other immune cells called T-helper cells. Dendritic cells travel throughout the body and congregate in the lymph nodes, giving the new viruses a prime opportunity to jump between them and then spread to new areas.



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"Needless to say, things will change once you're in command. This stage of the plan will be a long one, so bide your time. Institute new rules and assign new duties. Confiscate your soldiers' field manuals and replace them with the ones I've given you. Make sure that those who question your authority disappear mysteriously during the night, but reward those who follow orders. You will need their loyalty as well as their obedience. When, finally, you find a subordinate you can trust—he will probably be one of your recruits—make him an offer he can't refuse. Let him in on the plan. Tell him that the city is going to be destroyed but that you're giving him an opportunity to be on the winning side. He'll infiltrate and assume command of another barracks, just the way you did with this one. And you'll tell the general that he never returned from a dangerous mission; you don't want him to get suspicious just yet."

The virus lies dormant and undetected for between two weeks and twenty years. Often the infected person does not know he has it and spreads it to other people. At some point, different in every case, the protein TAT is activated and the virus awakens. Scientists have yet to figure why this happens when it does. Macrophages, the immune system's heavy infantry, recognize the foreigner and enlist the aid of the T-helper cells, which go into overdrive producing antibodies to fight it. But many of the T-helpers have been subverted by the virus to unwittingly produce more viruses instead of antibodies. The viruses proliferate until the T-helper cells overload, wear out, and die.

The scientist licked his thin lips with a long, narrow tongue. "Drop dark hints in dark taverns. Drive the jeep through the city and slip propaganda pamphlets under doors. Send dissidents to other cities. Do whatever it takes, use any subversive technique you can think of, as long as it's covert. And finally, when you think that a critical mass of the military is behind you, it's time to put the final phase of the plan into action. Have one of your henchmen attack one of the guards in broad daylight. He'll sound the alarm, and the closest barracks will send a patrol of soldiers. It should be a mix of rebels and patriots; those in the patrol who are loyal to you will liquidate those who aren't. When the city authorities realize what is happening, they will send more patrols to the scene, which will meet a similar fate, until every barracks is empty. Fling open the gates and let the barbarians in, and as the city burns, gather up the spoils and escape with as many of your men as you can."

A healthy person has about a million T-helper cells per milliliter of blood. When HIV causes this number drops below 200,000, the person is considered to have AIDS, Acquired Immune Deficiency Syndrome. HIV by itself doesn't kill, but it cripples

the immune system, allowing other pathogens to wreak havoc. Often the first defenses to weaken are those against mouth fungus and tuberculosis, then skin diseases, viral tumors, and pneumonia. Eventually, even diseases that a healthy person can resist easily, like the common cold, can be fatal. Medication can slow the pace of AIDS, but there is no cure.

“Make me proud, Humphrey. Simeon will take you to the drop-off point.” The scientist gestured at a small and ugly gray monkey hunched by his feet. He unlatched the heavy door, and paused to look at the letters on it. “What does that stand for? Hideous Experimental Laboratories of Lucifer?” As the door opened, he eagerly filled his lungs with acrid smoke and pricked up his misshapen ears to the distant sounds of weeping and gnashing of teeth. He swished his tail. “Why does God get all the

As the door opened, he eagerly filled his lungs with acrid smoke... He swished his tail. “Why does God get all the credit for intelligent design?”

credit for intelligent design?” he laughed. **IJFM**

is not meant to be an endorsement of any metaphysical or theological position.

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Postscript

Author's note: I wrote this short story as an assignment for a creative writing class at Wheaton College. Although I took inspiration from some of Ralph Winter's ideas about disease, this is a whimsical piece that

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