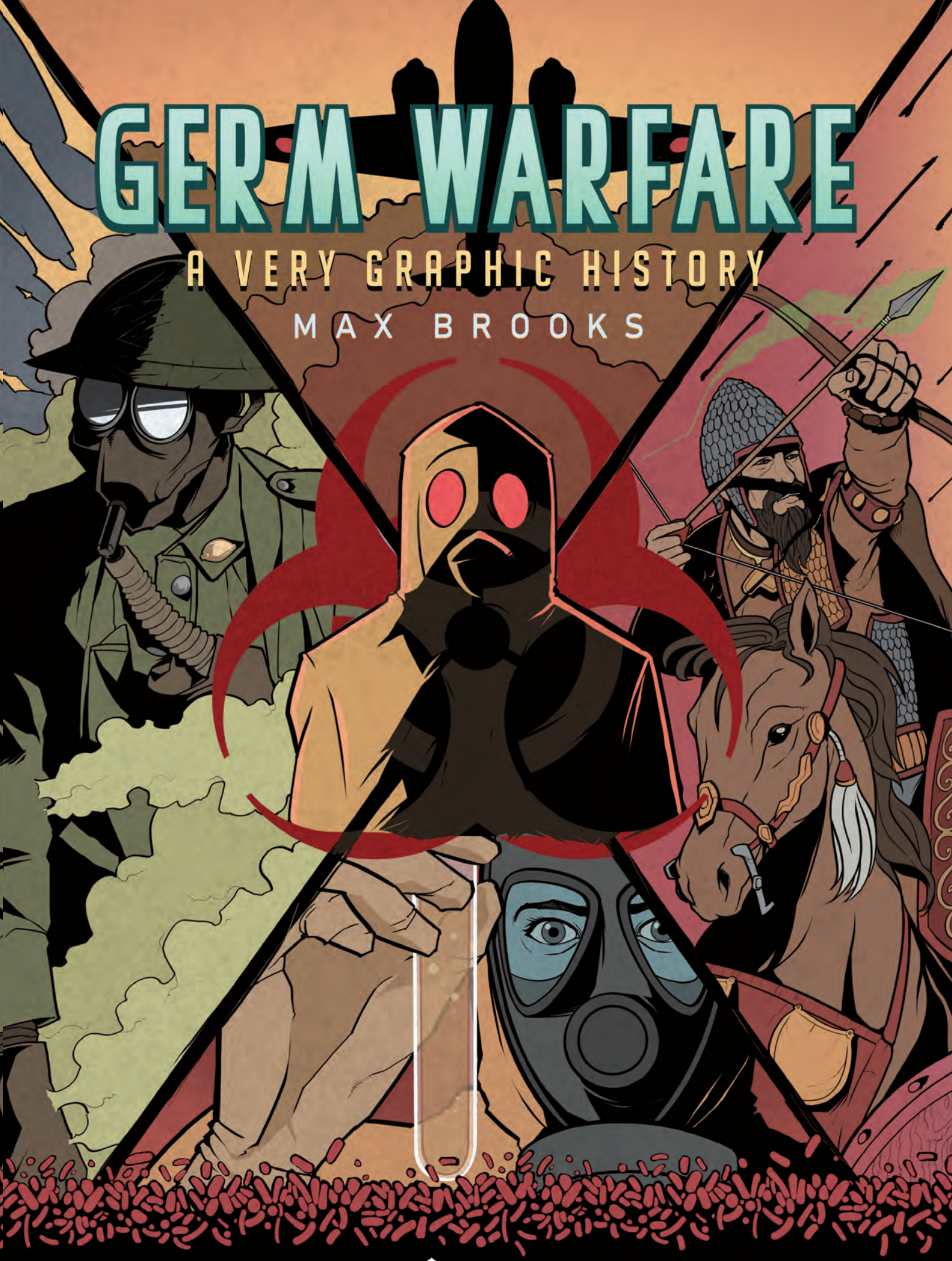
GERM WARFARE

A VERY GRAPHIC HISTORY

MAX BROOKS



BLUE RIBBON STUDY PANEL ON BIODEFENSE

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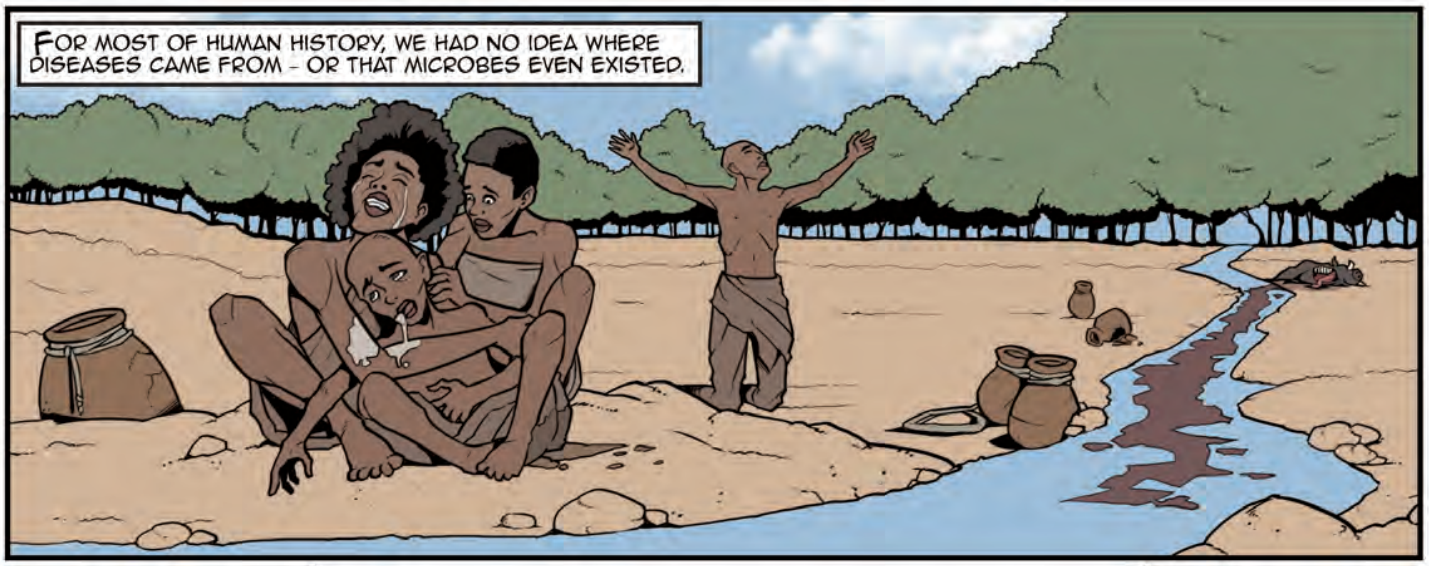
THEY ARE EVERYWHERE.

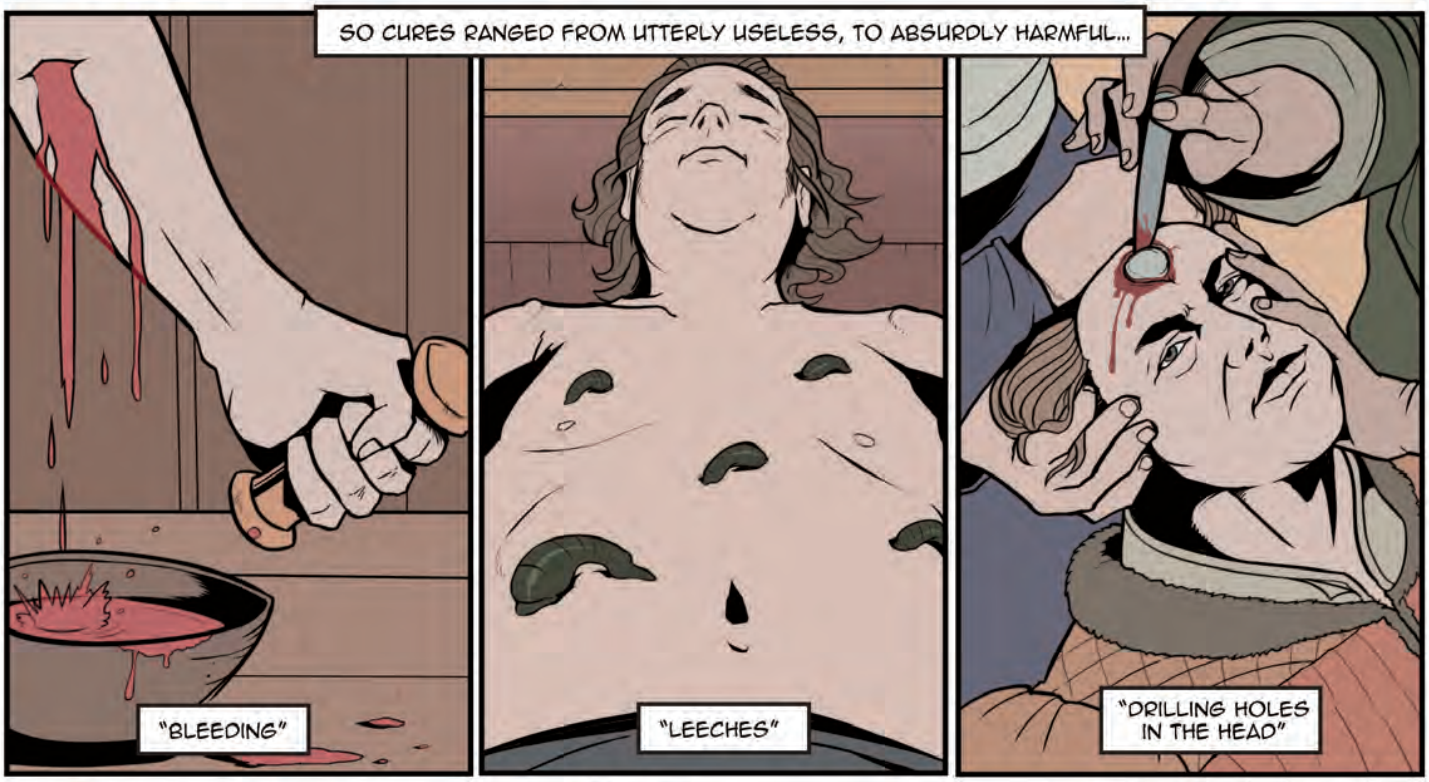
IN THE FOOD WE EAT.

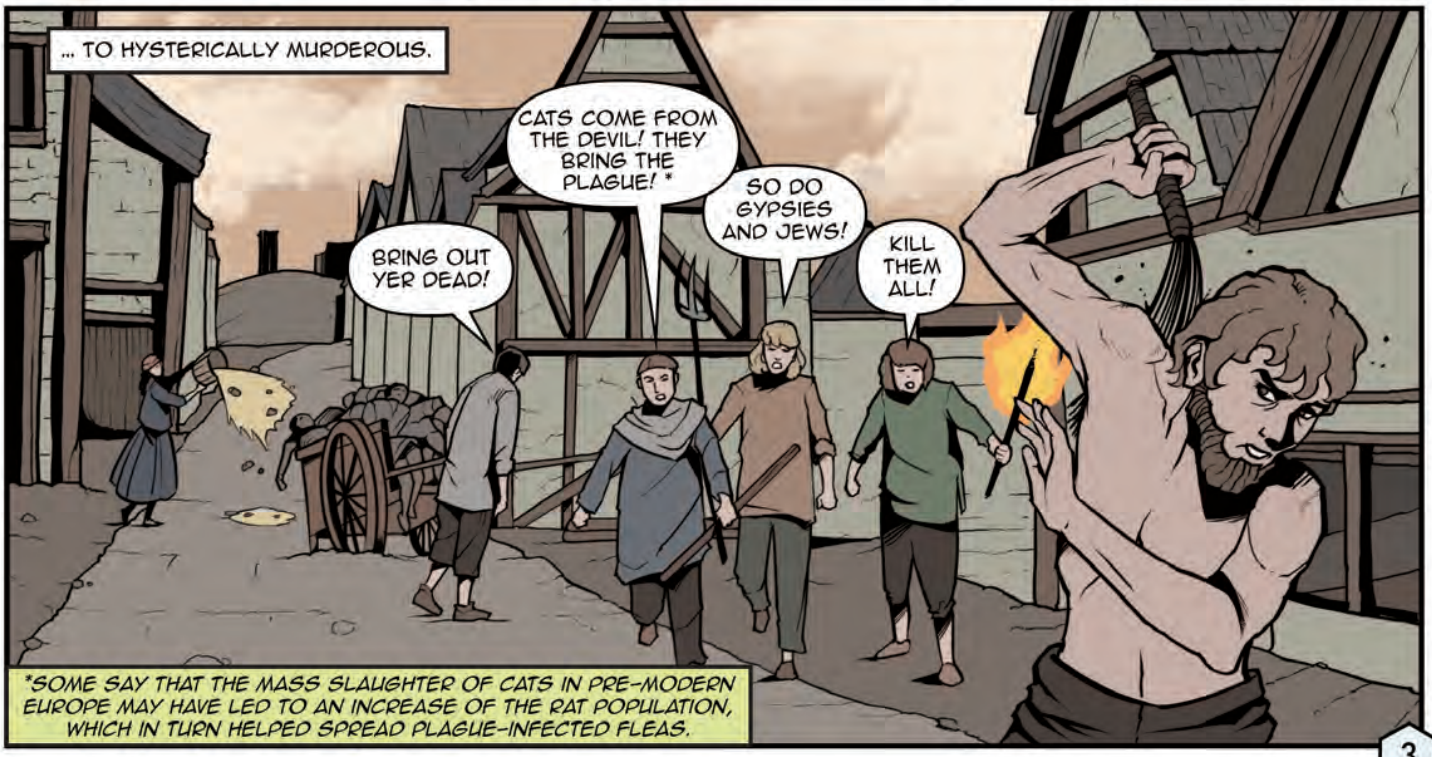
THE WATER WE DRINK.

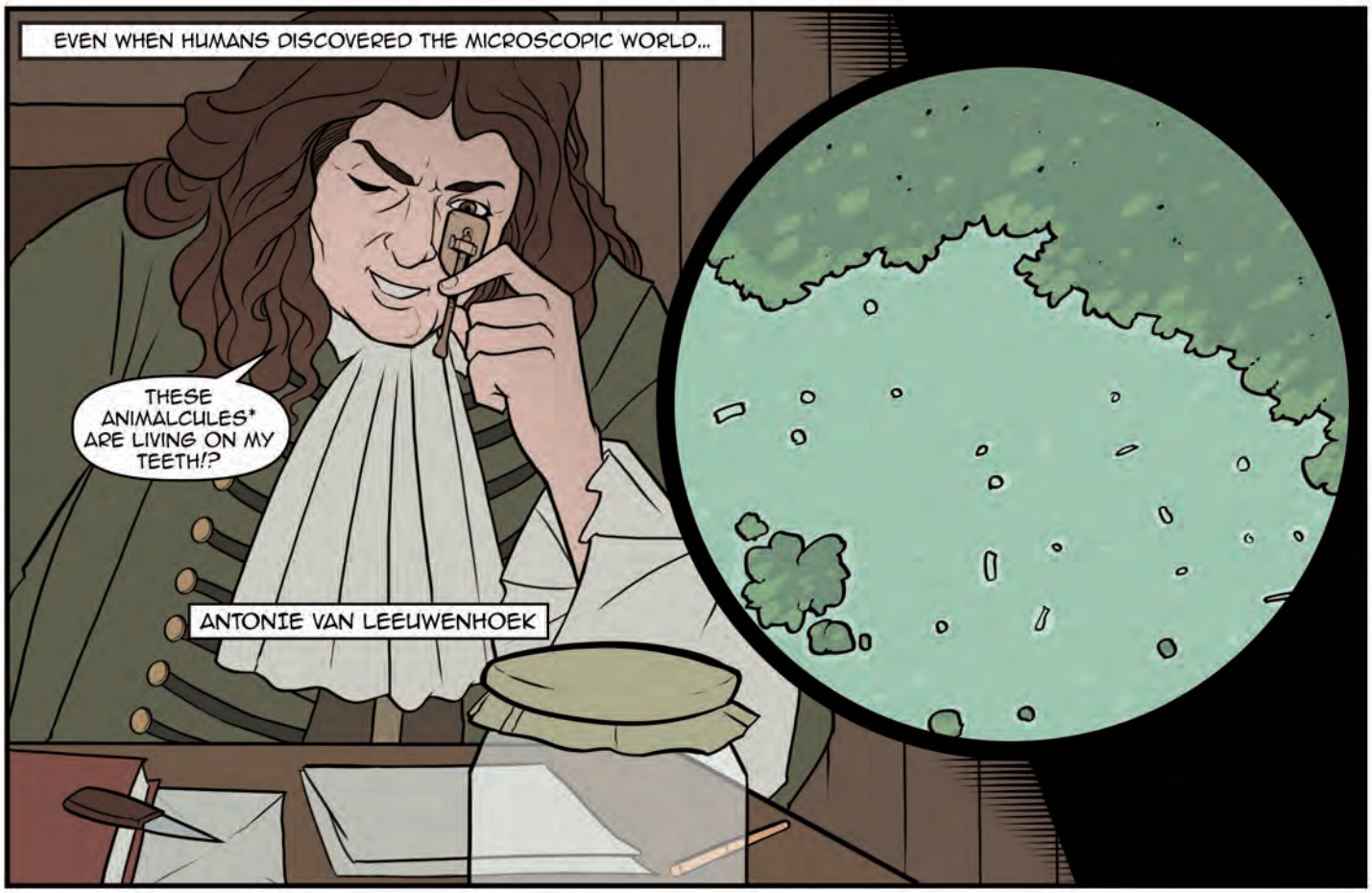
THE AIR WE BREATHE.

* FOR EXAMPLE, SOME TYPES OF BACTERIA THAT LIVE IN THE HUMAN GUT ARE NECESSARY FOR DIGESTING FOOD.


FOR MOST OF HUMAN HISTORY, WE HAD NO IDEA WHERE DISEASES CAME FROM – OR THAT MICROBES EVEN EXISTED.


SO CURES RANGED FROM UTTERLY USELESS, TO ABSURDLY HARMFUL...
"BLEEDING"
"LEECHES"
"DRILLING HOLES IN THE HEAD"

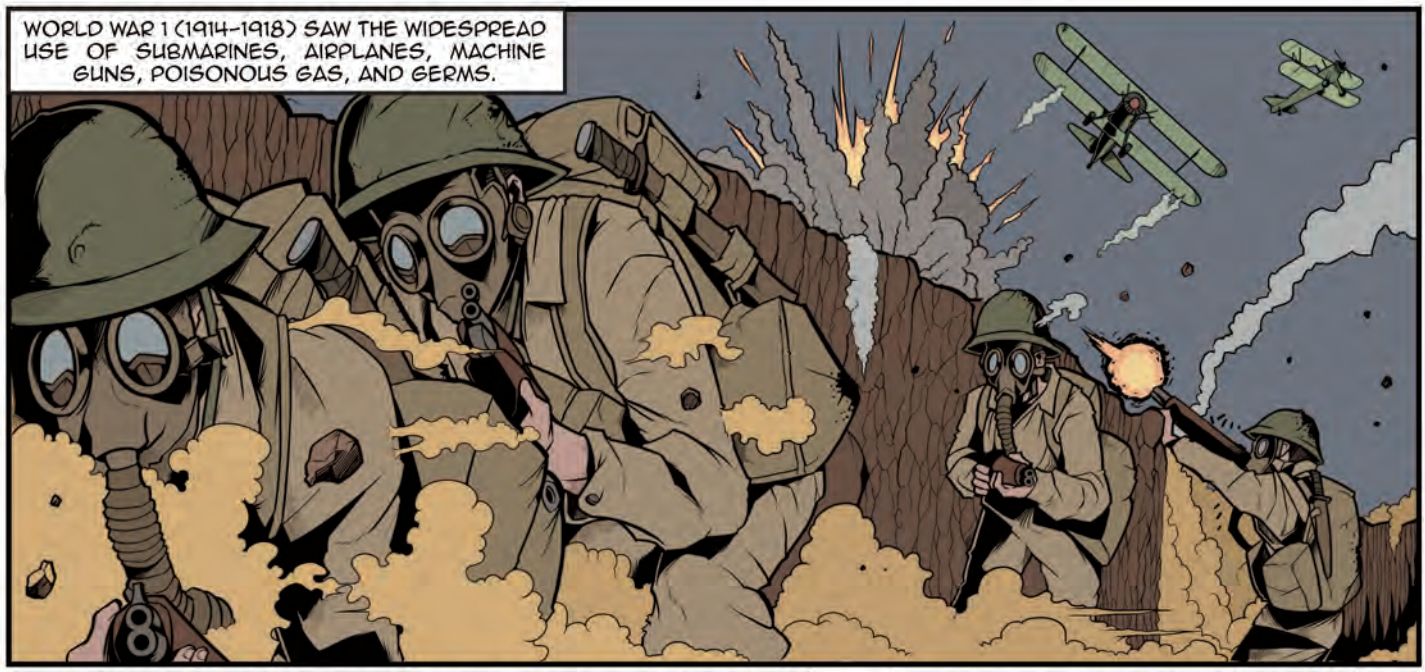

... TO HYSTERICALLY MURDEROUS.
BRING OUT YER DEAD!
CATS COME FROM THE DEVIL! THEY BRING THE PLAGUE! *
SO DO GYPSIES AND JEWS!
KILL THEM ALL!
*SOME SAY THAT THE MASS SLAUGHTER OF CATS IN PRE-MODERN EUROPE MAY HAVE LED TO AN INCREASE OF THE RAT POPULATION, WHICH IN TURN HELPED SPREAD PLAGUE-INFECTED FLEAS.

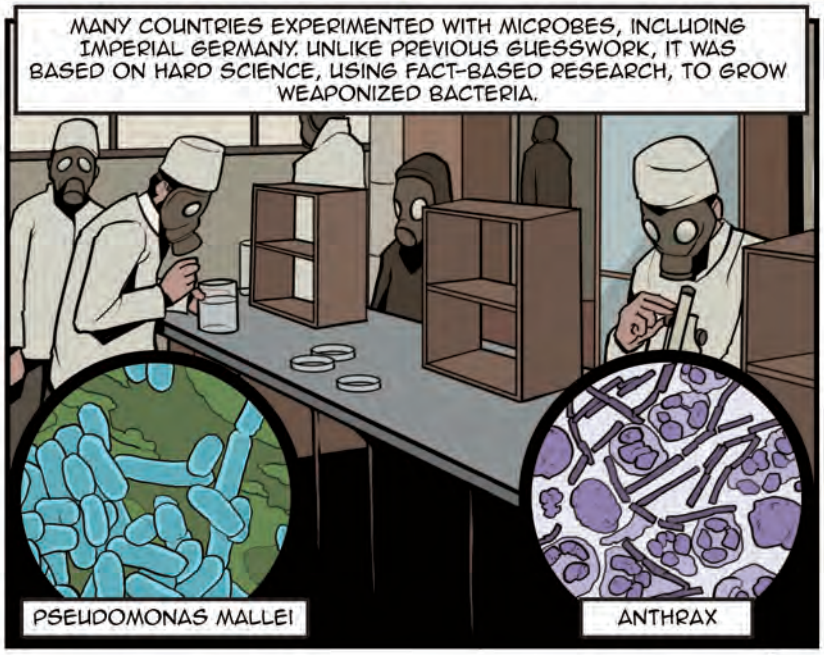

EVEN WHEN HUMANS DISCOVERED THE MICROSCOPIC WORLD...
THESE ANIMALCULES* ARE LIVING ON MY TEETH!?
ANTONIE VAN LEEUWENHOEK

HUMANS MIGHT NOT HAVE KNOWN WHAT CAUSED DISEASE...
PRAY INFECTION DOESN'T SET IN.
IT KILLS MORE OF OUR SOLDIERS THAN THE ENEMY!
...BUT THEY KNEW HOW DEADLY THEY COULD BE.
*ANIMALCULES: AN EARLY TERM FOR MICROSCOPIC LIFE.

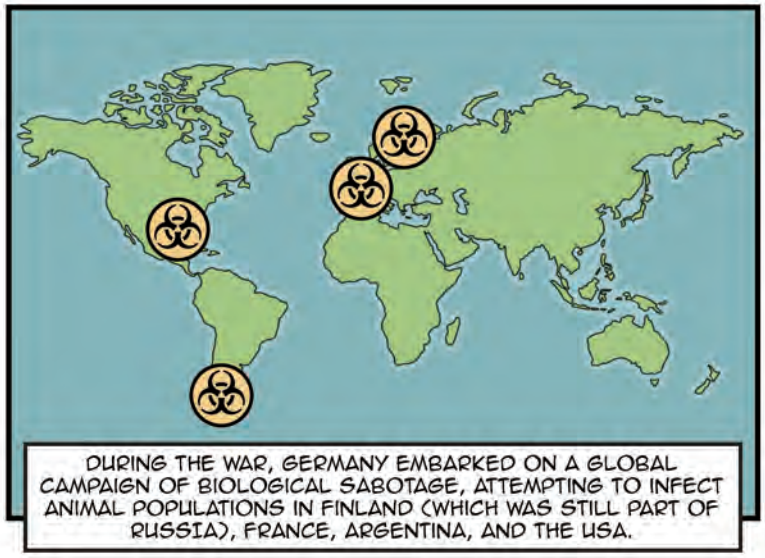
** FROM THE JOURNAL OF WILLIAM TRENT*
*** INVOICE TO THE CROWN, AUGUST, 1763.*
****TESTIMONY OF DR. BLACKBURN'S AGENT, GODFREY JOSEPH HYAMS.*

BY THE 19TH CENTURY, THE MEDICAL AND PUBLIC HEALTH COMMUNITIES BEGAN TO GET THEIR ACT TOGETHER.
WASH YOUR HANDS!
REVOLUTIONARY STEPS FORWARD WERE MADE BY IGNAZ SEMMELWEIS...
CARBOLIC ACID DISINFECTS BOTH THE WOUND AND THE SURGICAL INSTRUMENTS.
...SIR JOSEPH LISTER...
IT'S CALLED A "VACCINE" AND IT WILL HELP THE BODY BUILD UP A RESISTANCE TO THE DISEASE.
...DR. LOUIS PASTEUR...
... AND WOMEN LIKE DR. ELIZABETH BLACKWELL, DOROTHEA DIX, CLARA BARTON, DR. MARY WALKER, AND THE ARMY OF NURSES WHO SERVED IN THE AMERICAN CIVIL WAR.
YOU CAN'T DIG YOUR TOILETS RIGHT NEXT TO THE CREEK YOU DRINK FROM!
WHY?
REALLY?
BUT WHILE SCIENCE HELPED WIN THE WAR ON GERMS, IT ALSO HELPED USE GERMS FOR WAR.


WORLD WAR 1 (1914–1918) SAW THE WIDESPREAD USE OF SUBMARINES, AIRPLANES, MACHINE GUNS, POISONOUS GAS, AND GERMS.


MANY COUNTRIES EXPERIMENTED WITH MICROBES, INCLUDING IMPERIAL GERMANY. UNLIKE PREVIOUS GUESSWORK, IT WAS BASED ON HARD SCIENCE, USING FACT-BASED RESEARCH, TO GROW WEAPONIZED BACTERIA.
PSEUDOMONAS MALLEI
ANTHRAX

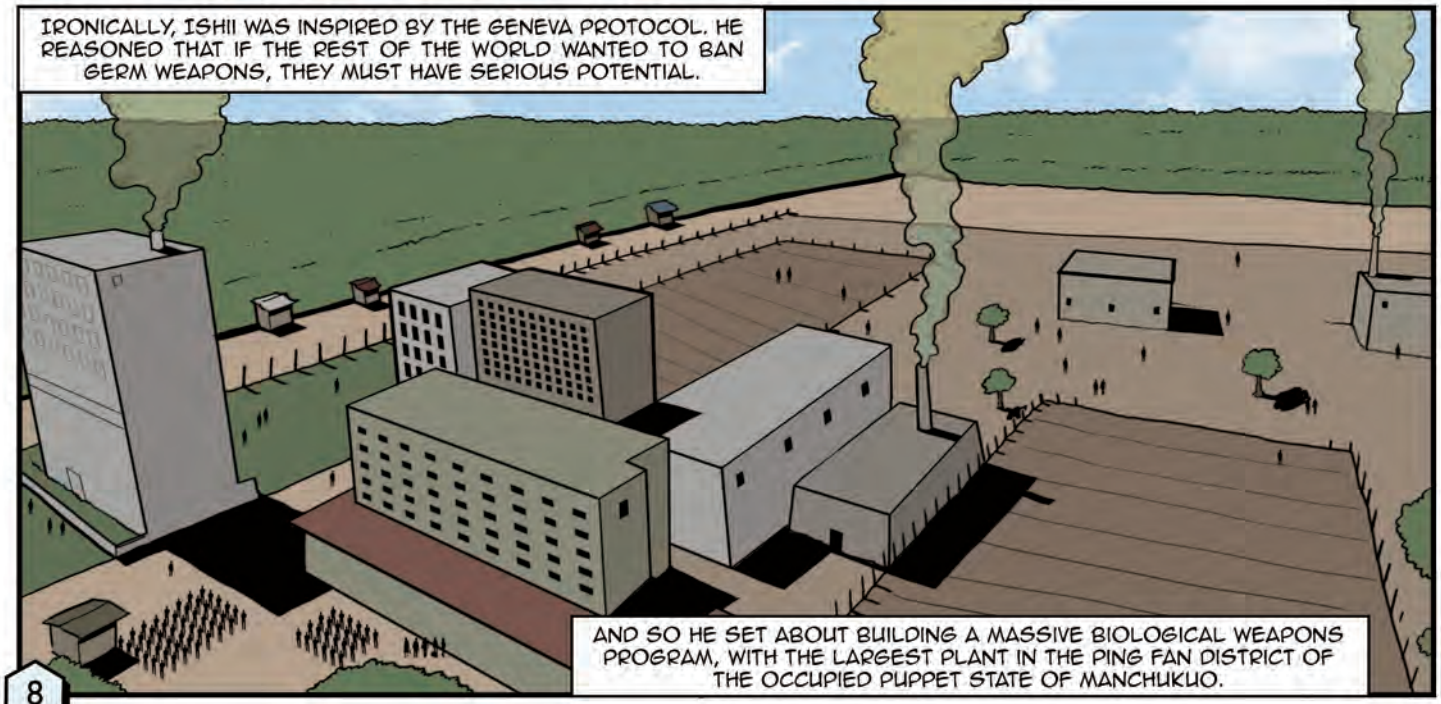
HORSES WERE THE PRIMARY TARGET OF THE ATTACKS, BECAUSE MOST OF THE WORLD'S ARMIES DEPENDED ON THEM FOR TRANSPORTATION.

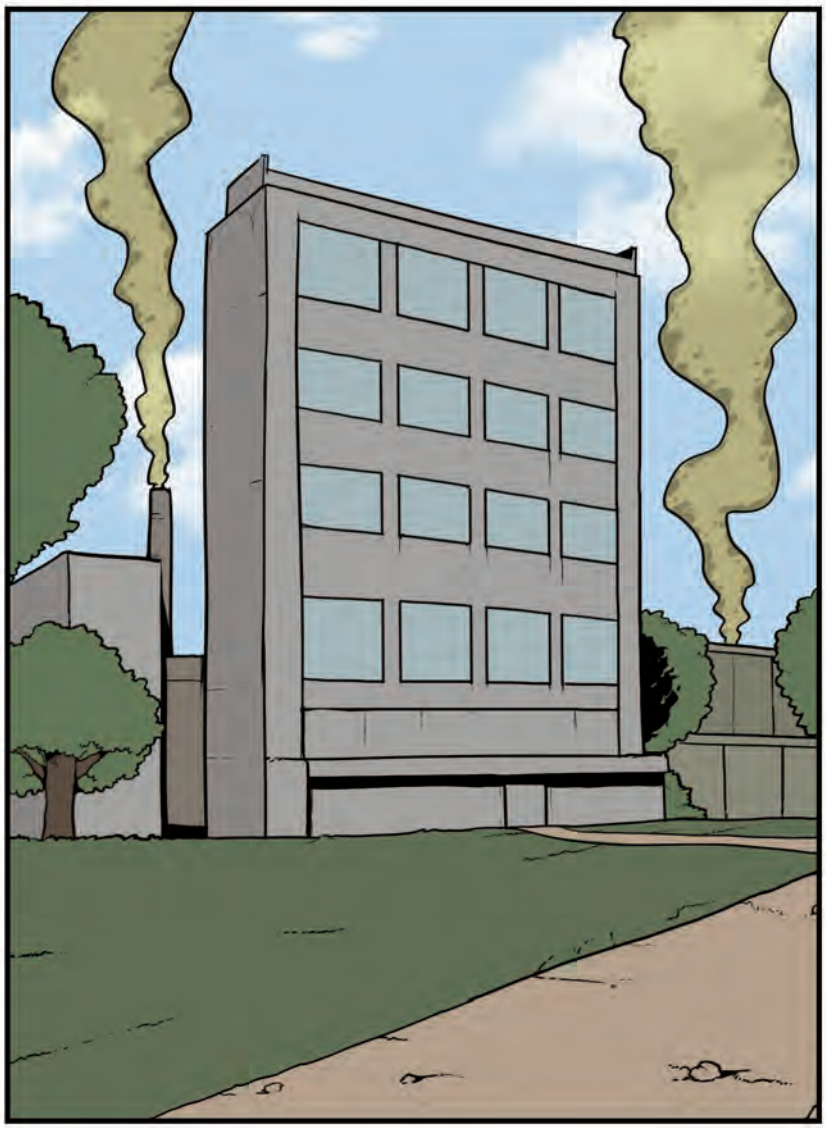

DURING THE WAR, GERMANY EMBARKED ON A GLOBAL CAMPAIGN OF BIOLOGICAL SABOTAGE, ATTEMPTING TO INFECT ANIMAL POPULATIONS IN FINLAND (WHICH WAS STILL PART OF RUSSIA), FRANCE, ARGENTINA, AND THE USA.

GERMAN SABOTEURS EVEN SET UP THEIR OWN BIOLOGICAL WEAPONS PLANT IN THE BASEMENT OF A HOME IN SILVER SPRING, MARYLAND.
FINISHED?
ALMOST.
WHILE IT'S HARD TO KNOW HOW EFFECTIVE THIS PROGRAM REALLY WAS...

... IT SCARED THE WORLD'S LEADERS INTO INCLUDING GERMS IN THE 1925 "PROTOCOL FOR THE PROHIBITION OF THE USE IN ASPHYXIATING, POISONOUS OR OTHER GASES AND OF BACTERIOLOGICAL METHODS OF WARFARE".

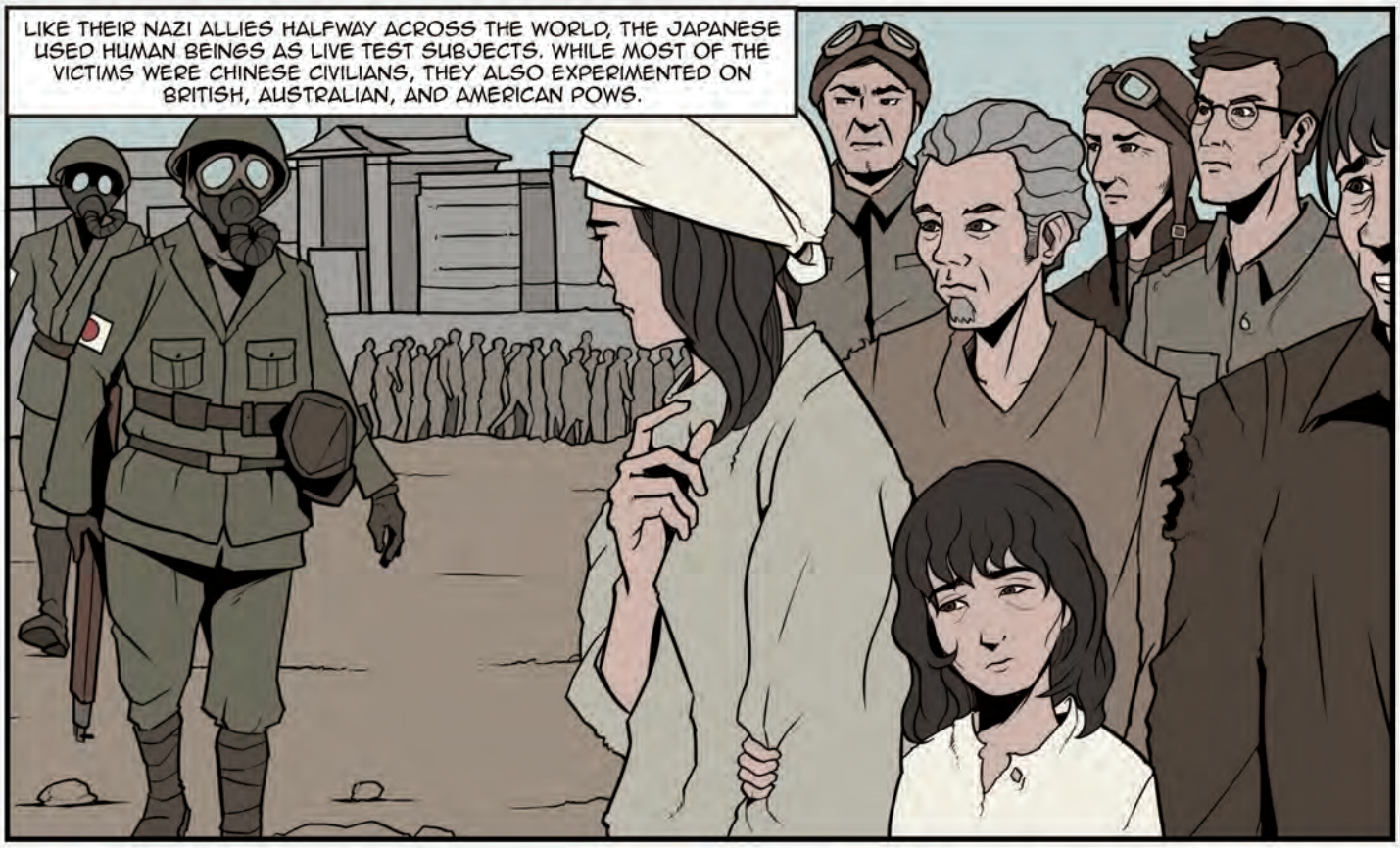
NOT ALL NATIONS RATIFIED THE GENEVA PROTOCOL AT THE TIME, INCLUDING THE RISING POWER OF IMPERIAL JAPAN.
UNDER THE LEADERSHIP OF GENERAL SHIRO ISHII, JAPAN CONDUCTED THE LARGEST, MOST LETHAL GERM WARFARE CAMPAIGN THE WORLD HAS EVER SEEN.


IRONICALLY, ISHII WAS INSPIRED BY THE GENEVA PROTOCOL. HE REASONED THAT IF THE REST OF THE WORLD WANTED TO BAN GERM WEAPONS, THEY MUST HAVE SERIOUS POTENTIAL.
AND SO HE SET ABOUT BUILDING A MASSIVE BIOLOGICAL WEAPONS PROGRAM, WITH THE LARGEST PLANT IN THE PING FAN DISTRICT OF THE OCCUPIED PUPPET STATE OF MANCHUKUO.



PICKING UP WHERE THE GERMANS LEFT OFF, THE JAPANESE SUCCESSFULLY GREW AN ENTIRE ARSENAL OF DEADLY MICROBES.
SMALLPOX
ANTHRAX
GLAN
BUBONIC PLAGUE
TYPHUS
TYPHOID
CHOLERA
SALMONELLA

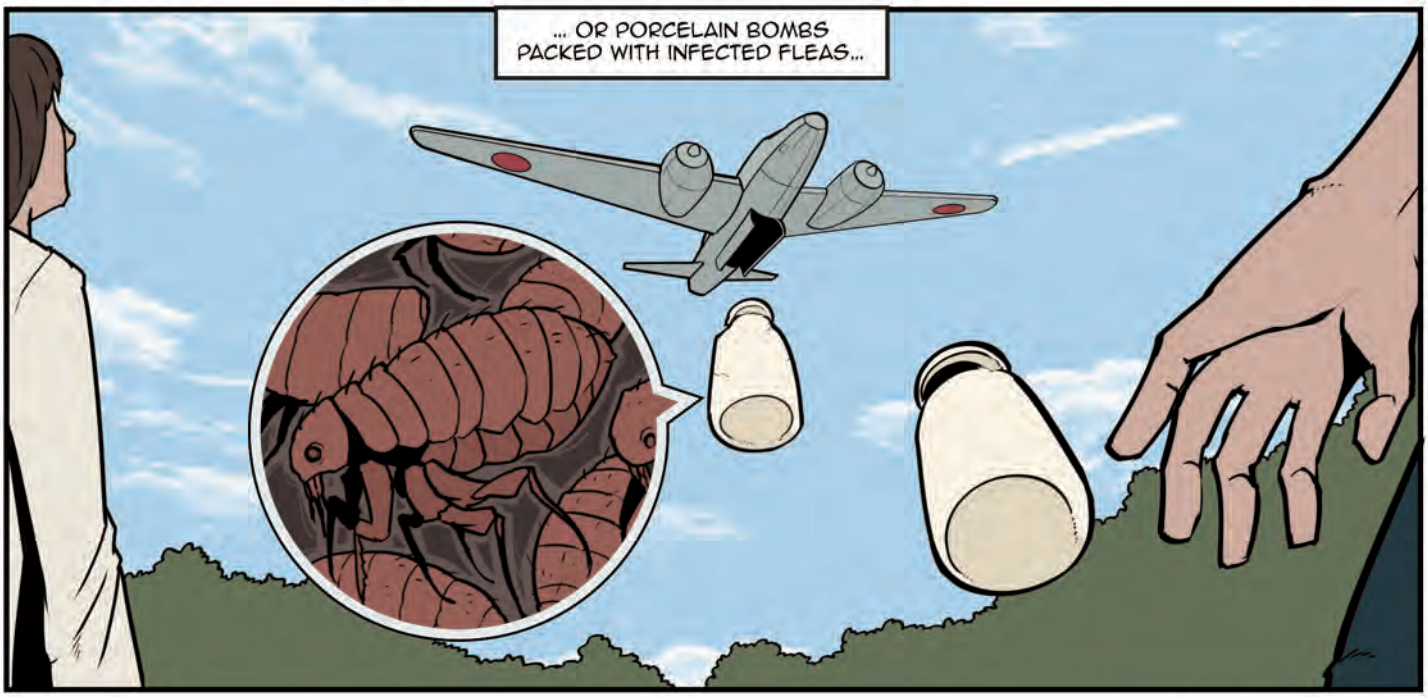
DERS
TULAREMIA
TUBERCULOSIS
TICK ENCEPHALITIS
GAS GANGRENE
BRUCELLOSIS
TETANUS
BOTULISM

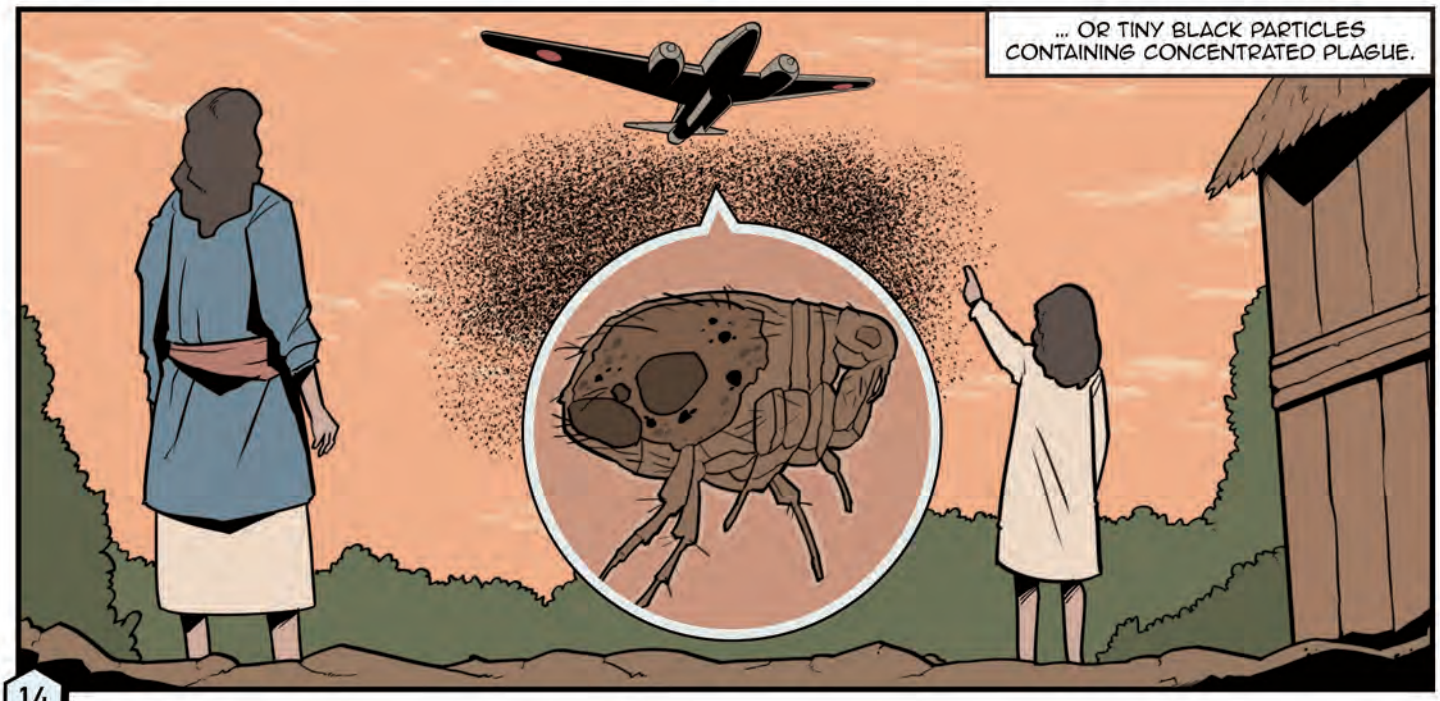

LIKE THEIR NAZI ALLIES HALFWAY ACROSS THE WORLD, THE JAPANESE USED HUMAN BEINGS AS LIVE TEST SUBJECTS. WHILE MOST OF THE VICTIMS WERE CHINESE CIVILIANS, THEY ALSO EXPERIMENTED ON BRITISH, AUSTRALIAN, AND AMERICAN POWS.

THE ESTIMATED NUMBER OF LIVE VICTIMS RANGES BETWEEN THREE THOUSAND AND TENS OF THOUSANDS.

DURING THE WAR, THE JAPANESE UNLEASHED THEIR BIOWEAPONS AGAINST THE SOVIET UNION AND CHINA.
POURING INFECTED SLURRY INTO RIVERS...
... SPRAYING RICE PADDIES ...
... GIVING OUT INFECTED CAKES ...
... GIVING PRISONERS INFECTED FOOD ...
... THEN RELEASING THEM, IN THE HOPES THAT THEY'D INFECT THEIR FAMILIES.
THEY ALSO DIRECTLY INFECTED PRISONERS ...
... THEN SENT THEM ACROSS THE BORDER IN THE HOPES THAT THEY'D INFECT THE RUSSIANS.

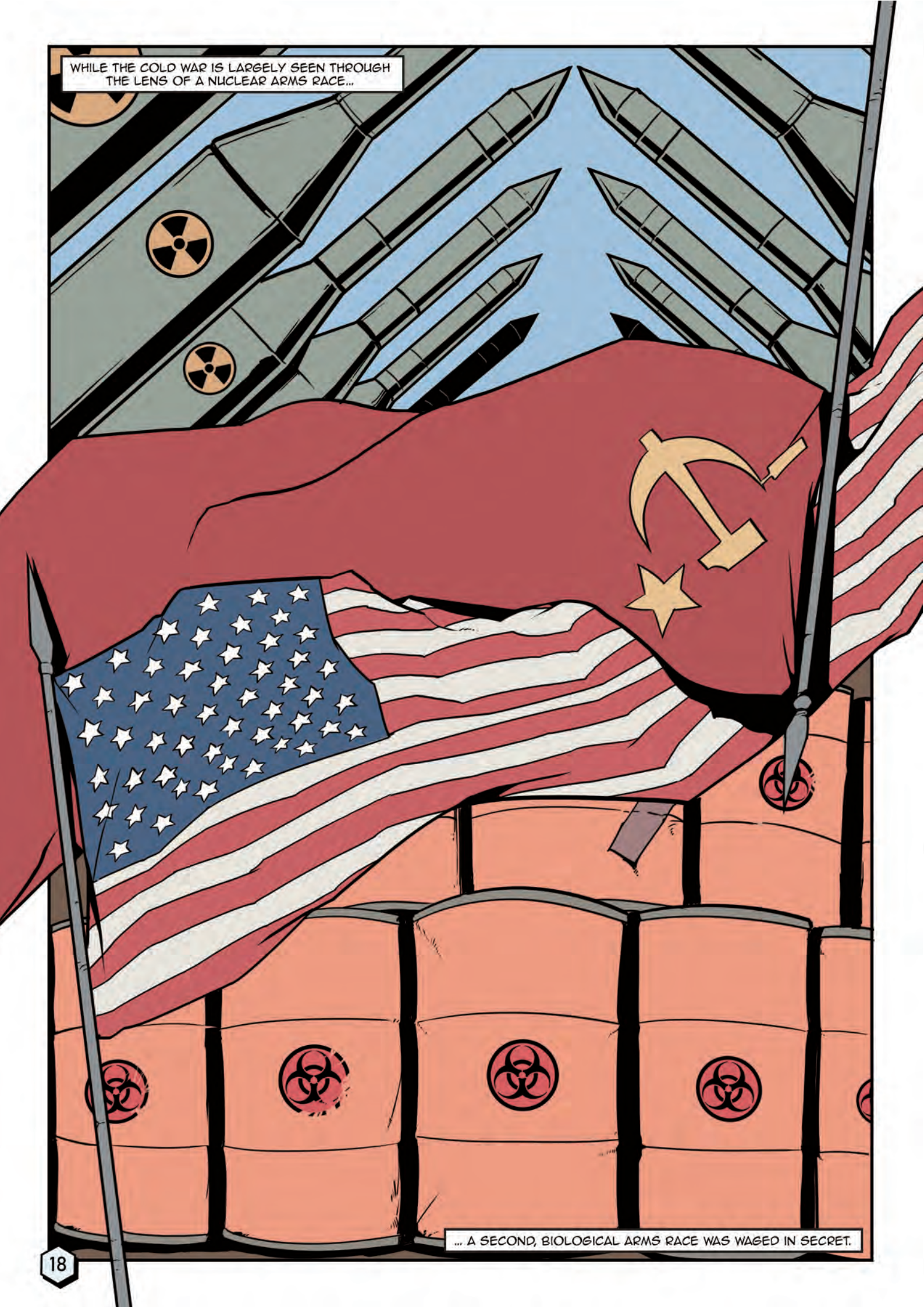
AIRCRAFT DROPPED FOOD PACKAGES INFESTED WITH PLAGUE-CARRYING FLEAS...
白飯

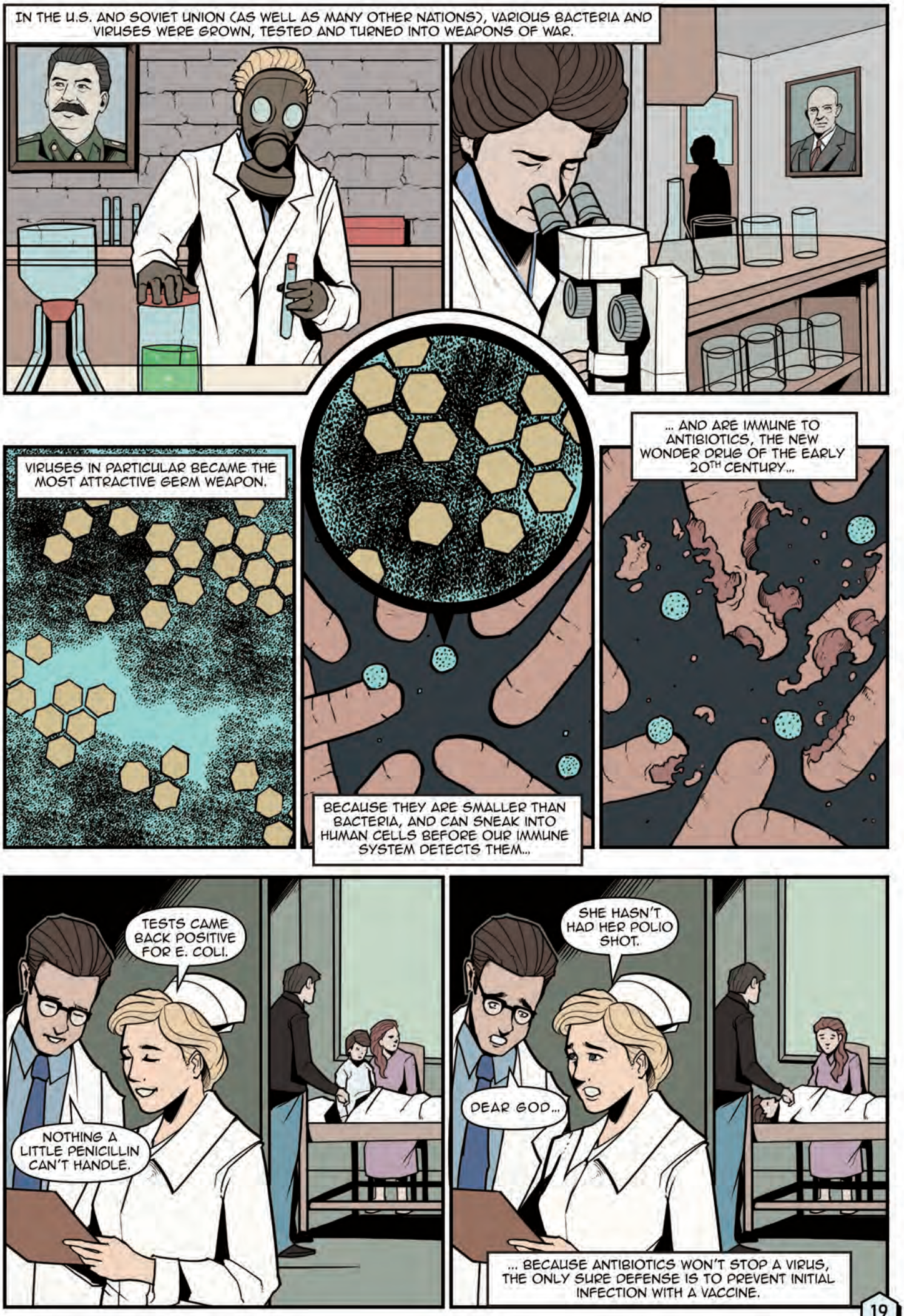

... OR PORCELAIN BOMBS PACKED WITH INFECTED FLEAS...

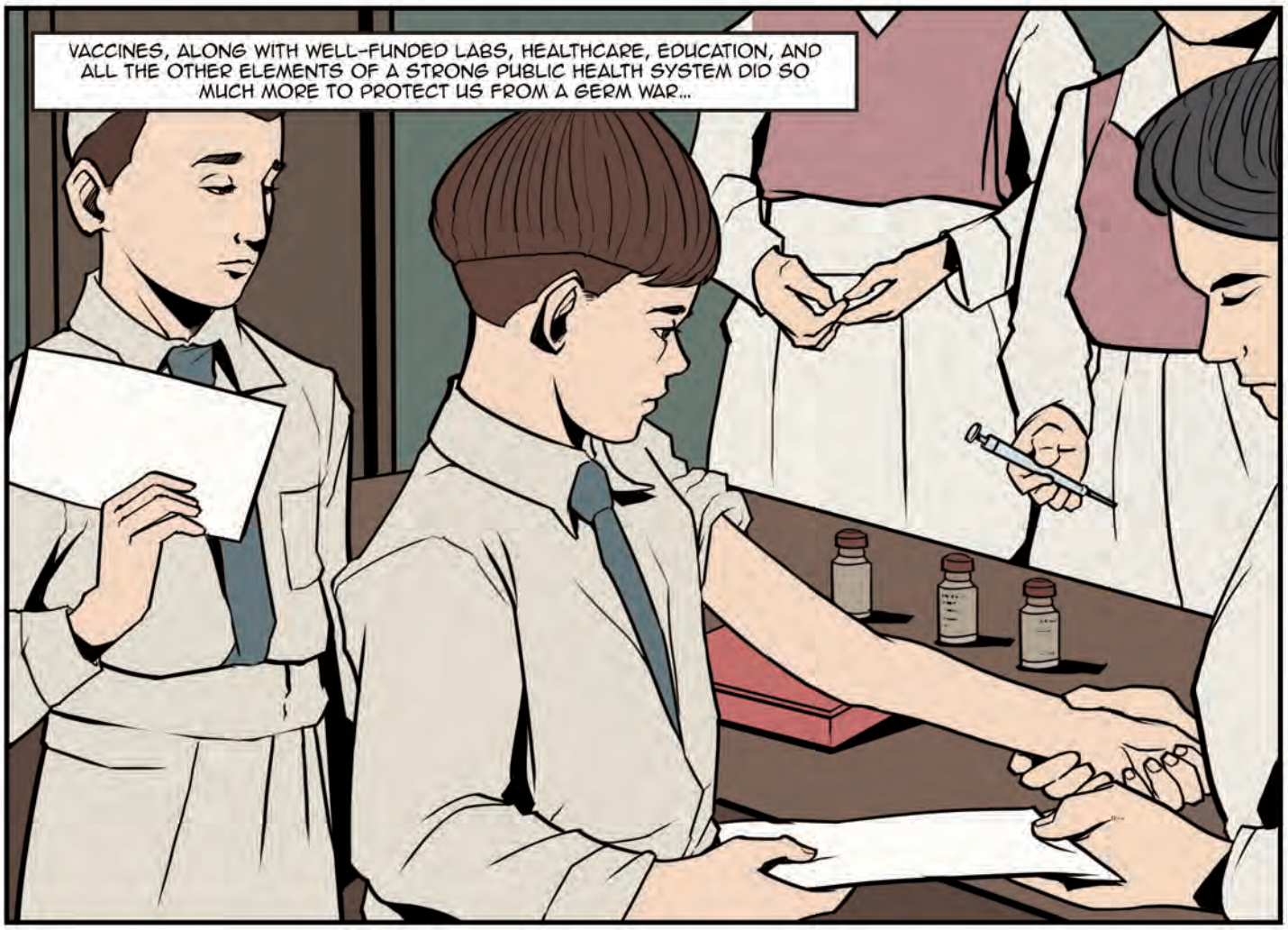

... OR TINY BLACK PARTICLES CONTAINING CONCENTRATED PLAGUE.

IT IS HARD TO KNOW EXACTLY HOW MANY PEOPLE WERE MURDERED BY JAPANESE BIOLOGICAL WEAPONS. ACCOUNTS RANGE FROM TENS OF THOUSANDS TO ONE CHINESE STUDY PLACING THE DEAD AT ROUGHLY 740,000. REGARDLESS OF THE EXACT NUMBER, TWO UNDENIABLE FACTS EMERGED FROM THESE CRIMES AGAINST HUMANITY.

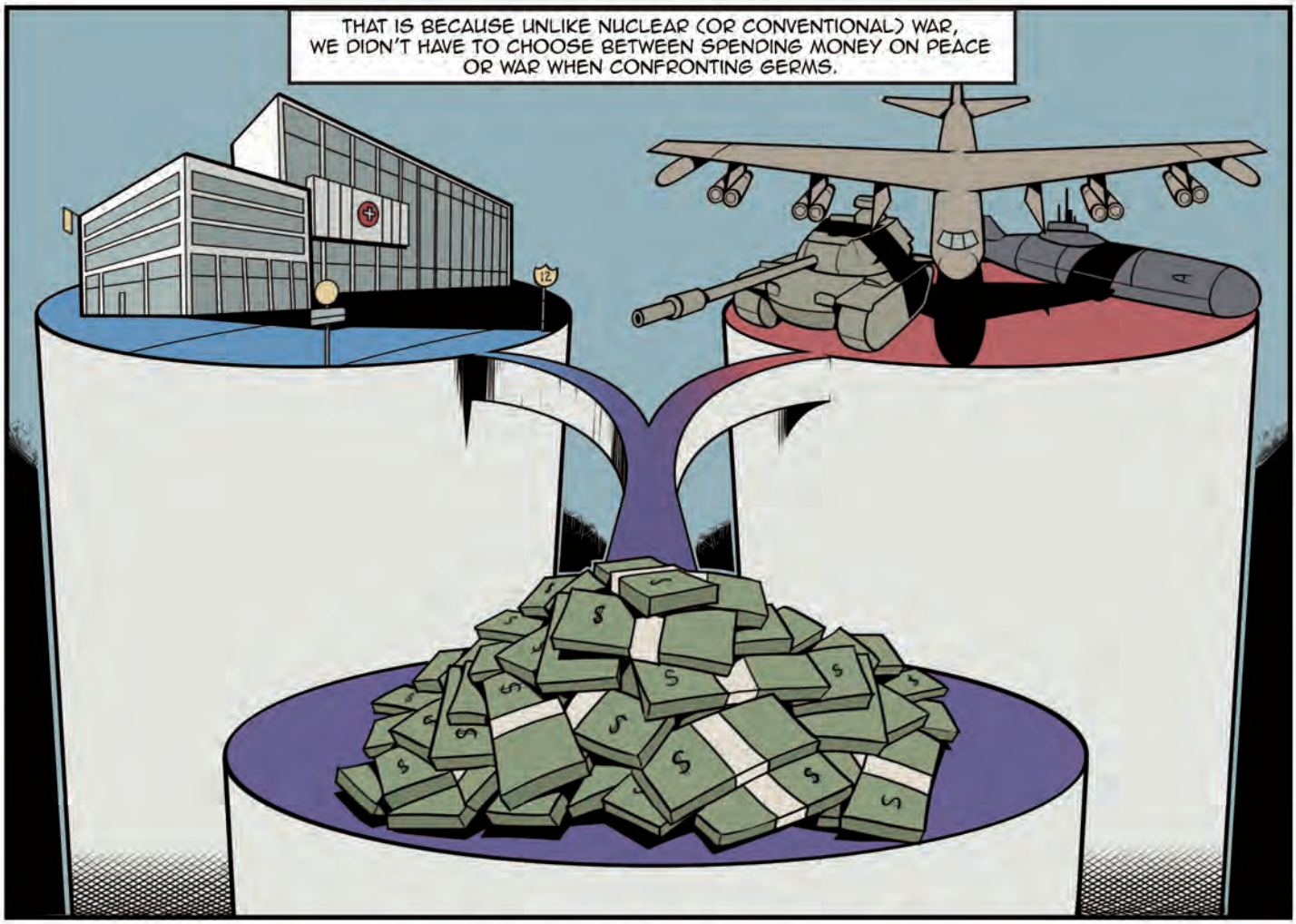
FIRST, CHINESE AREAS WITH STRONGER PUBLIC HEALTH SYSTEMS WERE BETTER ABLE TO WITHSTAND THE GERM ATTACKS. SECOND, THE WORLD FINALLY WOKE UP TO THE FACT THAT MICROBES COULD BE USED IN WEAPONS OF MASS DESTRUCTION.

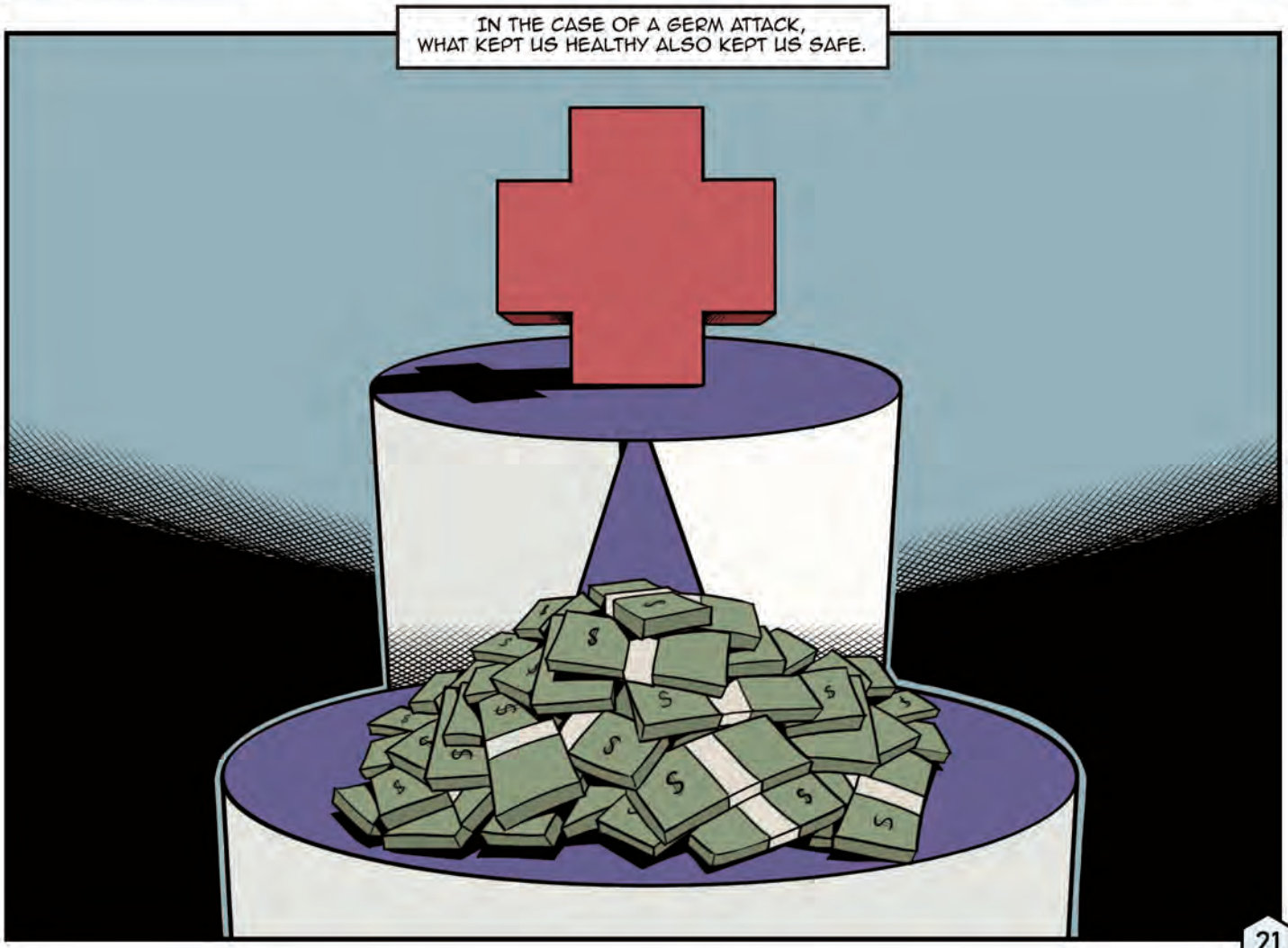

WHILE THE COLD WAR IS LARGELY SEEN THROUGH THE LENS OF A NUCLEAR ARMS RACE...
... A SECOND, BIOLOGICAL ARMS RACE WAS WAGED IN SECRET.

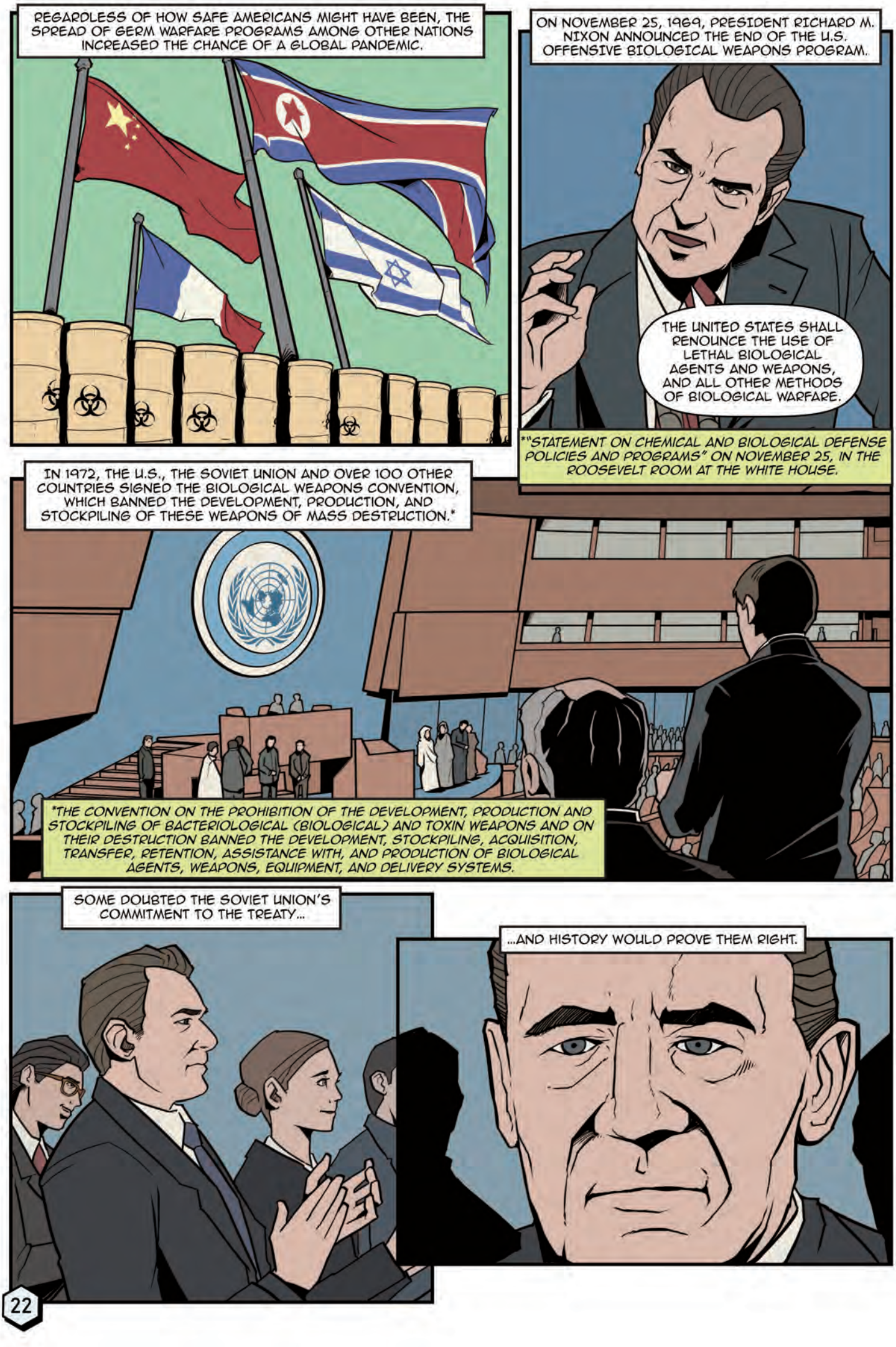

IN THE U.S. AND SOVIET UNION (AS WELL AS MANY OTHER NATIONS), VARIOUS BACTERIA AND VIRUSES WERE GROWN, TESTED AND TURNED INTO WEAPONS OF WAR.
VIRUSES IN PARTICULAR BECAME THE MOST ATTRACTIVE GERM WEAPON.
BECAUSE THEY ARE SMALLER THAN BACTERIA, AND CAN SNEAK INTO HUMAN CELLS BEFORE OUR IMMUNE SYSTEM DETECTS THEM...
... AND ARE IMMUNE TO ANTIBIOTICS, THE NEW WONDER DRUG OF THE EARLY 20TH CENTURY...
TESTS CAME BACK POSITIVE FOR E. COLI.
NOTHING A LITTLE PENICILLIN CAN'T HANDLE.
SHE HASN'T HAD HER POLIO SHOT.
DEAR GOD...
... BECAUSE ANTIBIOTICS WON'T STOP A VIRUS, THE ONLY SURE DEFENSE IS TO PREVENT INITIAL INFECTION WITH A VACCINE.


VACCINES, ALONG WITH WELL-FUNDED LABS, HEALTHCARE, EDUCATION, AND ALL THE OTHER ELEMENTS OF A STRONG PUBLIC HEALTH SYSTEM DID SO MUCH MORE TO PROTECT US FROM A GERM WAR...

IS THIS REALLY GONNA PROTECT US FROM AN ATOM BOMB?
... THAN ANYONE COULD HAVE DONE ABOUT A NUCLEAR WAR.

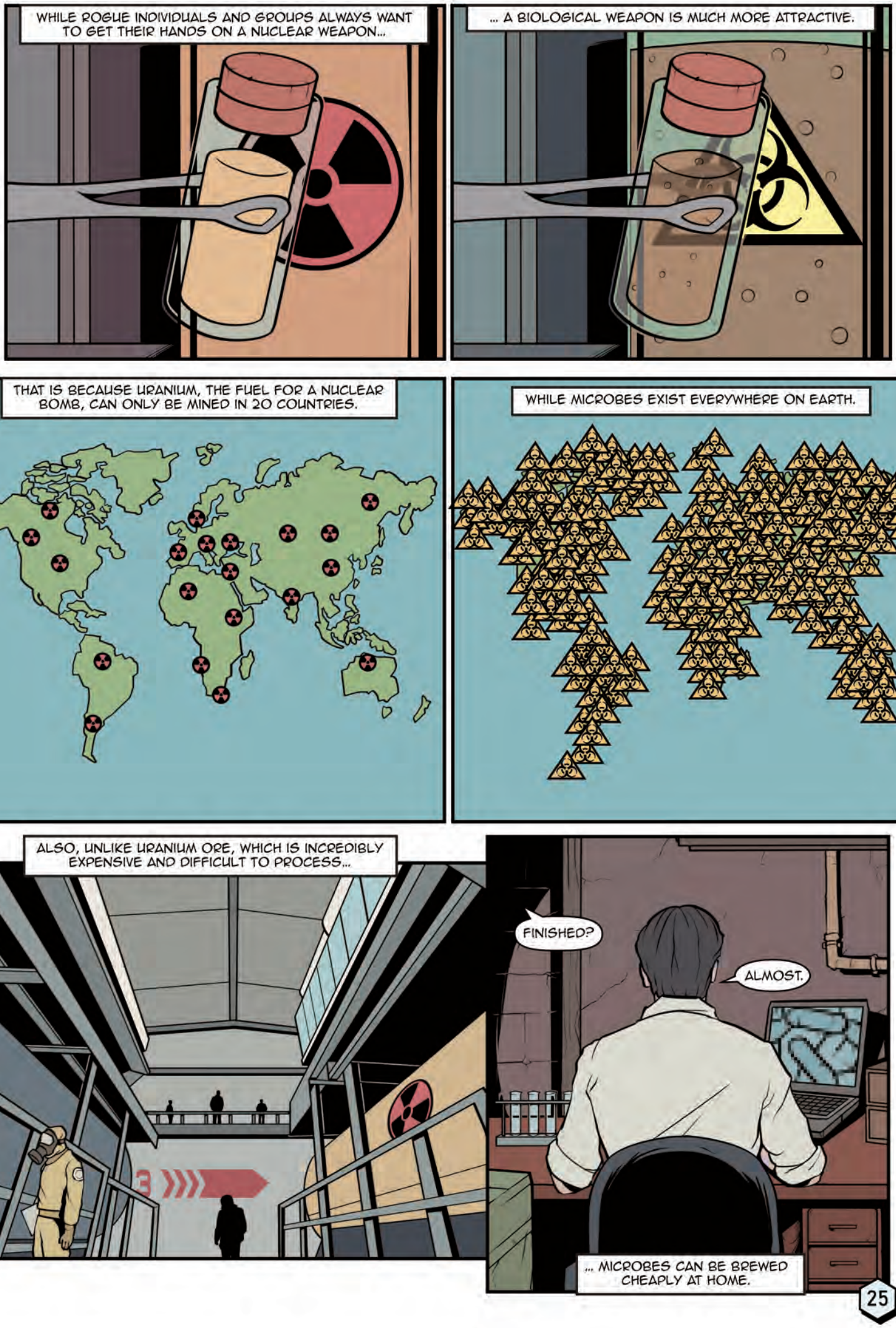

THAT IS BECAUSE UNLIKE NUCLEAR (OR CONVENTIONAL) WAR, WE DIDN'T HAVE TO CHOOSE BETWEEN SPENDING MONEY ON PEACE OR WAR WHEN CONFRONTING GERMS.


IN THE CASE OF A GERM ATTACK, WHAT KEPT US HEALTHY ALSO KEPT US SAFE.

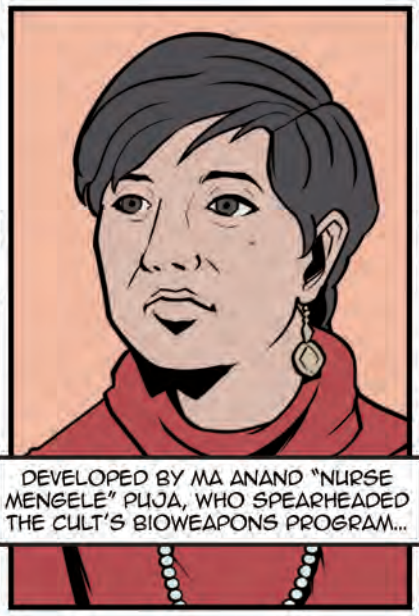

REGARDLESS OF HOW SAFE AMERICANS MIGHT HAVE BEEN, THE SPREAD OF GERM WARFARE PROGRAMS AMONG OTHER NATIONS INCREASED THE CHANCE OF A GLOBAL PANDEMIC.
ON NOVEMBER 25, 1969, PRESIDENT RICHARD M. NIXON ANNOUNCED THE END OF THE U.S. OFFENSIVE BIOLOGICAL WEAPONS PROGRAM.
THE UNITED STATES SHALL RENOUNCE THE USE OF LETHAL BIOLOGICAL AGENTS AND WEAPONS, AND ALL OTHER METHODS OF BIOLOGICAL WARFARE.
*"STATEMENT ON CHEMICAL AND BIOLOGICAL DEFENSE POLICIES AND PROGRAMS" ON NOVEMBER 25, IN THE ROOSEVELT ROOM AT THE WHITE HOUSE.
IN 1972, THE U.S., THE SOVIET UNION AND OVER 100 OTHER COUNTRIES SIGNED THE BIOLOGICAL WEAPONS CONVENTION, WHICH BANNED THE DEVELOPMENT, PRODUCTION, AND STOCKPILING OF THESE WEAPONS OF MASS DESTRUCTION.*
*THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION AND STOCKPILING OF BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN WEAPONS AND ON THEIR DESTRUCTION BANNED THE DEVELOPMENT, STOCKPILING, ACQUISITION, TRANSFER, RETENTION, ASSISTANCE WITH, AND PRODUCTION OF BIOLOGICAL AGENTS, WEAPONS, EQUIPMENT, AND DELIVERY SYSTEMS.
SOME DOUBTED THE SOVIET UNION'S COMMITMENT TO THE TREATY...
...AND HISTORY WOULD PROVE THEM RIGHT.

IN LATE 1979, RUMORS BEGAN LEAKING OUT OF THE USSR ABOUT AN ANTHRAX EPIDEMIC IN AND AROUND THE CITY OF SVERDLOVSK.
WHILE WESTERN INTELLIGENCE SOURCES SUSPECTED AN ACCIDENT AT THE SVERDLOVSK BIOWEAPONS PLANT, THE SOVIET GOVERNMENT BLAMED THE OUTBREAK ON TAINTED MEAT.
BUT THE RUMORS CONTINUED TO FLOW OUT OF SVERDLOVSK...
только иномоченный персонал
... ALONG WITH SMUGGLED PHOTOS OF MILITARY CHECKPOINTS AND DECONTAMINATION TRUCKS AROUND THE FACILITY.
RUSSIAN PRESIDENT BORIS YELTSIN FINALLY ADMITTED THE TRUTH IN A 1992 INTERVIEW...
OUR MILITARY DEVELOPMENT WAS THE CAUSE.
MAY 27, 1992, INTERVIEW WITH KOMOSOMOLSKAYA PRAVDA
THE FULL DETAILS OF THE RELEASE OF ANTHRAX INTO THE ENVIRONMENT HAVE YET TO BE FULLY DISCLOSED.

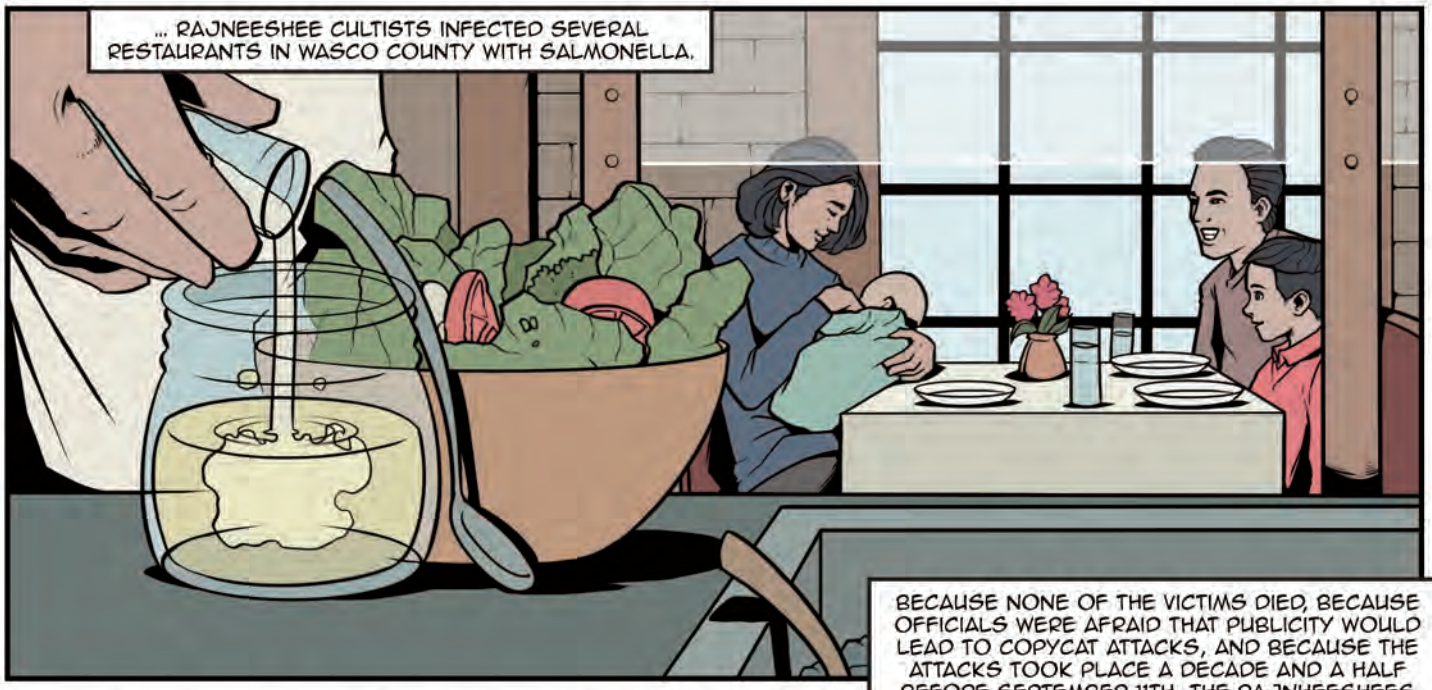
AND WHILE RUSSIA REFUSES TO LET THE U.S. INTO SOME OF THEIR BIOLOGICAL RESEARCH FACILITIES, INSISTING (THE WAY THE U.S. DOES) THAT THEIR BIOLOGICAL PROGRAM IS PURELY DEFENSIVE...
...THE GREATEST THREAT MAY NOT COME FROM RUSSIA, CHINA, OR ANY OTHER COUNTRY THAT MAY OR MAY NOT BE WORKING WITH BIOLOGICAL WEAPONS*.
*. AT PRESENT, 16 COUNTRIES HAVE YET TO SIGN OR RATIFY THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION (BWC) WHILE SOME WHO HAVE (SUCH AS NORTH KOREA) ARE SUSPECTED OF CONTINUING SECRET BIOLOGICAL WARFARE PROGRAMS.
TODAY THE GREATEST DANGER MAY COME FROM SO-CALLED "NON-STATE-ACTORS," MORE COMMONLY KNOWN AS...
...TERRORISTS.


WHILE ROGUE INDIVIDUALS AND GROUPS ALWAYS WANT TO GET THEIR HANDS ON A NUCLEAR WEAPON...
... A BIOLOGICAL WEAPON IS MUCH MORE ATTRACTIVE.
THAT IS BECAUSE URANIUM, THE FUEL FOR A NUCLEAR BOMB, CAN ONLY BE MINED IN 20 COUNTRIES.
WHILE MICROBES EXIST EVERYWHERE ON EARTH.
ALSO, UNLIKE URANIUM ORE, WHICH IS INCREDIBLY EXPENSIVE AND DIFFICULT TO PROCESS...
FINISHED?
ALMOST.
... MICROBES CAN BE BREWED CHEAPLY AT HOME.

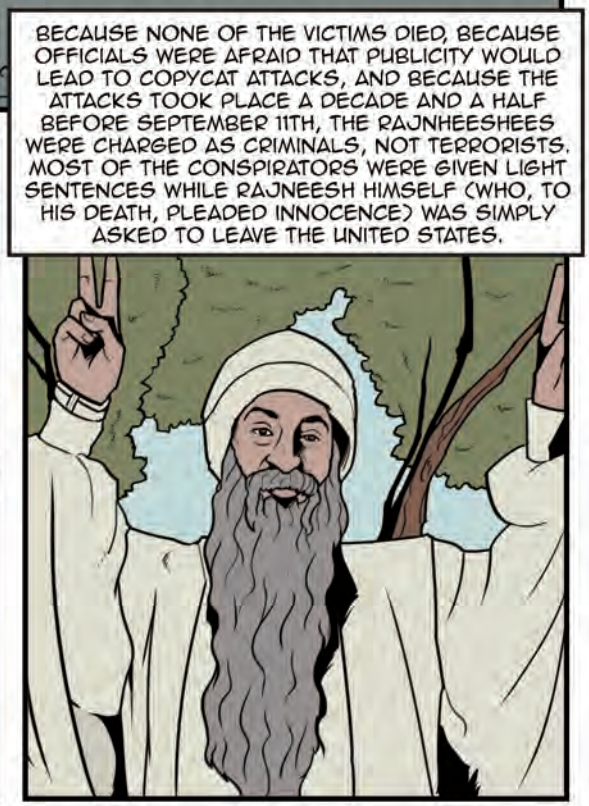
TO DATE, THERE HAVE BEEN ONLY TWO SUCCESSFUL BIOTERRORIST ATTACKS ON AMERICAN SOIL.
READY!
THE FIRST WAS CARRIED OUT IN 1984, BY THE SANNYASIN CULT IN WASCO COUNTY, OREGON.

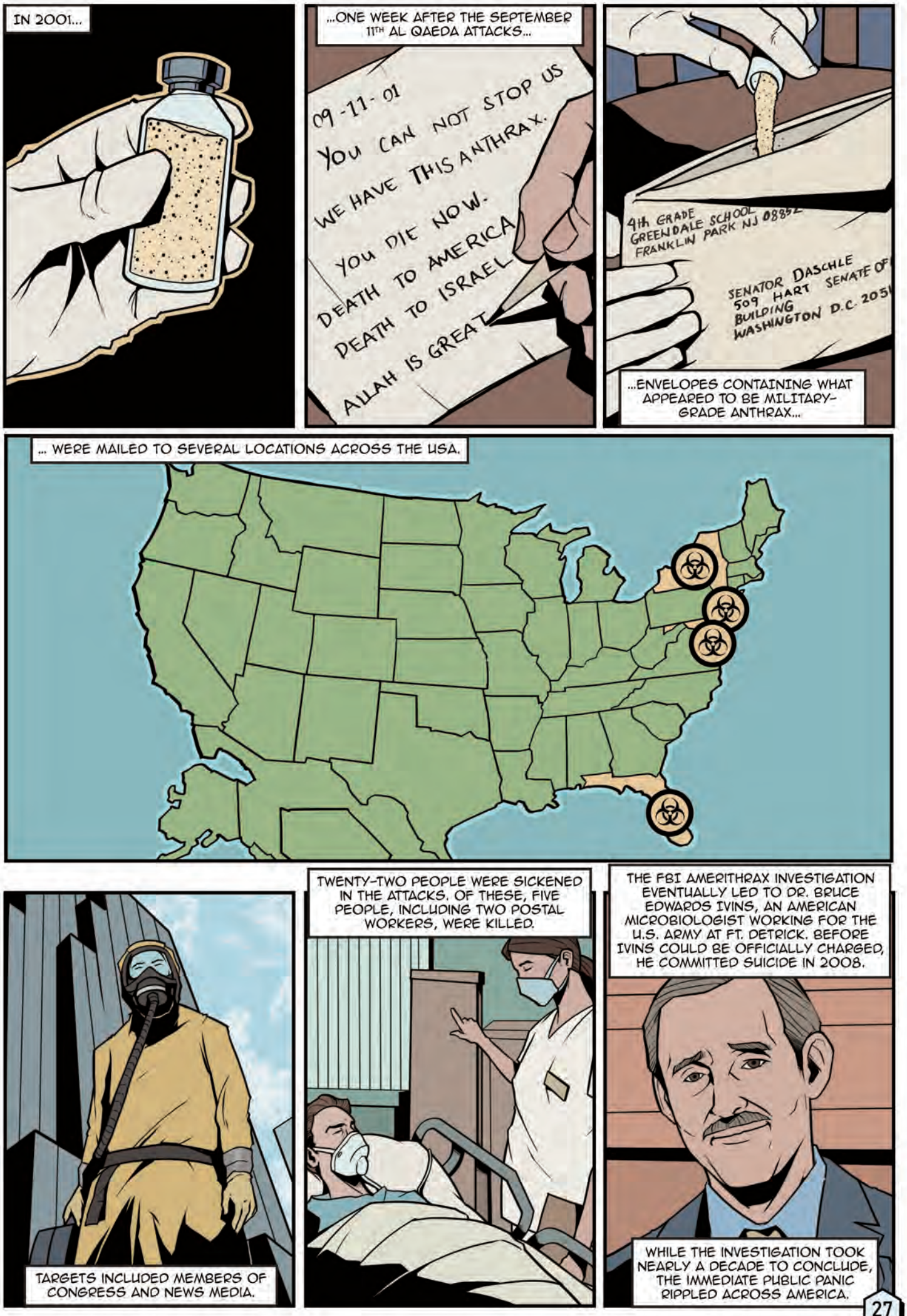

DEVELOPED BY MA ANAND "NURSE MENGELE" PUJA, WHO SPEARHEADED THE CULT'S BIOWEAPONS PROGRAM...

... AND ON HER ORDERS AS THE CULT'S SECOND IN COMMAND...
MA ANAND SHEELA


... RAJNEESHEE CULTISTS INFECTED SEVERAL RESTAURANTS IN WASCO COUNTY WITH SALMONELLA.

THE GOAL WAS TO SICKEN ENOUGH PEOPLE TO KEEP THEM FROM VOTING IN A LOCAL ELECTION.
EMERGENCY

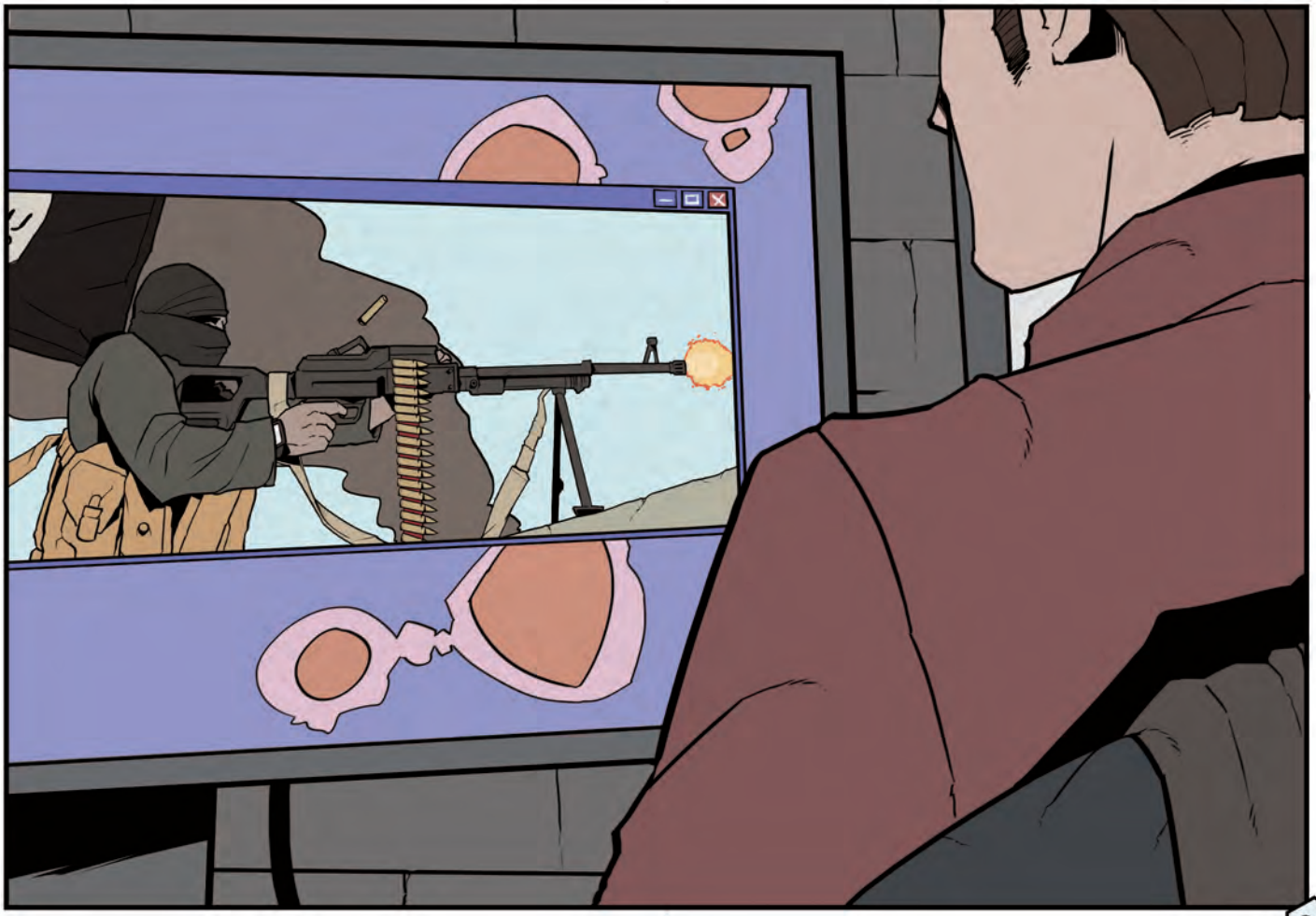

BECAUSE NONE OF THE VICTIMS DIED, BECAUSE OFFICIALS WERE AFRAID THAT PUBLICITY WOULD LEAD TO COPYCAT ATTACKS, AND BECAUSE THE ATTACKS TOOK PLACE A DECADE AND A HALF BEFORE SEPTEMBER 11TH, THE RAJNHEESHEES WERE CHARGED AS CRIMINALS, NOT TERRORISTS. MOST OF THE CONSPIRATORS WERE GIVEN LIGHT SENTENCES WHILE RAJNEESH HIMSELF (WHO, TO HIS DEATH, PLEADED INNOCENCE) WAS SIMPLY ASKED TO LEAVE THE UNITED STATES.


IN 2001...
...ONE WEEK AFTER THE SEPTEMBER 11TH AL QAEDA ATTACKS...
09-11-01
YOU CAN NOT STOP US
WE HAVE THIS ANTHRAX.
YOU DIE NOW.
DEATH TO AMERICA
DEATH TO ISRAEL
ALLAH IS GREAT
4th GRADE
GREENDALE SCHOOL
FRANKLIN PARK NJ 08852
SENATOR DASCHLE
509 HART
BUILDING
WASHINGTON D.C. 205
...ENVELOPES CONTAINING WHAT APPEARED TO BE MILITARY-GRADE ANTHRAX...
... WERE MAILED TO SEVERAL LOCATIONS ACROSS THE USA.
TARGETS INCLUDED MEMBERS OF CONGRESS AND NEWS MEDIA.
TWENTY-TWO PEOPLE WERE SICKENED IN THE ATTACKS. OF THESE, FIVE PEOPLE, INCLUDING TWO POSTAL WORKERS, WERE KILLED.
THE FBI AMERITHRAX INVESTIGATION EVENTUALLY LED TO DR. BRUCE EDWARDS IVINS, AN AMERICAN MICROBIOLOGIST WORKING FOR THE U.S. ARMY AT FT. DETRICK. BEFORE IVINS COULD BE OFFICIALLY CHARGED, HE COMMITTED SUICIDE IN 2008.
WHILE THE INVESTIGATION TOOK NEARLY A DECADE TO CONCLUDE, THE IMMEDIATE PUBLIC PANIC RIPPLED ACROSS AMERICA.

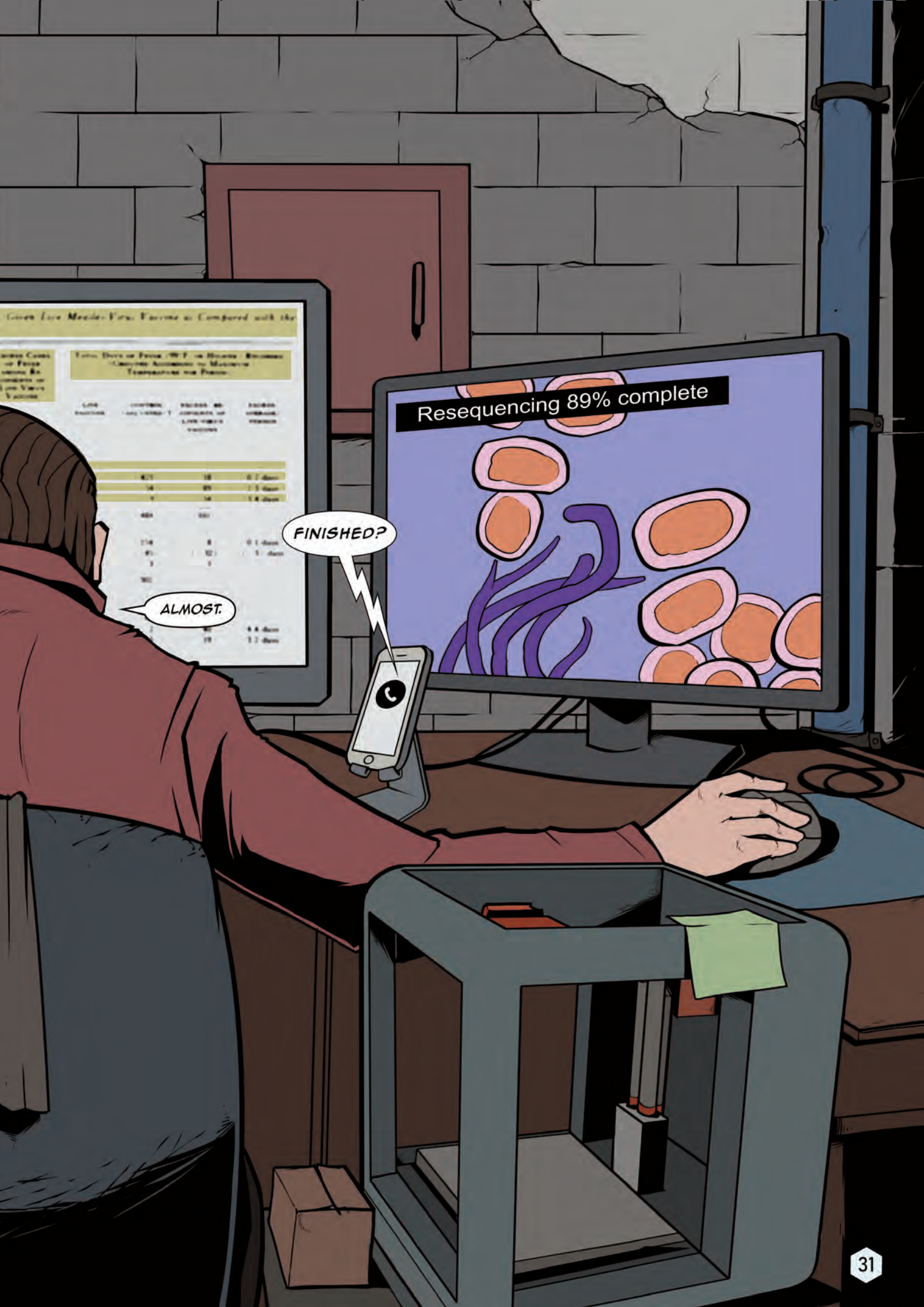
AS FORMER WHITE HOUSE PRESS SECRETARY, SCOTT MCCLELLAN STATED IN HIS MEMOIR: "I KNOW PRESIDENT BUSH'S THINKING WAS DEEPLY AFFECTED BY THE ANTHRAX ATTACKS."
"HE WAS DETERMINED NOT TO LET ANOTHER TERRORIST ATTACK HAPPEN ON HIS WATCH AND TO CHALLENGE REGIMES BELIEVED TO BE SEEKING WEAPONS OF MASS DESTRUCTION."
CRITICS OF PRESIDENT BUSH CHARGE THAT THE BIOTERRORIST THREAT WAS USED TO MANIPULATE THE AMERICAN PEOPLE INTO SUPPORTING THE IRAQ WAR, WHILE HIS DEFENDERS CLAIM THAT INTELLIGENCE REPORTS ASSESSED THAT SADDAM HUSSEIN HAD BIOLOGICAL WEAPONS OF MASS DESTRUCTION.
REGARDLESS...
... NO BIOLOGICAL (OR CHEMICAL OR NUCLEAR) WEAPONS WERE EVER FOUND BY U.S. FORCES OR UNITED NATIONS INSPECTORS IN IRAQ.
AND THE PERCEPTION OF CRYING WOLF DAMAGES THE PUBLIC TRUST TO THIS DAY.

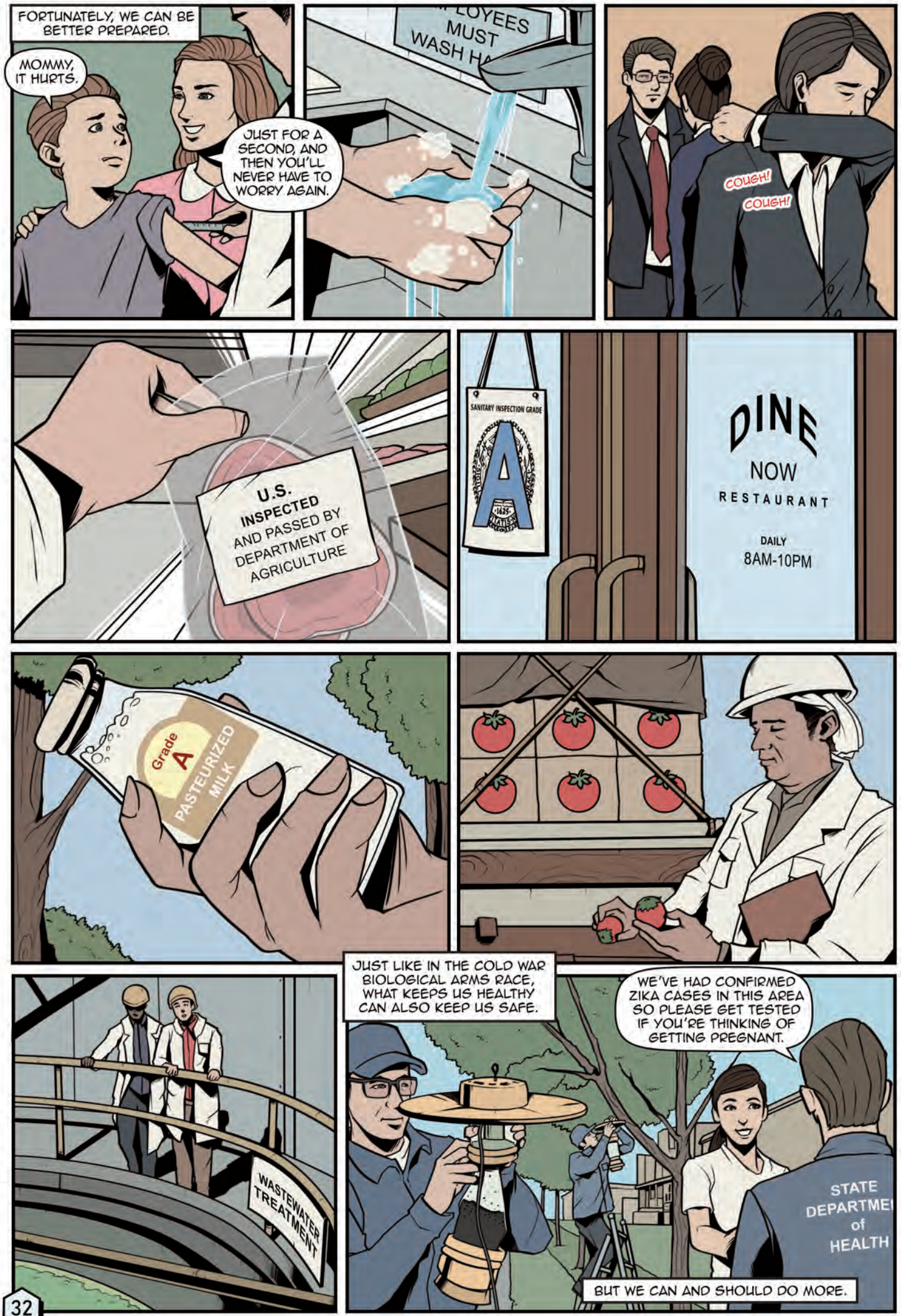
WHILE SADDAM HUSSEIN MAY NOT HAVE HAD BIOLOGICAL WEAPONS...

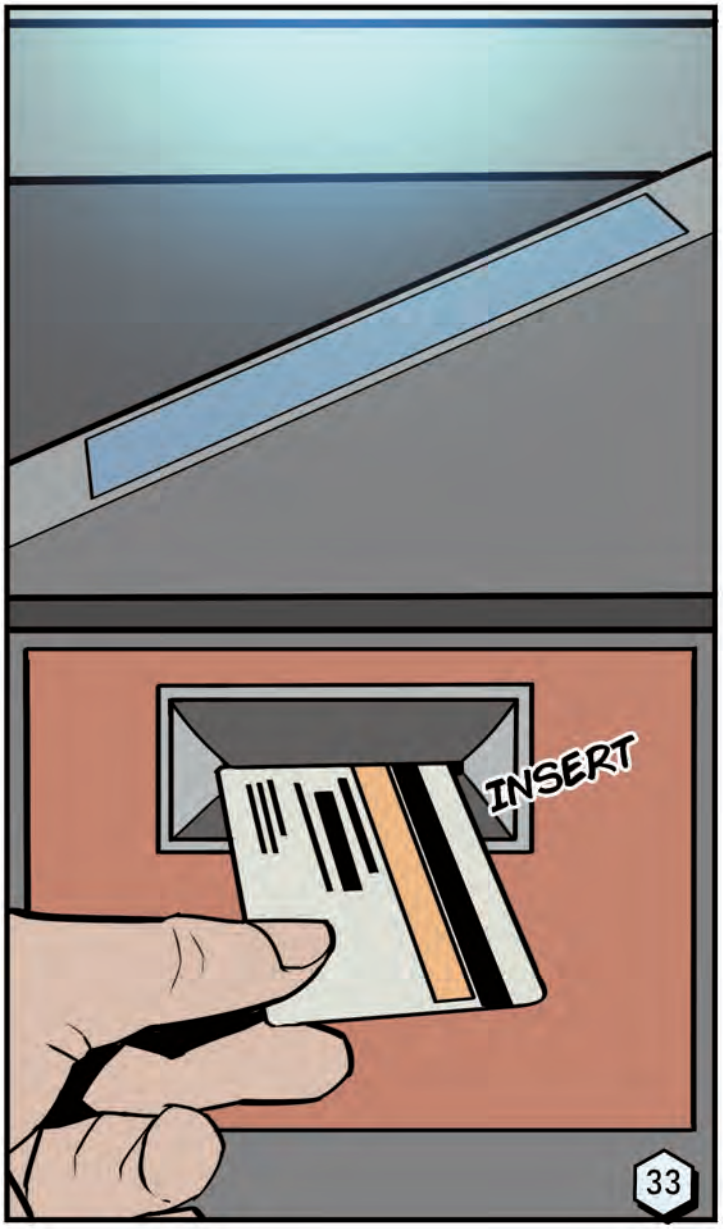
... OTHERS CONTINUE TO DEVELOP THEM.

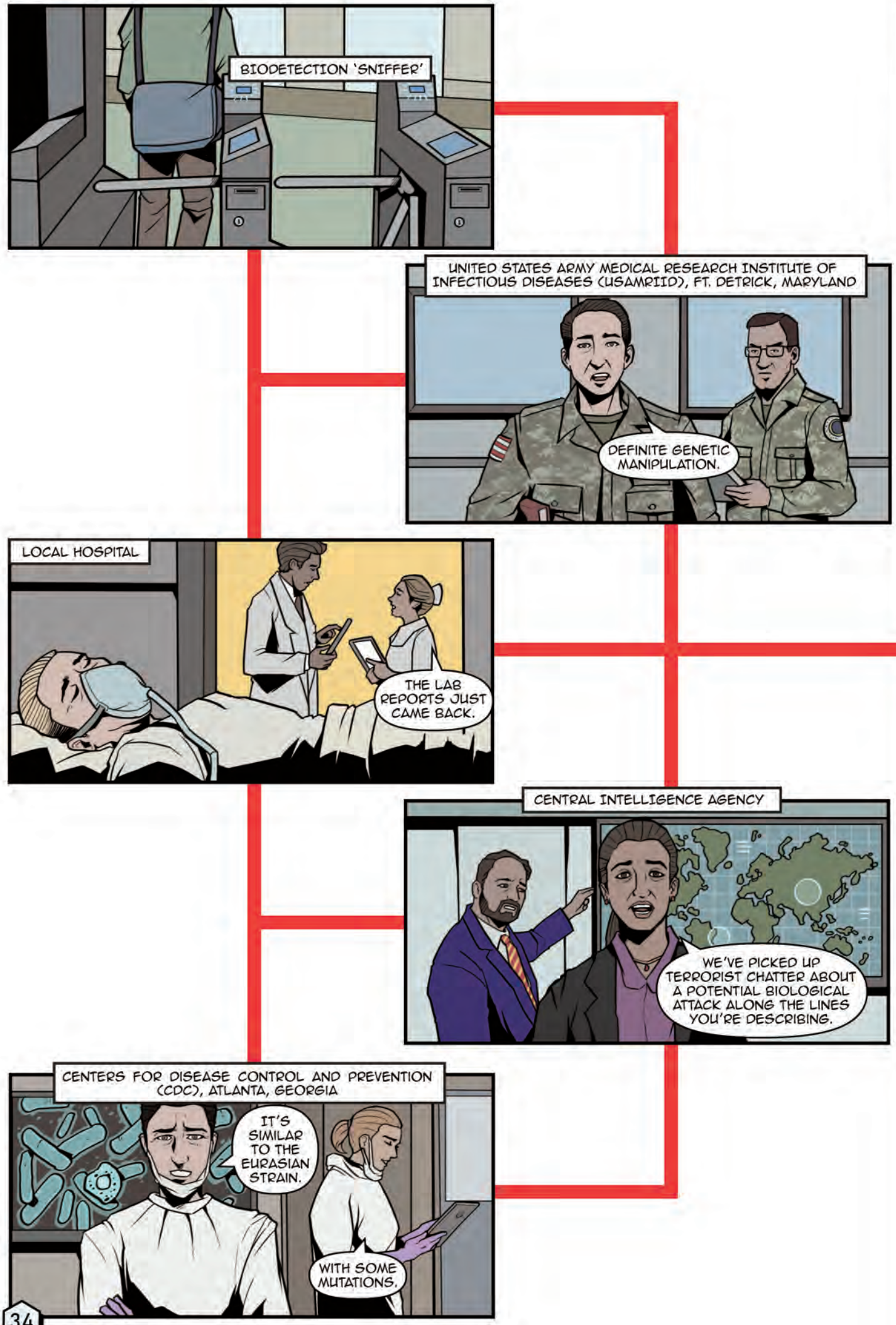


TODAY, GLOBALIZATION HAS EMPOWERED THE MODERN BIOTERRORIST. ONLINE INFORMATION IS READILY ACCESSIBLE, AS IS LAB EQUIPMENT, WHICH CAN BE ORDERED FROM ANYWHERE IN THE WORLD WITH JUST ONE CLICK.

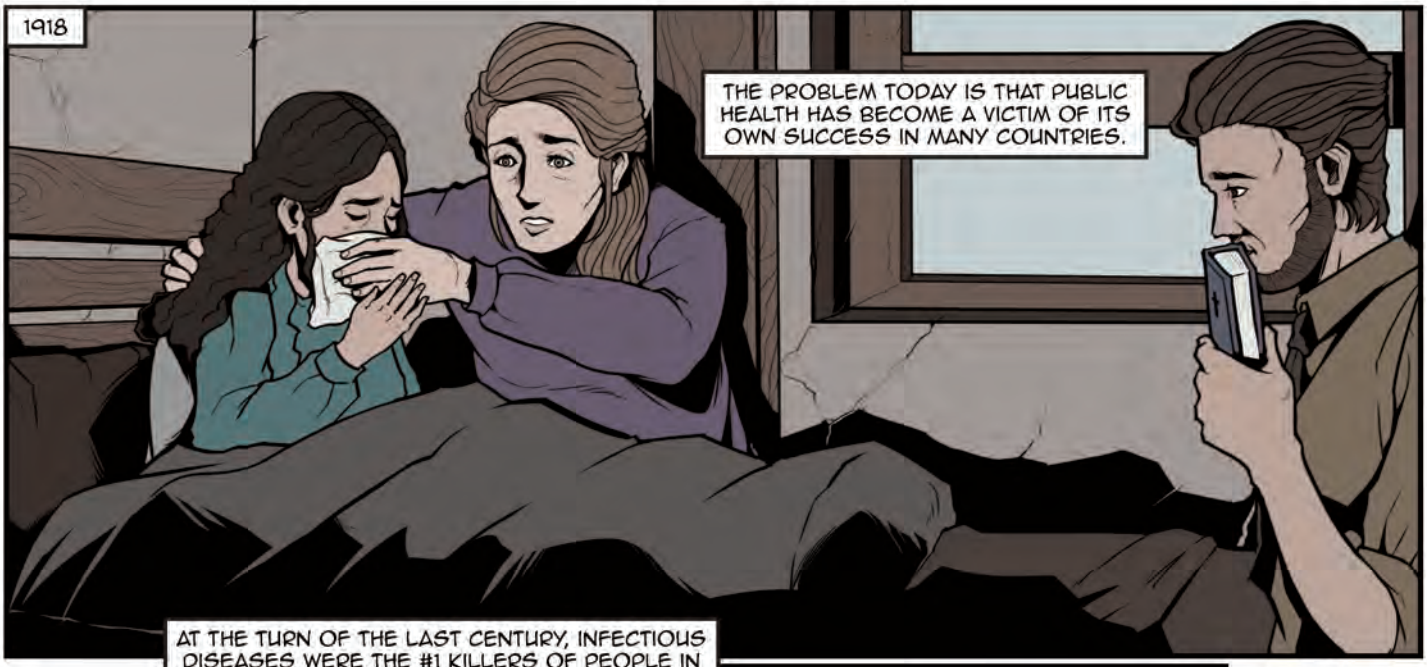

Resequencing 89% complete
FINISHED?
ALMOST.


FORTUNATELY, WE CAN BE BETTER PREPARED.
MOMMY, IT HURTS.
JUST FOR A SECOND, AND THEN YOU'LL NEVER HAVE TO WORRY AGAIN.
MUST
COUGH!
COUGH!
U.S. INSPECTED AND PASSED BY DEPARTMENT OF AGRICULTURE
SANITARY INSPECTION GRADE
A
DINE
NOW
RESTAURANT
DAILY
8AM-10PM
Grade A
PASTEURIZED MILK
WASTEWATER TREATMENT
JUST LIKE IN THE COLD WAR BIOLOGICAL ARMS RACE, WHAT KEEPS US HEALTHY CAN ALSO KEEP US SAFE.
WE'VE HAD CONFIRMED ZIKA CASES IN THIS AREA SO PLEASE GET TESTED IF YOU'RE THINKING OF GETTING PREGNANT.
STATE
of
HEALTH
BUT WE CAN AND SHOULD DO MORE.

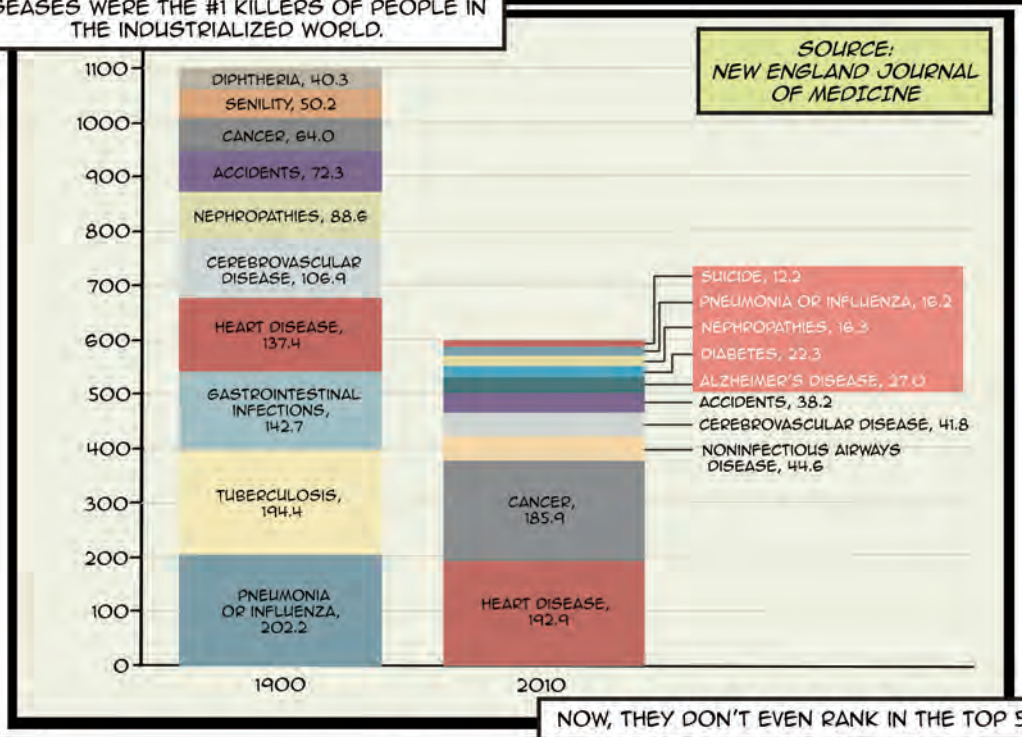

INSERT


BIODETECTION 'SNIFFER'
UNITED STATES ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES (USAMRIID), FT. DETRICK, MARYLAND
DEFINITE GENETIC MANIPULATION.
LOCAL HOSPITAL
THE LAB REPORTS JUST CAME BACK.
CENTRAL INTELLIGENCE AGENCY
WE'VE PICKED UP TERRORIST CHATTER ABOUT A POTENTIAL BIOLOGICAL ATTACK ALONG THE LINES YOU'RE DESCRIBING.
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC), ATLANTA, GEORGIA
IT'S SIMILAR TO THE EURASIAN STRAIN.
WITH SOME MUTATIONS.

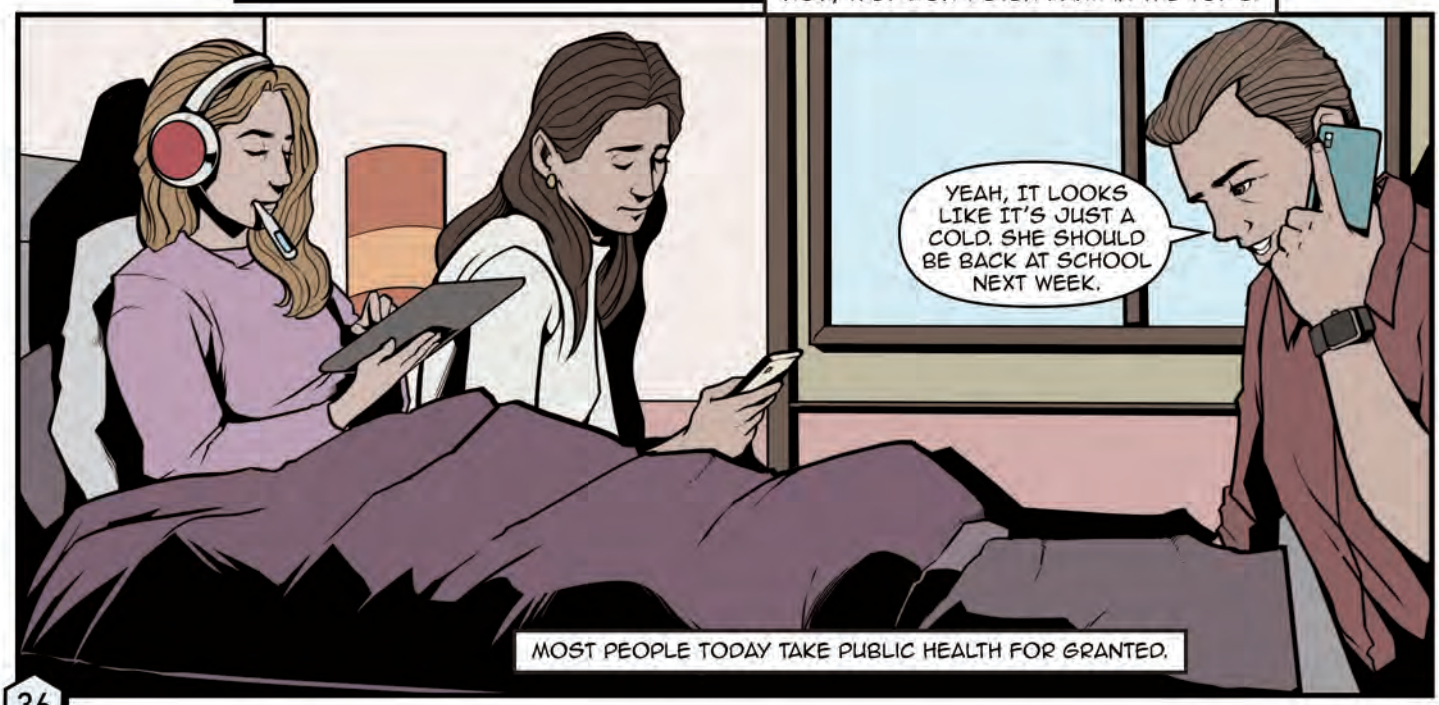
WITH INCREASED INVESTMENT IN BIOLOGICAL DETECTION TECHNOLOGY, ENHANCED COMMUNICATION BETWEEN PUBLIC HEALTH AND NATIONAL SECURITY ORGANIZATIONS, LEADERSHIP AND COORDINATION BY A SINGLE HIGH-LEVEL OFFICIAL IN THE WHITE HOUSE, INCREASED CONGRESSIONAL OVERSIGHT, AND GREATER, MORE EFFECTIVE PUBLIC OUTREACH, WE CAN STAY ONE STEP AHEAD OF BIOLOGICAL DISASTER.
THE WHITE HOUSE
WE NOW HAVE A CONFIRMED BIOLOGICAL ATTACK.
I WILL REQUEST AN EMERGENCY MEETING AT THE UN IMMEDIATELY.
THE PRIVATE SECTOR CAN RAMP UP VACCINE AND PROTECTIVE GEAR PRODUCTION WITHIN THE HOUR.
SECRETARY OF DEFENSE
NATIONAL SECURITY ADVISOR
SECRETARY OF STATE
SECRETARY OF HOMELAND SECURITY
ATTORNEY GENERAL
CHAIRMAN OF THE JOINT CHIEFS
SECRETARY OF HEALTH AND HUMAN SERVICES
HOMELAND SECURITY ADVISOR
WE NEED TO GET SOMEONE ON TV ASAP TO MAKE AN ANNOUNCEMENT TO THE AMERICAN PEOPLE.
LET'S JUST HOPE THEY LISTEN.
UNFORTUNATELY, THE TERRORISTS' GREATEST ALLY IS US.



AT THE TURN OF THE LAST CENTURY, INFECTIOUS DISEASES WERE THE #1 KILLERS OF PEOPLE IN THE INDUSTRIALIZED WORLD.

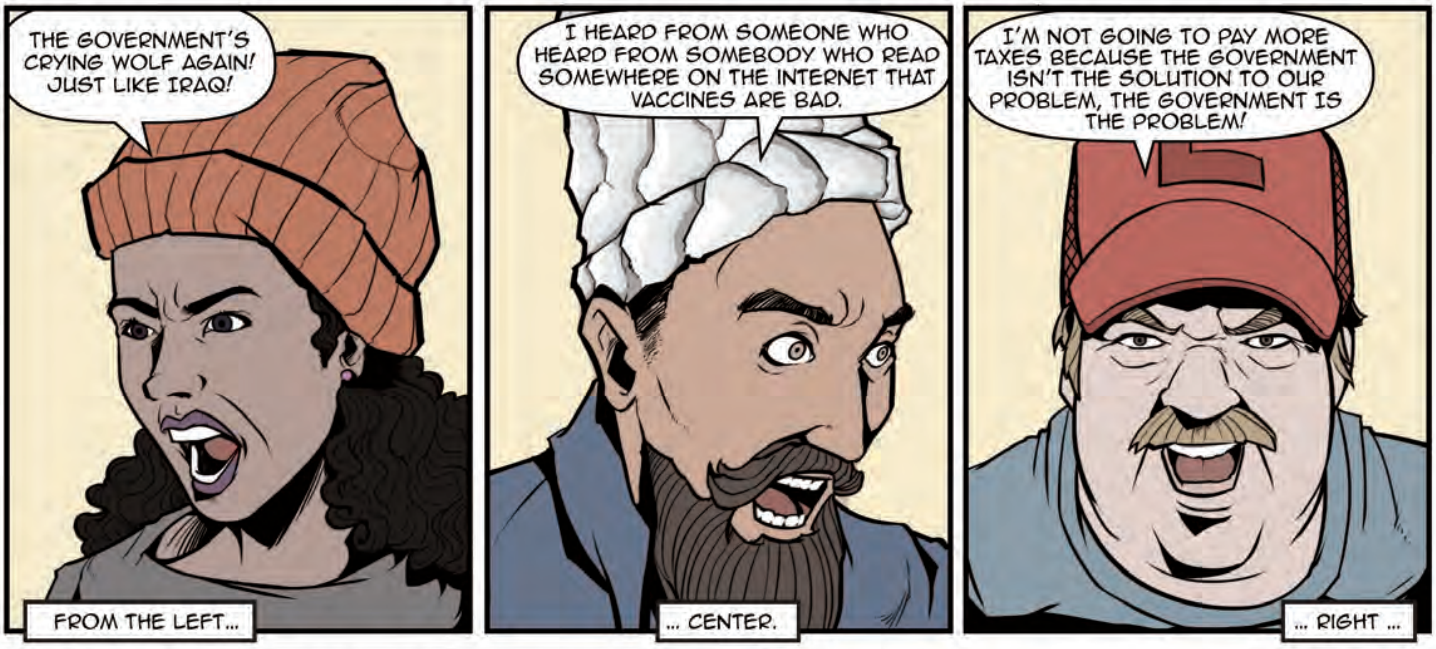


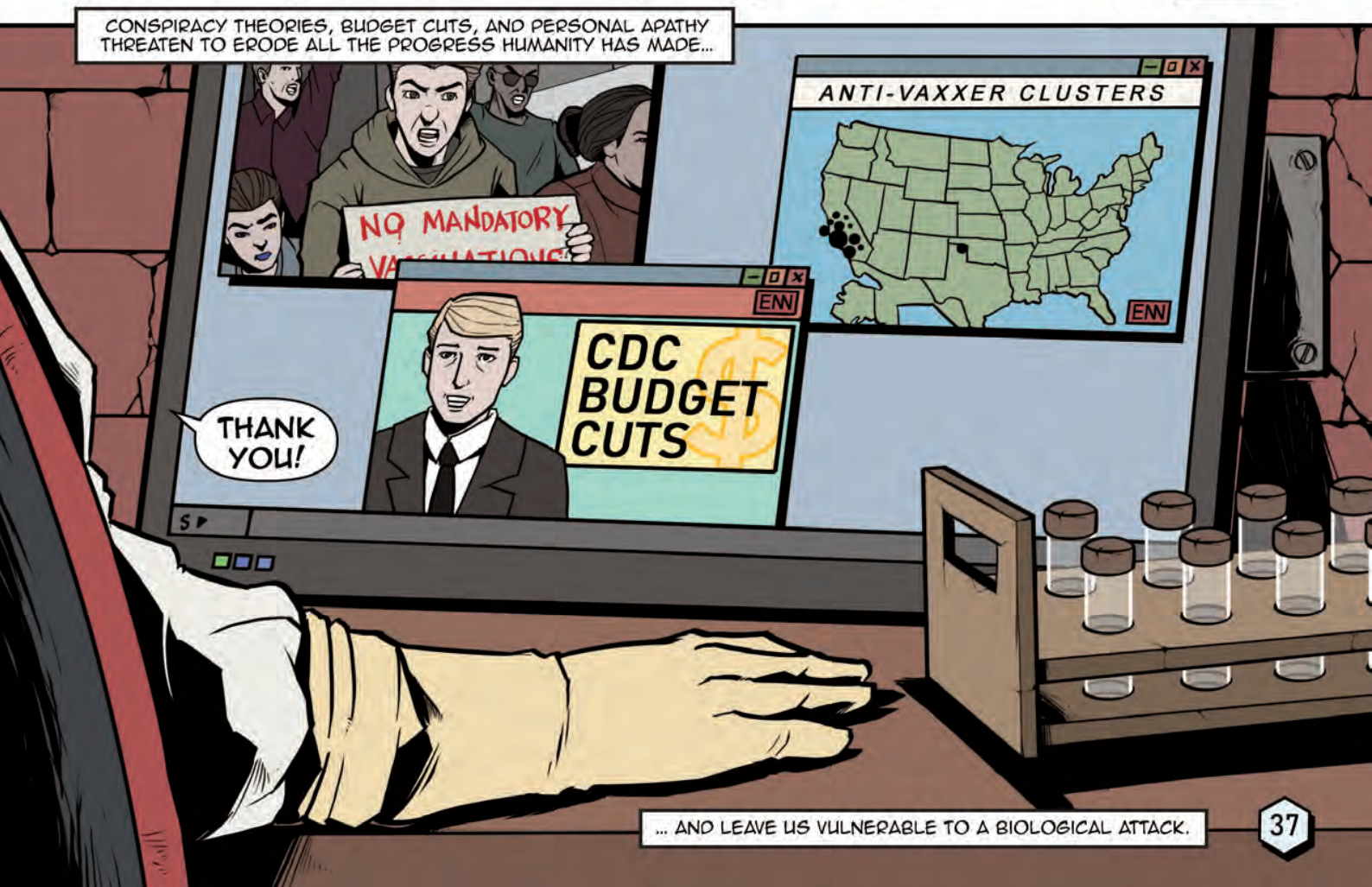
NOW, THEY DON'T EVEN RANK IN THE TOP 5.



MOST PEOPLE TODAY TAKE PUBLIC HEALTH FOR GRANTED.

FAKE NEWS!
NO MANDATORY VACCINATIONS
NO MEDICAL TYRANNY!
NO MANDATORY VACCINATIONS
AND SOME DON'T EVEN SEE WHY WE NEED IT ANYMORE.


THE GOVERNMENT'S CRYING WOLF AGAIN! JUST LIKE IRAQ!
FROM THE LEFT...
I HEARD FROM SOMEONE WHO HEARD FROM SOMEBODY WHO READ SOMEWHERE ON THE INTERNET THAT VACCINES ARE BAD.
... CENTER.
I'M NOT GOING TO PAY MORE TAXES BECAUSE THE GOVERNMENT ISN'T THE SOLUTION TO OUR PROBLEM, THE GOVERNMENT IS THE PROBLEM!
... RIGHT ...


CONSPIRACY THEORIES, BUDGET CUTS, AND PERSONAL APATHY THREATEN TO ERODE ALL THE PROGRESS HUMANITY HAS MADE...
NO MANDATORY
ANTI-VAXXER CLUSTERS
ENN
ENN
CDC BUDGET CUTS
THANK YOU!
... AND LEAVE US VULNERABLE TO A BIOLOGICAL ATTACK.

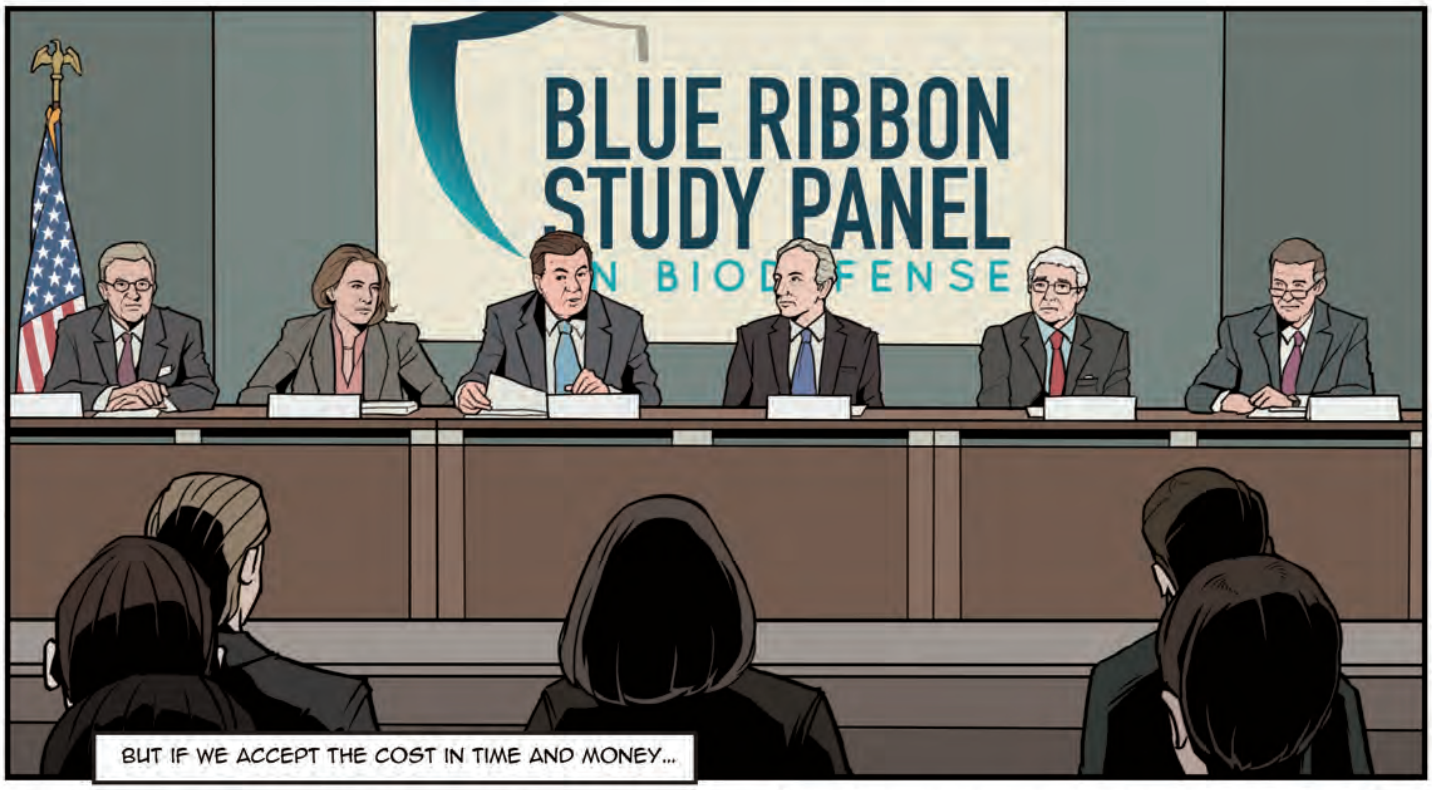
AND WE MUST ALWAYS BE READY...

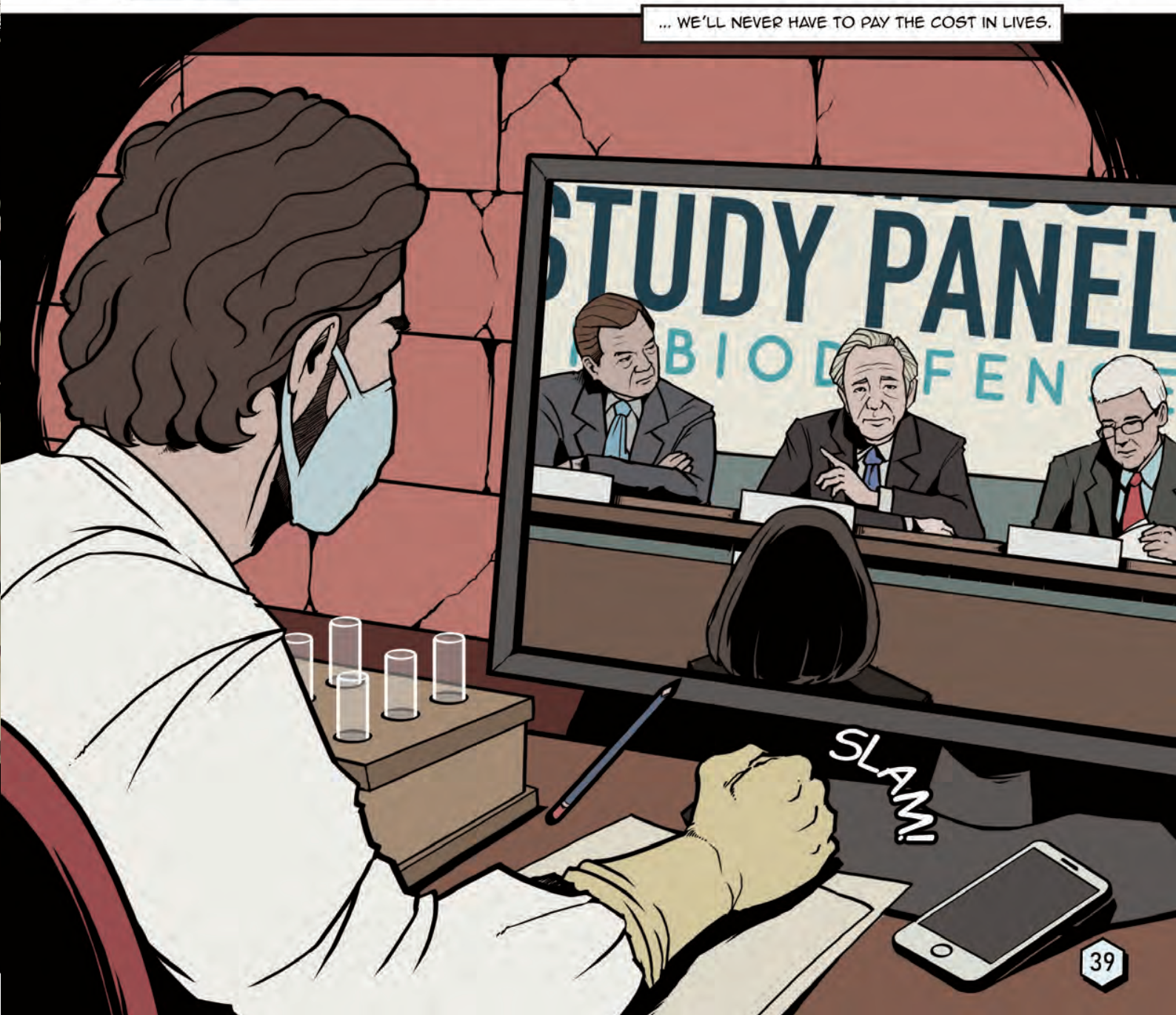
NOUS DEVRONS TESTER LES VILLAGES ENVIRONNANTS.

AMBULANCE

UN

YES, MA'AM. WE'VE STOPPED THE SPREAD.


BLUE RIBBON
STUDY PANEL
BUT IF WE ACCEPT THE COST IN TIME AND MONEY...


... WE'LL NEVER HAVE TO PAY THE COST IN LIVES.
SLAM!

GERM WARFARE

A Very Graphic History

Germs. They are too small to see with the naked eye,
but they have killed more human beings than all the wars in history.

Before humans even knew that germs caused disease, they knew disease could be a weapon of war.

"Germ Warfare" traces the long, brutal story of those microscopic weapons. From the infected arrows of Bronze Age archers, to the plague factories of World War 2, up through the biological arms race of the Cold War into our modern age of genetically manipulated terrorism.

This graphic history is both a lesson from the past and a warning for the future. It reminds us never to take public health for granted, because we never know when, or how, the next pandemic will rise.

AUTHOR

Max Brooks is the author of the novels "World War Z," "Minecraft: The Island" and the graphic novel "The Harlem Hellfighters." He is a non resident fellow at the Modern War Institute at West Point and the Atlantic Council's Brent Scowcroft Center for Strategy and Security.

BLUE RIBBON STUDY PANEL ON BIODEFENSE

The Blue Ribbon Study Panel on Biodefense was established in 2014 to comprehensively assess U.S. biodefense efforts and issue recommendations to foster change. The Panel's 2015 report, A National Blueprint for Biodefense: Leadership and Major Reform Needed to Optimize Efforts, identified capability gaps and recommended changes to U.S. policy and law to strengthen national biodefense while optimizing resource investments. Former Senator Joe Lieberman and former Governor Tom Ridge co-chair the Panel, and are joined by former Senate Majority Leader Tom Daschle, former Representative Jim Greenwood, former Homeland Security Advisor Ken Wainstein, and former Homeland Security and Counterterrorism Advisor Lisa Monaco. Hudson Institute is the Panel's fiscal sponsor.

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