POLIO: IT'S STORY...

JAMES WELDON

MEETING ROOM
AND EVER SINCE, I'VE BEEN CONFINED TO A LAB.

THANK YOU FOR SHARING, SMALL POX. I KNOW IT'S NOT EASY.

IT'S SO HUMILIATING...

LITTLE BOY
MODERATOR

CHEER UP. THERE'S ALWAYS A CHANCE YOU'LL BE USED IN BIOLOGICAL WEAPONS.

YOU REALLY THINK SO?

DISEASES NEARING ERADICATION SUPPORT GROUP (BACTERIANS HARD NOT BE TO SLOW)

OKAY, UHHH... HII, MY NAME IS POLIOMYELITIS, AND I'M NEARLY ERADICATION.

LEPROSY
POISON
LEP.

LET'S MOVE TO OUR NEXT MEMBER. POLIO, WOULD YOU TELL YOUR STORY TO THE GROUP?
HI, POLIO.

VERY GOOD. CAN YOU TELL US A LITTLE ABOUT YOURSELF?

WELL, I ENTER THE BODY ORALLY IN FECAL MATTER. I'M A CONTAGIOUS EPIDEMIC ENTEROVIRUS...

OR AT LEAST I WAS... UNTIL THE VACCINE...

I KNOW THIS IS HARD, POLIO. PLEASE TRY TO TELL US WHAT HAPPENED.

I'M NOT SURE WHERE TO START...

START AT THE BEGINNING.

IS THIS GONNA BE LONG?

GUINEA, PLEASE LET POLIO SPEAK.

WHEN CIVILIZATION BEGAN, I WAS EVERYWHERE. HERE'S A PICTURE OF ME IN A PRIEST IN ANCIENT EGYPT.

WELL, [SNIFF] I GUESS THAT WOULD BE THE DAMNATION OF CIVILIZATION.

COOL.
Those were good days. Cities were crowded. Sanitation was terrible.

I'll take two.

I was endemic to just about every population on Earth. I infected almost everyone within a few weeks of birth. Doctors were clueless.

Doctor! What's wrong with my baby?

Mars is in Virgo this month. What do you think is wrong with your baby?

And medicine was mostly guess work.

Cities are awesome.

Amen.

For thousands of years, everything went smoothly.

No-one even knew I was there.

Here's a mildly toxic herbal remedy. Oops, I just dropped it in the open sewer.

Might want to brush it off.

Wait. I don't understand. If you were everywhere, how come no-one knew?

Good question.
WHEN I INFECT PEOPLE, MOST OF THE TIME, I JUST HANG OUT IN THE DIGESTIVE TRACT CAUSING MILD SUFFERING, BUT NO OUTWARDLY OBVIOUS SIGN. I'M GONE WITHIN A FEW DAYS. 96% OF CASES ARE ASYMMPTOMATIC.

MY ALIMENTARY TRACT IS MILDLY INFLAMED, BUT I FEEL GREAT.

I'M GONNA GO HANG OUT DOWN TOWN.

I'M NOT ALWAYS SUBCLINICAL. SOMETIMES I CAUSE HEADACHE, STIFFNESS, VOMITING — EVEN SORE THROAT...

WHO DOESN'T?

GUINEA, THIS IS POLIO'S TIME.

NO. THE WORM'S RIGHT. BUT FLU-LIKE SYMPTOMS AREN'T THE ONLY THING I DO. IN ABOUT 1 IN 25 CASES I GET INTO THE BRAIN AND SPINAL CORD, WHERE I CAUSE LESIONS. THE RESULT IS A TOTAL LOSS OF MOTILITY, ESPECIALLY IN THE LOWER LIMBS.

BUT BECAUSE JUST ABOUT EVERYONE IN A POPULATION WAS IMMUNE, I WENT UNNOTICED. INCIDENTS OF PARALYSIS WERE SPORADIC, AND I WAS BASICALLY OVERSHADOWED BY OTHER DISEASES.

SORRY. MY BAD.

DON'T WORRY ABOUT IT.
I MAY HAVE HAD NO RECOGNITION, BUT I COULD COME AND GO AS I PLEASED.

HOW COME MY ALIMENTARY TRACT IS SWOLLEN?

COMETS MAKES SENSE

HERE, HAVE SOME LEECHES

I SHOW UP OCCASIONALLY IN MEDICAL TEXTS FROM ANCIENT TIMES, BUT NO-ONE EVER SUSPECTED THE WORK OF A SPECIFIC DISEASE.

CAN YOU HELP?

HIPPOCRATES, M.D.

NOPE, BUT I'M HAPPY TO RECORD YOUR SYMPTOMS IN MY MIS-NAmed CHAPTER ON CLUB-FOOT

THIS VISIT WAS WORTH EVERY PENNY

I WENT UN-DIAGNOSED RIGHT UP TO THE END OF THE 18th CENTURY.

PHYSICIANS THOUGHT IDENTIFYING SPECIFIC DISEASES WASTED TIME. INSTEAD THEY DESCRIBED + TREATED GENERAL SYMPTOMS.

YOU HAVE A CLUB FOOT.

THIS VISIT WAS WORTH EVERY PENNY.

ANYONE WHO SUGGESTED OTHERWISE WAs JUST SHOUTED DOWN.

I THINK WE SHOULD IDENTIFY SPECIFIC DISEASES SO WE CAN TREAT THEM

BEE.

GO BACK TO CRAZY-HAM

I WAS FINALLY DIAGNOSED AS A SPECIFIC DISEASE IN 1789, WHEN MICHAEL UNDERWOOD LINKED THE FEVER TO PARALYSIS AND GAVE ME A NAME. I WAs STILL JUST A CURiosITY, THOUGH

I CALL IT "DEBILITY OF THE LOWER EXTREMITIES.

CATCHY.

S CIENTISTS STARTED TO TAKE MORE OF AN INTEREST AS I STARTED TO RISE IN PROFILE IN THE 19th CENTURY. I CAUSED OUTBREAKS OF PARALYSIS IN ENGLAND, ST. HELENA, AND LOUISIANA.
Still no one knew subclinical cases were everywhere, or even that I was contagious.

Infantile paralysis is caused by teething.

Makes sense to me.

The first signs of trouble showed up in the late 19th century, with the rise of microbiology.

Look what I found!

Gross, dude.

You think that’s gross, have a look in my swan-neck flask.

New ideas about discrete agents causing specific diseases soon caught on. It was bad news. Luckily, ideas about how to treat me were still foggy.

So, how should we treat this?

Mercury ointment

Leeches

Red-hot irons

Those are all good ideas!

Unfortunately, understanding was improving.

Maybe we shouldn’t treat paralysis with poison and hot irons.

Really?

As their understanding improved, though, I was making progress myself. Epidemics got bigger. Victims got older.

Here I am in Norway, and that’s a village in France in the 1880’s. I also caused 44 clinical cases in Stockholm, 1887.
44 CASES. PFFF.

I DON'T SEE YOU CAUSING EPIDEMICS

LET'S KEEP IT FRIENDLY, FOLKS

SCOFF IF YOU WANT. THAT ONE REALLY BROUGHT ME TO THE ATTENTION OF THE MEDICAL WORLD. AND IN 1894 I HIT VERMONT. 132 CLINICAL CASES. A RECORD!

WHY DID THE OUTBREAK GET BIGGER?

SANITATION, ESPECIALLY WITH THE DISCOVERY OF MICROBES, IT JUST KEPT GETTING BETTER.

SHOULDN'T YOU DISINFECT THAT?

WHAT? I WIPED IT OFF...

WHEN YOU'RE NOT LIVING IN FILTH, YOU CAN GET A LOT FURTHER IN LIFE WITHOUT CONTRACTING ME. THAT MEANT FEWER PEOPLE WERE IMMUNE.

I NEED A NEW SHIRT...

THEY WERE LINED UP LIKE DOMINOES WHEN I CAME TO TOWN. I CHANGED FROM ENDEMIC TO EPIDEMIC. IN 1905, I HIT ALL SCANDINAVIA. 1031 REPORTED CASES.

NOW YOU'RE TALKING.

A PROBLEM WITH GETTING BIG, THOUGH, WAS THAT SCIENTISTS COULD GET A BETTER HANDLE ON ME. IN SCANDINAVIA, SOME REALIZED THAT THERE MUST BE A LOT OF SUBCLINICAL CASES, AND THAT THEY WERE LIKELY CARRIERS. LUCKILY, FEW BELIEVED THEM.

INFANTILE PARALYSIS WITHOUT PARALYSIS?

NEXT YOU'LL TELL ME MATTER AND ENERGY ARE INTERCHANGEABLE.

ABOUT THAT...
In 1908, things took a dark turn with the discovery that I was a virus, through the infection of a monkey with a patient's spinal fluid.

I need a new job.

Ditto.

Around this time, they also found me in tissues throughout the body, and discovered I could be killed with antibodies. Not good.

Polio.

On the upside, my fame was rising. Outbreaks in the states kept growing before World War I. I was beginning to be seen as a national problem. I was also a real celeb in Sweden.

Science started to get bogged down. WWI hit, and in 1916, I hit the big time. There were 27,000 confirmed clinical cases all over the North-East USA.

New York was put under quarantine, and there was a travel ban put in effect. I was all over the news, and all their measures were useless!

Everything was going well, until I infected someone famous... In 1921, I was contracted by Franklin Delano Roosevelt. I was such a fool! I should have known he'd run for office!

Polio, you can't blame yourself.

In time, he would start the national foundation for infantile paralysis. It became one of the biggest charities in history, and ultimately funded my demise.
Little did I know at the time. I was having a blast. I panicked L.A. in 1935. And all the time, they were trying to contain me the wrong way, isolating the clinical cases and ignoring the asymptomatic carriers. They were treating me like TB!

Hey, small pox! I heard you were wiped out!

Hey, small pox! I heard you were wiped out!

Confining to a lab, thank you.

A lab! Ha ha!

Hey, you're next buddy. Laugh while you can.

Whatever. See you losers later.

Come on, influenza let's go.

Sorry, polio. Please go on.

Well, that year, there were a couple of failed vaccines. Then in 1937, I hit real trouble.

They tricked me into infecting mice. They were cheaper and easier than monkeys and allowed large-scale experiments.

You're fired.

Woo-hoo!
THE MICE EXPERIMENTS LET THEM BETTER UNDERSTAND HOW IMMUNITY AND ASYMPTOMATIC CASES WORKED, AND BY ALLOWING THE ADAPTATION TO ROBOTS, THEY CREATED A STRAIN HARMLESS TO HUMANS—A STEP TOWARD A VACCINE.

LUCKILY, SCIENCE WAS STILL HEADING DOWN DEAD ENDS, DRIVEN BY PUBLIC PANIC OVER OUTBREAKS. IN 1941, SUSPICION FELL ON FACES-EATING FLIES AS A CARRIER.

MHHH... MARTHA THIS TIME YOURS REALLY HAVE OUTDONE YOURSELF.

DO YOU HEAR THAT?

IN 1945, SCIENTISTS SPRAYED 4 SQUARE MILES OF SAVANNAH, GEORGIA WITH DDT DURING AN OUTBREAK.

LATER THAT YEAR, THEY DID IT TO ROCKFORD, ILLINOIS.

OUR PLAN IS TO CONTAIN POLIO BY SPRAYING AMERICA WITH POISON.

DO IT.

IT DIDN'T WORK. BY THIS TIME MY NAME HAD REACHED AN UNPRECEDENTED SCALE. THE NFIP WAS RAISING MONEY LIKE CRAZY...

DELIVERY FOR ROOSEVELT.

PUT IT WITH THE OTHERS.

EPIDEMICS REGULARLY REACHED 10,000. THE PUBLIC FOLLOWED EVERY SCIENTIFIC DEVELOPMENT IN THE NEWS.

IN THE 40S, JOHN ENDERS GREW ME IN TISSUE CULTURES, AND THE LAST OBSTACLE TO A VACCINE WAS REMOVED.

OKAY NOW YOU'RE REALLY FIRED.

WOO-HOO!
IN THE 50'S, THINGS HAPPENED FAST. IN 1951, THE NFIP CREATED THE COMMITTEE ON IMMUNIZATION. SEVERAL VACCINES WERE TRIED, AND IN 1953, THEY GREEN-LIGHTED JONAS SALK'S INACTIVATED POLIO VIRUS VACCINE FOR TESTING.

HOW DOES THAT WORK?

THEY GROW YOU IN A KIDNEY, KILL YOU WITH FORMALIN, THEN INJECT YOU INTO 5,000 CHILDREN.

WHOA.

LEF- LONY

THE NEXT YEAR...

DO YOU NEED A MOMENT?

NO. IT'S JUST A LITTLE HARD TO THINK ABOUT.

THE NEXT YEAR, THE VACC APPROVED A MASSIVE VACCINATION TRIAL. 1.8 MILLION CHILDREN WERE INVOLVED IN THE US. ... IT WAS SUCCESSFUL!

OVER 200,000 CHILDREN WERE IMMUNIZED AGAINST ME, THANKS TO THAT PARASITIC WORM, JONAS SALK!

NO OFFENSE, GUINEA.

NONE TAKEN

GUINEA WORK

©12
In 1955, successful trials were conducted in Denmark and Canada. The vaccine was mass produced, and by 1960 was being used all over the world. Incidents of polio plummeted.

For a while, I thought there might be hope. The developing world was just starting to clean itself up.

Immunity in less developed areas started to fall, and the injectable Salk virus was difficult to administer there.

Maybe open sewers are a bad thing...

I was finally getting a chance to start some epidemics overseas.

Oooh... Click.
But then in 1962, live vaccines were approved. No needles needed, immunity resulted in days, and they could stop outbreaks in their tracks.

In the USA alone, cases of paralysis dropped from 20,000 in 1955 to 100 annually by the mid-'60s.

Groovy.

It was horrible.

It gets worse. In 1988, the WHO resolved to eradicate me by 2000.

They engaged in mass immunization. Sometimes as many as 134 million children in 1 day!

W.H.O.

RAD.

They missed their target, but today I'm only found in 6 countries on Earth. Only 1283 cases globally since 2004!

With the Geneva Declaration on Polio Eradication signed last year, what am I going to do? It's hopeless!

Thank you for sharing, polio. I hope that helped.

I just hope someday, someone else takes up the fight. It's still a question of WHO...