Graphic Novel

THE CURSE OF THE TREE-MAN

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Essay

THE PARADOXICAL VIRUS:
HUMAN PAPILLOMAVIRUS (HPV)

written by Carl Zimmer

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There are a thousand different arguments for exactly how it happened, but one thing's for certain—a very long time ago all of this started.

Life came quickly, in the form of single-cell organisms, a few billion years ago, give or take ten million here or there.

Volcanic steam cooled, liquefying into the vast oceans that became home to everything alive, with plants and animals eventually squirming their way out of the over-crowded seas.

Planet Earth was slowly learning the swing of things.

Countless species struggled, fought, and ruled their savage world. The age of the reptiles went on seemingly without end, their domination assured.

However, the only sure thing about the earth is that it's always in constant change...

...and it never plays favorites for long.
Then, very recently from a cosmic point of view, a new creature has evolved that alone among all other species is capable of comprehending its place in the world...

...and in the universe...

People are smart, adaptable, and supremely confident that nothing exists that could challenge their complete dominance over the earth.

Of course, they're also wrong a lot.
GUESS IT'S TIME I INTRODUCE MYSELF.

I'M A VIRUS... THE HUMAN PAPILLOMAVIRUS. TO BE EXACT, ALTHOUGH THERE'S REALLY NOTHING 'HUMAN' ABOUT ME.

JUST CALL ME HPV, ALL THE BEST SCIENTISTS DO.

NOW I'M SURE YOU'VE ALL HEARD OF VIRUSES, SOMETHING SO SMALL THAT YOU THINK WE DON'T EXIST, MADE ONLY OF PROTEIN AND GENETIC CODE, YADA YADA. WE'RE BLAMED FOR EVERYTHING FROM THE FLU TO SMALLPOX, BUT REALLY WE'RE VERY MISUNDERSTOOD.

ALL WE WANT IS A NICE SAFE PLACE TO LIVE AND REPRODUCE, SO JUST LEAVE US BE AND WE'LL GET ALONG JUST FINE.

HMM. ON SECOND THOUGHT, MAYBE WE ARE A LITTLE BIT LIKE YOU HUMANS, AFTER ALL!
Viruses exist in every species of animal and plant, and even bacteria have their own set of viruses. Scientists have isolated tens of thousands of us, observed through their electron microscopes. That makes viruses, like me, the most dominant form of life on the planet.

This is getting dangerous! Time to get away from these bacteria!

Kind of makes you want to treat me with more respect, doesn’t it?

That was a close one.

You see, viruses can only multiply inside of cells, not in the outside environment.

We need a host...

...and this cut in the skin is an open invitation.
Once I'm through this breach in the skin, I'll have a better look around.

Uh-oh... dendritic cells!

That's what I was afraid of... my arch-enemies, immune cells ready to gobble me up!

Strange... there's not very many of them, for some reason.

This might be my lucky break! They can't detect me.

Ouch!
Meanwhile, in the human world...

You all right, Dedé?

It’s nothing. Just cut myself on the sharp pin of this fish, that’s all.

You should clean the wound. There’s some antiseptic ointment in the first aid kit.

Oh, it’s only a scratch.

Now come on...

...let’s finish cleaning our catch.
That's all it takes for a virus like me to make myself at home. In fact, many of us can infect a host through something as simple as a handshake, so long as there is even the slightest micro-inocision in the skin.

Some scientists debate whether we viruses are actually alive, because most of the time we behave much more like just a bunch of molecules...

...but once we get into a cell we can hijack it, completely reprogramming it so that the only thing the cell can do is make more viruses. Pretty nifty, eh?

Doesn't it seem like I'm alive?

Sometimes we can even trick cells into not crying out for help from dendritic or T cells that would otherwise protect them.

Shhh... be very quiet. Everything is fine.

Trust me.
AN AMBITIOUS, FAST-TALKING VIRUS LIKE ME CAN EVEN INSTRUCT THE INFECTED CELLS TO IGNORE THEIR OWN GROWTH-STOPPING COMMANDS AND TO CONTINUE TO DIVIDE OUT OF CONTROL...

...CREATING AN ORCHESTRA OF VIRUS FACTORIES!

BEAUTIFUL!

DON'T BE TOO NOISY. WE MUSTN'T DRAW TOO MUCH ATTENTION TO OURSELVES.
Indeed, we always remain in danger so long as our host’s immune system is on patrol...

Company – HALT!

Don’t be so sure, soldier. Way too quiet out there.

Well, this sector checks out.

It’s a large perimeter, sir, and we’re way outnumbered. There just aren’t enough of us out on patrol.

Can’t be helped. That doesn’t change the job we have to do.

Keep your eyes peeled. Time to move on.
MANY YEARS LATER...

SURPRISE!

WE CAME TO WALK HOME WITH YOU!

YOU'VE BEEN WORKING SO MUCH, DEEDE. OUR CHILDREN HAVE MISSED YOU.

I KNEW THEY WOULD MAKE YOU FEEL BETTER.

THOSE WARTS SEEM TO BE GETTING WORSE. PERHAPS YOU SHOULD SEE A DOCTOR?

THIS IS WONDERFUL, ESPECIALLY AFTER SUCH A HARD DAY ON THE BOAT!

NONSENSE, I HARDLY EVEN NOTICE THEM ANYMORE.

I FEEL JUST FINE.
TIME'S GONE BY. I'VE BECOME QUITE COMFORTABLE WITHIN MY HOST.

DEDE'S IMMUNE SYSTEM PATROLS ARE SCARCE THAN EVER, AND I've CONTINUED TO DO THE THING I'M BEST AT...

...OCUPYING MORE AND MORE TERRITORY.

AHHH... HOME SWEET HOME...

HELLO! YOU'RE DEDE'S GIRL, Aren't you? Where is your father?

HE HASN'T BEEN ON THIS BOAT IN WEEKS.

FATHER IS VERY SICK, SIR. HE SAYS TO TELL YOU THAT HE CANNOT WORK FOR YOU ANYMORE.

I'M SORRY, CHILD. PERHAPS I CAN HELP HIM.
THANK YOU, SIR...BUT FATHER SAYS THAT NO ONE CAN HELP HIM.

GOOD-BYE.

AND AS THE YEARS PASS...

...THAT'S IT! STEP RIGHT UP! SEE THE TERRIBLE TREE-MAN!

ALIVE! ALIVE! SEE THE TREE-MAN ALIVE, RIGHT BEFORE YOUR EYES!

ONE TICKET, PLEASE.
WELCOME ONE AND ALL! WHAT YOU ARE ABOUT TO SEE WILL THRILL YOU!

PREPARE YOURSELVES FOR THE INCREDIBLE, THE IMPOSSIBLE...

IT WILL ASTONISH YOU!!

IT MAY EVEN HORRIFY YOU!!!

...THE UNBELIEVABLE...
...THE TERRIBLE TREE-MAN!!
LATER, AFTER THE CROWD IS GONE...

HERE, THIS IS ENOUGH FOR BOTH OF YOU TONIGHT. GO BUY YOUR SUPPER.

WHAT ABOUT YOU, FATHER?

I'M... NOT HUNGRY.

PARDON THIS INTRUSION, MAY I SPEAK WITH YOU FOR A MOMENT?

I'M OVER FOR TONIGHT. COME BACK TOMORROW.

I LEARNED ABOUT YOU FROM A DISCOVERY CHANNEL DOCUMENTARY, AND HAVE TRAVELED ALL THIS DISTANCE SO WE COULD MEET.

I'M DR. GASPAR, A PHYSICIAN FROM AMERICA.

I... I DON'T UNDERSTAND.

PLEASE COME WITH ME TO THE HOSPITAL IN JAKARTA. I WANT TO DO SOME BLOOD TESTS TO CONFIRM WHAT I SUSPECT IS WRONG WITH YOU.

AND, MORE THAN THAT...

...I BELIEVE I CAN HELP YOU.
THE UNIVERSITY OF MARYLAND, USA, SOME WEEKS LATER...

"...as suspected, tests on DeDe’s blood have confirmed the presence of HPV, a common infection that usually causes warts on those suffering with the virus."

HOWEVER, THE MAIN CAUSE OF DEDE’S UNIQUE PROBLEM IS AN UNCOMMON GENETIC FAULT THAT IMPEDES HIS OWN NATURAL IMMUNITY, DERIVING HIS BODY’S ABILITY TO CONTAIN THE DISEASED GROWTHS, ALLOWING THEM TO GROW OUT OF CONTROL.

USUALLY WE'D SUSPECT THE AIDS VIRUS IN SUCH A SUPPRESSED IMMUNE SYSTEM, BUT DEDE TESTED NEGATIVE FOR HIV.

ASIDE FROM THE WARTY TUMORS, DEDE HAS ENJOYED REMARKABLY GOOD HEALTH THROUGHOUT MOST OF HIS LIFE... WHICH WOULD NOT BE EXPECTED OF SOMEONE WITH SUCH A LOW COUNT OF CERTAIN KEY WHITE BLOOD CELLS.

I’D ESTIMATE THE LIKELIHOOD OF ANYONE HAVING THIS SAME IMMUNE DEFICIENCY AT LESS THAN ONE IN A MILLION.

WE HAVE SOMETHING HERE THAT IS VERY RARE...
AND, FORTUNATELY FOR DEDE, VERY TREATABLE.

NEXT, AT A HOSPITAL IN JAKARTA...

DON'T BE NERVOUS, DEDE. DAILY DOSES OF THIS SYNTHETIC FORM OF VITAMIN A HAVE BEEN SHOWN TO HELP OTHER PATIENTS SUFFERING WITH SEVERE CASES OF HPV.

WE BELIEVE YOU WILL BENEFIT, TOO.

AFTER I BECAME SICK, I WAS SHUNNED AND DRIVEN OUT OF MY OWN VILLAGE. EVEN MY POOR WIFE LEFT ME TO CARE FOR OUR CHILDREN ON MY OWN.

JOINING THE SIDESHOW AS THE TREE-MAN WAS THE ONLY WAY I COULD EARN MONEY FOR FOOD.

THIS IS A MIRACLE!

"IT'LL TAKE TIME, DEDE, BUT IN THE NEXT FEW MONTHS, THESE TUMORS SHOULD SHRINK ENOUGH FOR YOU TO USE YOUR HANDS AGAIN..."

OHHH... YEP, THIS IS THE LIFE...
“...then the most stubborn growths could be frozen off or surgically removed...”

I... I don't feel so good...

“...and you can return to a normal life again.”

No... oh no... it can't be...!

“T-T-T cells!
Dendritic cells! Millions of them!”
SIX MONTHS LATER...

I have my life back again, thanks to you doctors. The sorrowful 'Tree-man' has vanished like a bad dream.

There are, in truth, far more viruses on our planet than there are visible stars in the night skies!

They are everywhere...

...invisible...

...inescapable...

...and may spread to anyone.

Hi, I'm HPV!

We may lose a battle, here and there... but the war continues...

END?