World of VIRUSES

The FROZEN HORROR

SEPA
SCIENCE EDUCATION PARTNERSHIP AWARD
Supported by the National Center for Research Resources, a part of the National Institutes of Health

UNIVERSITY OF Nebraska, Lincoln
Graphic Novel

THE FROZEN HORROR

written by Martin Powell
art and letters by Tom Floyd
produced by Angie Fox

Essay

INFLUENZA: LOOKING DOWN FROM THE STARS

written by Carl Zimmer

Thanks to

Anisa Angeletti, Ph.D., Research Assistant Professor, Nebraska Center for Virology, University of Nebraska–Lincoln

Peter Angeletti, Ph.D., Associate Professor, Nebraska Center for Virology, University of Nebraska–Lincoln

Judy Diamond, Ph.D., Professor and Curator of Informal Science Education, University of Nebraska State Museum

Kristin A. Watkins, MBA, Librarian/Grants Coordinator, Center for Preparedness Education. A Joint Endeavor between Creighton University Medical Center and University of Nebraska Medical Center.

Charles Wood, Ph.D., Lewis Lehr/3M University Professor of Biological Sciences and Director, Nebraska Center for Virology, University of Nebraska–Lincoln

The University of Nebraska is an Affirmative Action/Equal Opportunity institution.

© 2010, The Board of Regents of the University of Nebraska. All rights reserved.
The Frozen Horror

I can see why.

Not found on any Alaskan map, the location is known only through word-of-mouth, passed down through countless generations.

So quiet and serene, no one would ever think this was once the site of a massacre...

Told me the better part of a year to locate it.

So, this is what it looks like.

103 Native Villagers Lie in Rest Here, Losing Their Lives in the Short Span of Six Days, October 1918

...and one of the greatest biological mysteries on the planet.
UNDOUBTEDLY, THIS WAS AN INFLUENZA EPIDEMIC, SIMILAR TO THE TRAGEDY AT BREVIK MISSION, ON ALASKA'S SEWARD PENINSULA, IN 1918.

AS A PATHOLOGIST, I'VE GOT TO BE SURE.

BEWARE...
WHY DO YOU WAKE THE DEAD?

YOU STARTLED ME!

I APOLOGIZE, THIS MUST LOOK VERY STRANGE TO YOU. MY NAME IS DR. JOSEPH ERICKSON. I’M A SCIENTIST, SENT HERE TO INVESTIGATE THE PLAGUE THAT SEIZED THIS VILLAGE NINETY YEARS AGO.

UH, I HAVE THE PROPER PERMITS FOR THIS EXCAVATION. YOU SEE, I NEED TO EXTRACT SOME TISSUE FROM ONE OF THE DECEASED, PRESERVED HERE IN THE PERMAFROST.

LATER, IN THE LABORATORY, WE’LL HOPEFULLY BE ABLE TO IDENTIFY THE VIRUS AND POSSIBLY CREATE A VACCINE AGAINST THE EVENT OF A FUTURE OUTBREAK.

YOU SHOULD LEAVE. NOW. THIS VERY MOMENT.

THERE IS STILL DEADLY DANGER HERE.
I... I'm afraid I don't understand.

You should be afraid.

My name is Hinshlai. The place where we are standing was once the home of the Great Dying.

I am here to tell you the tale.

Ninety years ago this was a normal, happy fishing village.

One who lived there was a little child, five years old.
ONE BRIGHT BUSY DAY, AS THE OTHERS HURRIED ABOUT WITH THEIR BASKETS AND NETS, SHE WANDERED OFF IN HER LONELINESS...

...AND SHE FIRST ENCOUNTERED THE CREATURE.

NEVER HAD THE GIRL BEHELD ANYTHING LIKE IT.

HELLO, WHAT KIND OF THING ARE YOU? WOULD YOU LIKE TO COME HOME WITH ME?
It was a friendly, affectionate little being and did not protest when the child carried it away back to the village.

At first sight, everyone was quite fond of the creature, but then the strangeness started.

What a handsome bird! And so friendly!

Just look at this bright-eyed little pig! He looks as though he can understand every word we say.

But it wasn’t a goose, or a pig, that the girl had brought into her village.

Somehow the creature had tricked everyone, making them see whatever it wished. Only the child knew something of the terrible truth...

...that the beast was not what it appeared to be.
Then, the dying began.

Quick, cruel and brutal.

Nearly everyone was affected.

Mother? Mother, can you hear me...?
At the end of six short days, the entire village was a graveyard.

Only the girl, her older sister, and their grandparents remained.

The creature, and its poisonous plague had vanished, leaving forever a hollow ache in the hearts of the few survivors.
WHAT A DREADFUL STORY. I CAN FULLY UNDERSTAND WHY THIS TERRIBLE TRAGEDY HAS GROWN INTO SUCH A FRIGHTFUL LEGEND.

HOWEVER, THERE WAS NOTHING SUPERNATURAL ABOUT WHAT HAPPENED IN THIS DOOMED VILLAGE. LET ME TRY TO EXPLAIN.

YOU SEE, FLU GENES SHOULD STILL BE PRESENT IN THESE FROZEN GRAVES, AND WE CAN DETERMINE WHAT TYPE OF NEW DEADLY STRAIN THIS IS. FLU VIRUSES CREATE NEW STRAINS BY REASSORTING THEIR GENES WITH OTHER FLU STRAINS, SUCH AS THOSE FROM PIGS AND BIRDS.

WE SHOULD BE ABLE TO DEPUCR THE ACTUAL GENETIC CODE OF THE VIRUS.

WE HAVE THE CHANCE TO DO SOME REAL GOOD HERE, AND FINALLY PUT TO REST THAT GHOST STORY OF THE LITTLE GIRL AND HER SHAPE-CHANGING CHIMERA.

LISTEN, I'M SORRY. PLEASE FORGIVE ME. I GOT CARRIED AWAY. I'M AFRAID YOU DON'T COMPREHEND MUCH OF WHAT I JUST SAID...

THIS HAS ALL THE ASPECTS OF AN OUTBREAK OF A NEW STRAIN OF INFLUENZA, ONE OF THE MOST LETHAL VIRUSES IN THE HISTORY OF HUMANITY. AS A SCIENTIST, I'M HERE TO TRY TO SOLVE THE MYSTERY.

THIS EXPERIMENT MAY EVEN HELP US TO UNDERSTAND WHAT MADE THIS FLU STRAIN SO VIRULENT. THEN WE CAN CREATE VACCINES AGAINST A FUTURE OUTBREAK.

IT IS YOU WHO FAILS TO UNDERSTAND. THIS IS NO MYTH. I SAW THE BEAST WITH MY OWN EYES, EVEN AS I SEE YOU NOW.

I, HINSHLAI, WAS THAT LITTLE CHILD OF FIVE.
It was a strenuous job, but I’ve finally obtained the precious tissue samples.

A growing blizzard is already beginning to howl. I won’t be sorry to leave this eerie site far behind me.

The old native woman vanished during my work. The snow has covered her tracks.

It’s almost as if she was never here at all.

Squawk

Oh—!

Well, hello there. Where did you come from? I’m sure you weren’t there a minute ago.

Hmm, you’re hurt. Looks like a broken wing. You’d never survive out in this storm.

So, I’ll take you with me.

We have a veterinarian at the base. She’ll fix you up, good as new.

Strange, though. For a moment, there in the snow, I could have sworn that you were a baby pig! How could I make such a mistake?

This weather sure does weird things to the imagination.

Bet everyone will be surprised when they see me walk in with you.

End?