

0. DISCOVERING the EBOLA VIRUS - Story Preface

1. A TEACHER in YAMBUKU GETS SICK

2. A DEADLY, UNKNOWN DISEASE

**3. DISCOVERING the EBOLA VIRUS**

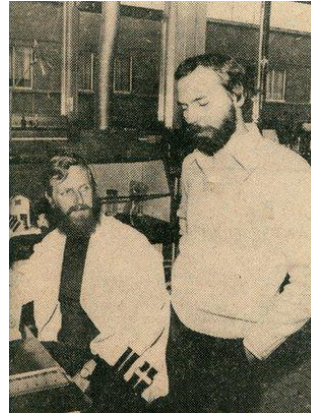
4. INVESTIGATING the EBOLA VIRUS

5. UNDERSTANDING and NAMING the EBOLA VIRUS

6. SOURCE of EBOLA VIRUS

7. EBOLA TODAY - AIDED by SOCIAL DISTANCING

8. FUTURE of EBOLA



A contemporary news clip, from 1976, depicting Peter Piot (standing) and Guido Van Der Groen (seated) at the time they were investigating the blood samples of a Belgian nun who had died of a yet-unnamed disease (later named "Ebola" by Piot and his colleagues).

Peter Piot is working at the Institute of Tropical Medicine, in Antwerp, when he is called upon to investigate the contents of a blue thermos filled with blood-sample vials. He believes he is about to investigate something like "yellow fever with hemorrhagic manifestations."

The samples were drawn from a Belgian nun who worked at the Yambuku Mission Hospital in the northern part of Zaire (now known as the Democratic Republic of the Congo). They were sent to Antwerp via an Air Zaire commercial flight (where the thermos was tucked inside the hand luggage of a passenger).

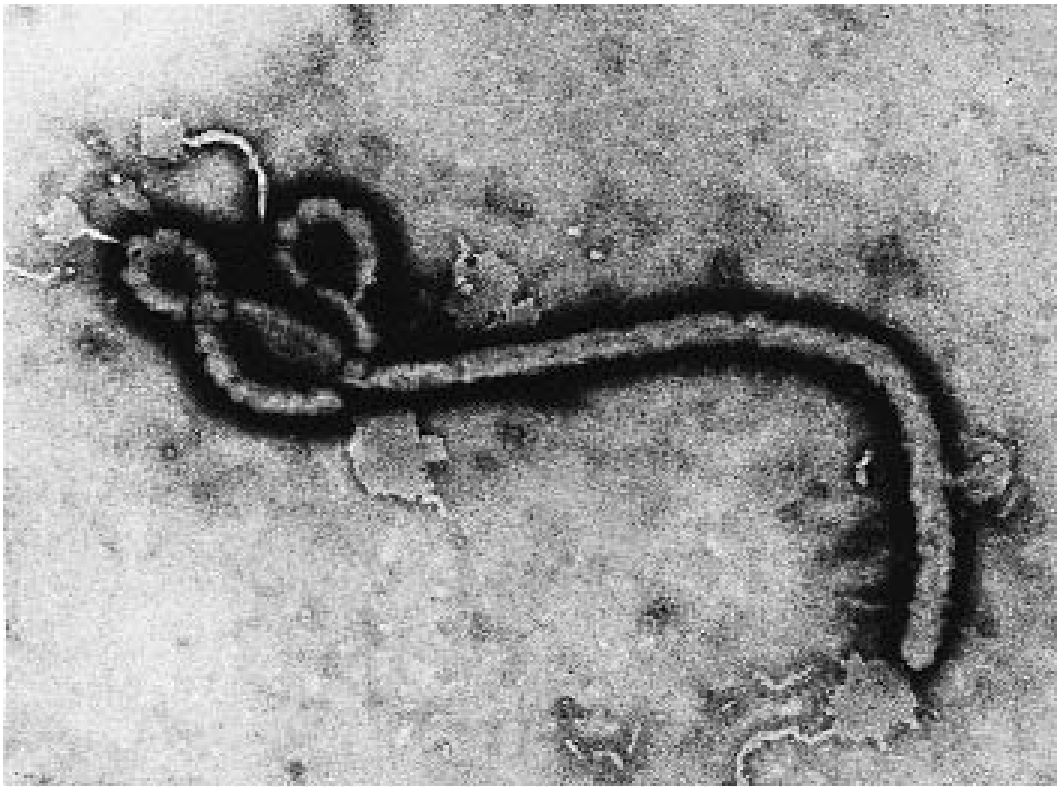
By the time the ice-filled thermos reaches its destination in Antwerp, much of the ice has melted. Not knowing much about the contents of the vials, or being warned about how lethal they likely are, Peter and his team members open the thermos.

Treating the samples like so many others which pass through their lab, they see that one of the vials has broken. Blood from the burst vial is mixing with melted ice water. Leaking into that melting water is also an unknown, highly contagious, deadly virus.

Wearing latex gloves, as their sole protection, three lab workers—Piot, postdoc student René Delgadillo and Guido Van Der Groen—begin their work with the blood samples:

*We didn't even imagine the risk we were taking. Indeed, shipping those blood samples in a simple thermos, without any kind of precaution, was an incredibly perilous act. Maybe the world was a simpler, more innocent place in those days, or maybe it was just a lot more reckless.*

Once Peter and members of his team place the samples under an electron microscope, they are absolutely stunned. They see something entirely new.



Electron micrograph of Ebola Zaire virus. This is the first photo ever taken (10/13/76) by Dr. F.A. Murphy, now at UC Davis, then at CDC. Diagnostic specimen in cell culture at 160,000X magnification.

Piot recalls the moment when he first viewed the Belgian nun's magnified cells:

*We saw a gigantic worm like structure - gigantic by viral standards. It's a very unusual shape for a virus, only one other virus looked like that and that was the Marburg virus.*

The Marburg virus?



Image of Marburg virus, depicted in "[Forty-Five Years of Marburg Virus Research](#)," by Kristina Brauburger, Adam J. Hume, Elke Mühlberger, and Judith Olejnik. License: [CC BY-SA 3.0](#)

In 1967, thirty-one people working in the German cities of Marburg and Frankfurt and the Yugoslavian capital of Belgrade became ill with hemorrhagic fever after working, in labs, with infected African green monkeys (imported from Uganda). Seven of those people died.

The virus under the microscope in Antwerp, however, doesn't seem to be Marburg disease (also known as "green monkey virus"). To be sure, Piot and his team consult with other experts around the world. They agree ... this is something new. It's something never-before seen.

Then more news reaches Antwerp. The Belgian nun, who gave the blood samples, has died. Pieces of her liver will be flown to Belgium, aboard another commercial flight, for further testing.

Like all the others dying from this mysterious virus, she had ever-worsening symptoms: fever, diarrhea, vomiting, bleeding, then death.

All of this reminds Peter of something which he experienced as a boy. Growing up near a museum, featuring the work of a local person who'd courageously helped people with Hansen's Disease (also known as leprosy), he decided to visit the museum. It was a life-changing event:

*I decided one day to cycle to the museum. The old pictures I saw there of those suffering from leprosy fascinated me. That sparked my interest in medicine—it gave me a thirst for scientific knowledge, a desire to help people and I hoped it would give me a passport to the world.*

It is time for Peter Piot to take his own lifesaving trip. To understand what is happening, and to discover how this strange and deadly virus is spreading, he needs to talk with the people in Yambuku.

Meanwhile ... the nun's unused blood samples are sent to facilities equipped to handle the most deadly diseases known to man (first to Porton Down, in Britain, then to the CDC in Atlanta).

Except ... Stefaan Pattyn, who is supervising the lab workers in Antwerp, decides to withhold some of the deadly material before shipping it to Britain. A leading scientist in the search for a leprosy cure, among other things, Professor Pattyn removes a small amount of the blood sample to retain in his own lab for more testing.

Then ... with none of the men wearing proper protective garb except for latex gloves, Pattyn drops a vial of the nun's infected blood onto the floor. It immediately shatters, spilling on Delgadillo's shoes.

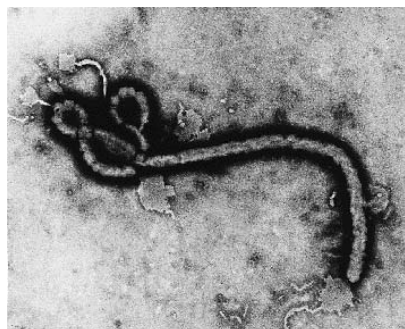
See Alignments to State and Common Core standards for this story online at:

<http://www.awesomestories.com/asset/AcademicAlignment/DISCOVERING-the-EBOLA-VIRUS-Ebola-Past-Present-and-Future>

See Learning Tasks for this story online at:

<http://www.awesomestories.com/asset/AcademicActivities/DISCOVERING-the-EBOLA-VIRUS-Ebola-Past-Present-and-Future>

## Media Stream



Electron micrograph of Ebola Zaire virus. This is the first photo ever taken (10/13/76) by Dr. F. A. Murphy, now at UC Davis, then at CDC. Diagnostic specimen in cell culture at 160,000X magnification.

### Ebola - First Microscopic View

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### Marburg Virus

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### Ebola Patients in Yambuku Hospital

CDC image ID# 7089 taken by Joel G. Breman, M.D., D.T.P.H., an employee (at the time) of the CDC (Centers for Disease Control). Online via CDC's Public Health Image Library.

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