

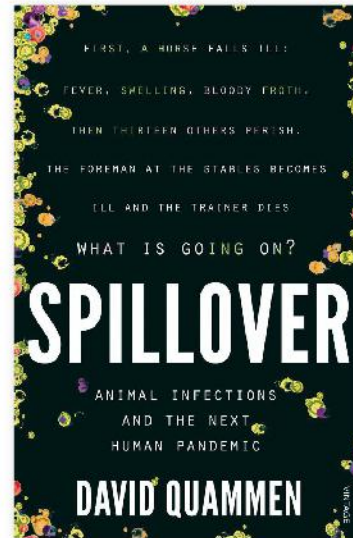


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Spillover. Animal infections and the next human pandemic

David Quammen

Published in 2013 *Spillover* could be the perfect explanation of the covid crisis, change some names and animals and it reads like a covid virus diary.



EXPLORE

• Video:

- How a virus like coronavirus jumps from animals to people
- Agent Smith interrogation

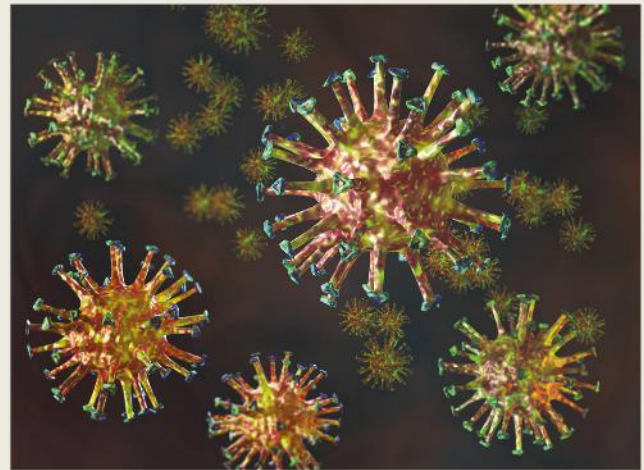
FOCUS ON

What is a virus?

A virus is a submicroscopic infectious agent that replicates only inside the living cells of an organism. Viruses infect all types of life forms, from animals and plants to microorganisms, including bacteria.

Where are they found?

Viruses are found in almost every ecosystem on Earth and are the most numerous type of biological entity. The study of viruses is known as virology, a subspeciality of microbiology.



WARM UP

1 Watch the video *How a virus like coronavirus jumps from animals to people* and answer the questions.

- 1 What group of diseases are viruses part of and what are the other causes?
- 2 What is the virus' goal?
- 3 What is a reservoir?
- 4 What do viruses bind to and where are they?
- 5 What has happened in reservoirs to avoid sickness?
- 6 What is spillover?
- 7 To achieve spillover what three things does the virus have to get through?

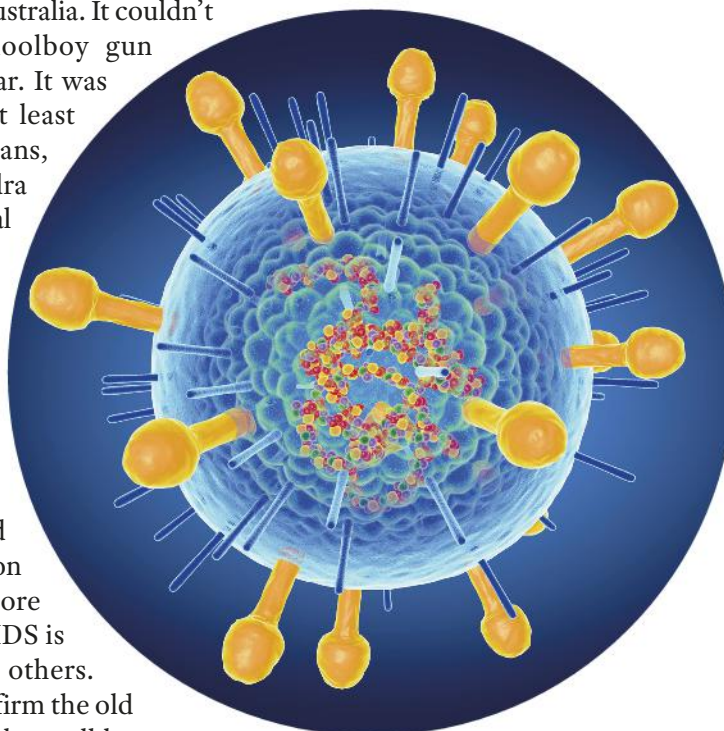
VIDEO

<http://tiny.cc/ao1ftz>

READ THE TEXT

- The virus now known as Hendra wasn't the first of the scary new bugs. It wasn't the worst. Compared to some others, it seems relatively minor. Its mortal impact, in numerical terms, was small at the start and has remained small; its geographical scope was narrowly local and later episodes haven't carried it much more widely.
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It made its debut near Brisbane, Australia, in 1994. Initially there were two cases, only one of them fatal. No, wait, correction: There were two human cases, one human fatality. Other victims suffered and died too, more than a dozen equine victims and their story is part of this story. The subject of animal disease and the subject of human disease are, as we'll see, strands of one braided cord. The original emergence of Hendra virus didn't seem very dire¹ or newsworthy unless you happened to live in eastern Australia. It couldn't match an earthquake, a war, a schoolboy gun massacre, a tsunami. But it was peculiar. It was spooky. Slightly better known now, at least among disease scientists and Australians, and therefore slightly less spooky, Hendra virus still seems peculiar. It's a paradoxical thing: marginal, sporadic, but in some larger sense representative. For exactly that reason, it marks a good point from which to begin toward understanding the emergence of certain virulent new realities on this planet, realities that include the death of more than 30 million people since 1981. Those realities involve a phenomenon called zoonosis. A zoonosis is an animal infection transmissible to humans. There are more such diseases than you might expect. AIDS is one. Influenza is a whole category of others. Pondering them as a group tends to reaffirm the old Darwinian truth (the darkest of his truths, well known and persistently forgotten) that humanity is a kind of animal, inextricably connected with other animals: in origin and in descent, in sickness and in health. Pondering them individually - for starters, this relatively obscure case from Australia - provides a salubrious reminder that everything, including pestilence, comes from somewhere.



1 dire: minaccioso

■ LET'S WORK ON IT

2 Read the text and answer the questions.

- 1 What other animal did the Hendra virus affect and how many died?
- 2 Why do you think the emergence of this virus didn't seem very serious or newsworthy?
- 3 What other diseases can be considered zoonotic?
- 4 What is the Darwinian truth mentioned?

■ BEYOND THE WORDS

3 Watch the video *Agent Smith interrogation* (from 1.52 to 2.55) and fill in the blanks.

VIDEO <http://tiny.cc/vz5jtz>

I'd like to share a (1) that I've had during my time here. It came to me when I tried to (2) your species and I realized that you're not actually mammals. Every mammal on this planet instinctively develops a natural (3) with the surrounding (4) but you humans do not. You move to an area and you multiply and multiply until every natural resource is (5) and the only way you can survive is to spread to another area. There is another organism on this planet that follows the same pattern. Do you know what it is? A virus.