All you ever wanted to know about pandemics – and then some

A warning, for those with a nervous disposition this is not a book for you; if you have an obsessive compulsive nature and go around cleaning door handles after others have touched them, then this is also not the book for you.

Pandemic originates from the Greek *pan* meaning all and *demos* meaning people. Whether or not a disease is labelled as a pandemic is not related to how many people it manages to kill, but by how much it can spread. The ideal candidate has the ability to spread easily from person to person as well as harm and kill those it infects. The author defines pandemic as ‘a new infectious agent that has spread to individuals on all continents (except Antarctica) and tries to answer how and why pandemics start, and what can be done to prevent them.

Using the spread of HIV as the template for other potential pandemics, he attempts to explain how our evolution from small isolated hunter-gather communities into city-dwelling, high-density populations, who globe-trot around the world has allowed us to create the conditions for a viral ‘perfect storm’. Viral sequencing has enabled scientists to trace HIV evolution back to the late nineteenth or early twentieth century when it is presumed that a hybrid Simian immunodeficiency virus jumped from chimpanzees to humans via hunters catching and butchering infected animals. From this beginning, the virus remained unobserved and unrecognized in small isolated communities in Africa, 50 years before we had ever heard of it, and often following evolutionary ‘dead-end’ pathways. At some point, an HIV isolate obtained the necessary capacities to allow it to spread more easily and by capitalizing on our modern lifestyles involving urbanization and global travel it has spread into every corner of the world. In the way that HIV has gone global, are there other viruses waiting in the wings that will evolve in a similar way and are as yet undiscovered?

As I read the first part of the book, I found myself thinking ‘we’re doomed’; however, we are left with some hope. The ability to stop pandemics is dependent on the dedication of the author, alongside that of several other teams of equally committed individuals across the globe. Self-styled as virus hunters, and reminiscent of storm chasers, Nathan Wolfe and his colleagues provide ‘listening posts’ at ‘hot spots’ around the globe with the objective of stopping potential pandemics in their tracks before they are able to take hold and spread. By harnessing modern, cutting-edge technology they are monitoring global ‘viral chatter.’ One eventual hope is that we will soon have the ability to recognize ‘early unusual clusters of health complaints that might signal the beginning of an epidemic,’ otherwise known as ‘digital epidemiology’.

Written in a very accessible style, the book makes a compelling read. As well as highlighting areas of modern-day medical virology relevant to halting the spread of a potential pandemic, it is an anthropological study of the interaction of people and viruses. The author examines our ancestry from a viral perspective and helps to explain the natural evolution of pandemics without bamboozling the reader with science. Well worth a read – but maybe not when you have flu-like symptoms or a cough.

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