

Podcast: From the Black Death to COVID-19—Investigating the ancient war between genes and disease

Geneticist Dr Kat Arney takes a look at the ancient war between our genes and the pathogens that infect us, looking back thousands of years to the Black Death and before, all the way through to our very latest foe.

One of the most curious things about COVID-19 – the disease caused by the novel SARS-CoV-2 coronavirus that's causing so much trouble – is the wide variation in how it affects different people, from being a very serious or even fatal illness, through a range of strange symptoms like skin rashes or diarrhea as well as the cough, fever and loss of smell, which vary in their severity. And there are some lucky people who seem to catch the virus but have no symptoms at all. So, do these differences lie in our genetics? Or are there other factors at play?

<https://geneticliteracyproject.org/wp-content/uploads/2020/07/316-Sickness-and-Susceptibility-Genetics-Unzipped.mp3>

To find out, Kat speaks with consultant geriatrician [Dr Claire Steves](#) from King's College London. She's part of a team of researchers analysing data from the [COVID Symptom Study app](#), originally built by health science company ZOE to survey some of the thousands of identical and non-identical twins involved in the [TwinsUK cohort study](#). The app now has more than 4 million users in the UK, US and Sweden, and is providing valuable insights into the key symptoms of COVID-19 and how they affect different people.

COVID-19 is just the latest in a long string of outbreaks, epidemics and pandemics that have ravaged humanity over the years. [Christiana Scheib](#), head of the ancient DNA research facility at the University of Tartu, Estonia, is looking at much older plagues – including the Black Death – to discover how underlying genetic variations may have contributed to susceptibility to disease. By studying ancient remains from many burial sites in the Cambridge area, she's piecing together a picture of the past to understand how these people lived and died.

Finally, Kat talks to [Lucy Van Dorp from University College London](#), who is studying how the human genome has co-evolved over millennia alongside the pathogens that infect us. Although it may seem strange to be studying ancient diseases in today's modern era, particularly when we've got a brand new pandemic to worry about, her work to trace the spread, movement and migration of humans and their pathogens is essential for understanding the spread of outbreaks today, [including COVID-19](#).

Full transcript, links and references available online at [GeneticsUnzipped.com](https://geneticliteracyproject.org)

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