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Why the Coronavirus Is So Confusing

A guide to making sense of a problem that is now too big for any one person to fully comprehend

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Take-Aways

- The causes of the coronavirus pandemic are easy to misunderstand.
- The disease caused by the coronavirus, COVID-19, varies among different people and places.
- Scientists' most important discovery so far is that asymptomatic people can spread the virus.
- Experts' most valuable characteristic is their ability to detect errors.
- During an epidemic, people gather as much information as they can, but misinformation may give way to active disinformation.

Recommendation

Why is it that the novel coronavirus, SARS-CoV-2, which causes COVID-19, makes some people mortally ill and others not? How contagious is it really? How many have been infected so far? Answers to these questions remain largely in the dark. Part of the problem may be the unprecedented scale of the pandemic itself. Science journalist Ed Yong offers a guide to navigating and trying to grasp a pandemic that has overwhelmed just about everyone.

Summary

The causes of the coronavirus pandemic are easy to misunderstand.

By the time the novel coronavirus, SARS-CoV-2, came to broad public attention, confusion about exactly what was causing the COVID-19 epidemic was already widespread. Part of the problem may be that, in addition to SARS-CoV-2, the coronavirus manifests in many other versions. Several coronaviruses are responsible for what is commonly known as the cold, and they have moderate symptoms; two others, including MERS, are infrequent but cause serious illnesses. Scientists believe that hundreds of other coronaviruses, and potentially thousands, are already present just in China's bat population, which is likely where SARS-CoV-2 originated.

"SARS-CoV-2 isn't changing dramatically. Scientists are tracking its evolution in real time, and despite some hype about the existence of different strains, the virologists I've spoken with largely feel that the virus is changing at a steady and predictable pace."

A coronavirus is unlikely to leap from a bat to a vulnerable human, but in many Chinese villages, people live close to bat populations, and with many iterations of the coronavirus, the chances over time become less improbable. And, a single exposure can cause a pandemic. But despite the fact that the coronavirus has many incarnations, SARS-CoV-2 appears to mutate at a predictable rate, and consequently the world is dealing with only a single virus.

The disease caused by the coronavirus, COVID-19, varies among different people and places.

The virus and the illness that are wreaking havoc around the world aren't the same thing. SARS-CoV-2 is a virus; the illness it causes is coronavirus disease, COVID-19. The illness is a consequence of the virus in combination with a variety of factors concerning the person it affects, such as age or pre-existing health problems. The impact of SARS-CoV-2 on people can vary dramatically. Some people get infected with the virus but don't show any symptoms; others end up in intensive care and die. The variability of the virus's impact on people is one reason experts have found it difficult to settle on a mortality rate, which has been registered as being as far apart as 0.1% to 15%. The total number of people infected and the total numbers of deaths are contingent on factors that can be specific to countries and regions, such as how many people have been tested, the relative age of the population and the accessibility of hospitals.

Scientists' most important discovery so far is that asymptomatic people can spread the virus.

Over the course of the coronavirus pandemic so far, scientists have published thousands of research papers on COVID-19. Even so, major revelations haven't been forthcoming. Following the usual trial-and-error course of traditional scientific research, scientists took months and conducted multiple studies before they concluded that an infected person can spread the virus without showing any symptoms.

"This is how science actually works. It's less the parade of decisive blockbuster discoveries that the press often portrays, and more a slow, erratic stumble toward ever less uncertainty."

The coronavirus pandemic has given rise to a vast number of papers, many of which are of poor quality due to the practice of publishing research online prior to peer review. Non-scientists or scientists working outside their specialties have presented some of these papers. Some are presented in good faith, while others are purely opportunistic.

Experts' most valuable characteristic is their ability to detect errors.

Many people who are not epidemiologists or scientists have weighed in on the coronavirus pandemic. A lawyer who is also a scholar announced that people shouldn't panic about the virus and that the death toll would be small, and the conservative media promoted his views. Experts' purpose in this area is not only to share knowledge, but also to identify errors. People want and need information, but they often lack the critical skills and knowledge to evaluate it. Inexpert commentators are at their most problematic and dangerous when they combine lack of knowledge with arrogance. Nonetheless, in the 21st century expertise tends to be highly specialized, and the scale of the coronavirus demands a breadth of expertise. On issues involving testing, you should consult public health professionals and other relevant experts; for issues about immunity, consult immunologists. No single person or expert knows everything. To earn public trust, experts should understand and accept their own limitations.

During an epidemic, people gather as much information as they can, but misinformation may give way to active disinformation.

Early in the coronavirus pandemic, many people with some expertise in infectious diseases underestimated the threat that the new coronavirus posed as it was spreading in China. Seeking to avoid a panic, many public officials insisted that people had every reason to remain calm. Even the World Health Organization initially reassured the public that the risk was small and remote.

"The pandemic's length traps people in a liminal space. To clarify their uprooted lives and indefinite future, they try to gather as much information as possible – and cannot stop."

Organizations should prioritize providing accurate information and being honest and straightforward about their levels of uncertainty. Then, at least, people will have a way of understanding what's going on, and

organizations will find it easier to provide ongoing updates. When the public doesn't trust its institutions, people will turn elsewhere to be informed and will become vulnerable to deception and manipulation. Even worse, people now go online for information, and online information is filtered in both political and personal ways. For their health, people may need to slow down and stop consuming every shred of news regarding the pandemic.

About the Author

Ed Yong is a British science journalist and a staff writer for *The Atlantic*. He is the author of *I Contain Multitudes: The Microbes Within Us and a Grander View of Life*.



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