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Antimatter problem

It turns out that anti-atoms look just like atoms **p8**

Exoplanet discovery

Planet detected that generates radio waves **p9**

Largest ever turtle

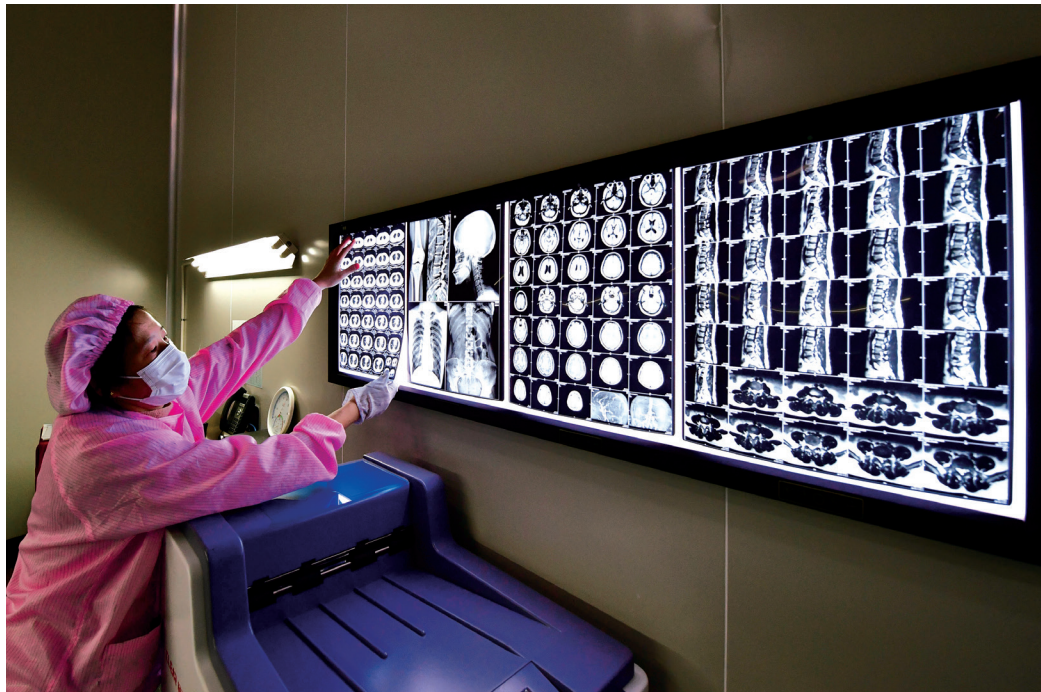
Huge fossil sheds light on mysterious reptile **p12**

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Have we been underestimating the problem? **p14**



FENG DAPENG/XINHUA NEWS AGENCY/IPA IMAGES

Medical imaging is being used to work out how the coronavirus affects the body

similar results. We know that many mild cases have gone undetected, and that case numbers should be higher. However, if most of these people don't infect others, this would explain why the number of new detectable cases is now falling.

Importantly, this could also mean that the epidemic could sputter out, especially if we can

10%

of cases may be responsible for 80 per cent of transmission

limit super-spreading events. If many places outside Wuhan "get lucky" and get few superspreaders, "this seems the most likely way a pandemic might be averted", says Marc Lipsitch at Harvard University.

However, Lipsitch says that seems a lot to hope for, given the number of countries with infections, and the likely number of missed cases. He predicts that covid-19 will go pandemic, infecting between 40 to 70 per cent of people globally.

Lipsitch and Fisman both say that if that is going to happen, unexplained clusters of severe pneumonia in older people outside China will emerge in a few weeks.

However, Fisman still thinks the threat could fizzle out. Toronto was hit hard by SARS in 2003. "It felt exactly this hopeless in the middle of it," he says. "This feels like a replay of the same movie."

The SARS coronavirus moved mainly via super-spreading and the epidemic died out. Whether that is likely to happen this time should become apparent soon. "The next couple of weeks are going to be like waiting for a bomb to go off," says Fisman. ■

Coronavirus update

Is it super-spreading?

If the covid-19 virus is transmitted largely by superspreaders, it might not go pandemic, reports **Debora MacKenzie**

FOR yet another week, covid-19, the disease caused by the new coronavirus, has remained poised just short of becoming a pandemic. As case counts stabilise in China, and don't take off elsewhere, the big question is: will it happen? "Every scenario is still on the table," said Tedros Ghebreyesus, head of the World Health Organization (WHO), in Geneva, Switzerland, this week.

To be pandemic, covid-19 has to spread generally in a population outside China, not just in limited clusters triggered by a known case, as has happened so far. "We are not seeing that," Mike Ryan, head of the WHO emergencies programme, said on Monday.

In China, cases outside Hubei

province, whose capital Wuhan is the epidemic epicentre, have stopped rising. Apart from a jump last week as China redefined some 15,000 unconfirmed cases as covid-19, the number of new cases reported daily seems to be falling. "Hubei peaked around 6 February, and daily case numbers are dropping," says David Fisman at the University of Toronto, Canada. He says this is unlikely to be due to cases not being reported, and that the fall was predictable based on trends seen in January.

On 15 February, France confirmed Europe's first covid-19

death, an 80-year-old Chinese tourist hospitalised in Paris a month ago. The day before, the first case of the virus in Africa was reported in Egypt.

But cases outside China are infecting fewer other people than expected, given the rate of spread in China. Using epidemic models, Justin Lessler at Johns Hopkins University in Maryland says this fits a situation in which only 10 per cent of cases are responsible for 80 per cent of transmission – in other words, most cases are caused by superspreaders.

Other researchers have found

More on the coronavirus online

All the latest on the science of the outbreak

[newscientist.com/article-topic/coronavirus](https://www.newscientist.com/article-topic/coronavirus)