

We were not almost killed by an asteroid this week

"Scientists stunned by 'city-killer' asteroid that just missed Earth" is an awfully compelling headline. But it paints a much scarier portrait than the truth. Let's look at the facts. Did a big rock fly by Earth on Thursday morning? Yup: Asteroid 2019 OK is an estimated 187-427 feet across and moved at around 55,000 miles per hour. Did it catch scientists pretty much totally unaware? Yes indeed. Truly, they were shaken. Did it "just miss" a collision with our planet? Yes and no.

When Asteroid 2019 OK rushed through our neighborhood on Thursday, it came within 45,000 miles of Earth. That's close, cosmically speaking; the moon is nearly 240,000 miles away. We don't generally want big, smashy rocks coming closer to us than our own moon. It might be difficult to believe that this asteroid got so close, or that some scientific negligence must have occurred. Neither of these things is actually true.

For starters, asteroid strikes are a lot less dangerous than a headline can make them sound. Yes, you could dub 2019 OK a "city-killer" based on its size. A rock that large could cause real harm to a city if it hit one. But according to experts, an asteroid at the lower end of 2019 OK's size estimate is only likely to hit our planet once every 1,000 years. An object on the high end of the size estimate only makes impact around once every 20,000 years.

And there's a reason we don't often hear about less-than-city-killer-level asteroids walloping humans and their homes: rocks break into pieces in our atmosphere, so they more often cause explosions in the sky than leave craters in your backyard. When you factor in the fact that more than 70 percent of Earth is mostly-open ocean, the likelihood of a rock big enough to do damage hitting us, surviving entry, and then landing on a populated territory is infinitesimally small.

"If you look at the consequences of an asteroid strike, they could be enormous," Mark Boslough, adjunct professor of Earth and planetary sciences at the University of New Mexico, recently said in an interview. "We're talking about potential killers that can wipe out an entire continent or even cause civilization to collapse. But the probability of such collisions is extremely low. It's the classic low-probability, high-consequence problem. I don't spend a lot of time worrying about it."

Okay, so, city-killing asteroids are actually quite unlikely to kill cities. But why didn't we hear about this one sooner, given that it clearly got too close for comfort? 2019 OK came from toward the sun, making it hard for telescopes on Earth to spot in the glare. It's also, for all its supposed city-killing abilities, quite small. NASA has already located more than 90 percent of the asteroids that are more than half a mile in width, which are the ones we'd have to start getting really antsy about. Therefore, we'd have a significant warning if they were coming our way.

"I think that won't happen for a few thousand years," said Kris Stanek, a professor at The Ohio State University who observed 2019 OK. But while there's no need to panic, there's no reason to dilly-dally either. "It's like car insurance," he said. "I buy it despite the fact that I'm a good driver because you never know what will happen. I think humankind is spending many billions of dollars on all kinds of things that we don't necessarily need. Why don't we spend a billion dollars a year on this kind of detection system? If we know about the asteroid approaching, then we should also try to figure out what to do about this issue."

Summary

Media stories about astronomic disasters are often (0) scarier than the reality. News of a huge asteroid flying 11 to the Earth than the moon hit the headlines in 2019. The author thinks this event shouldn't be considered as horrifying as it appeared in the 12. Experts claim that such encounters are not very 13 to happen. The reason has been explained scientifically. Flying pieces of rock have little chance of reaching our planet because they 14 up in the sky. Considering the fact that urban and rural 15 areas are much smaller than the territory of the uninhabited parts of our planet, we can feel safe. That is why Professor Boslough estimates the probability of dangerous 16 with asteroids as being very small. Still, it would be better if warnings about such flying objects were given in time. Asteroid 2019 OK was not so easy to 17 because of the bright sunlight. Professor Stanek thinks more effort should be put into the development of effective measures for the 18 of asteroids.

Part 5 (7 points, 1 point per item). You are going to read an article about human knowledge. Seven sentences have been removed from the text. For questions 19-25 choose from sentences A-I the one which best fits each gap. There is one sentence that you do not need to use. There is an example (0).

Ignorance: you know less than you think

- A Rather, we think in groups.
- B Most had no idea.
- C Others hold strong views about what should be done in war zones without being able to locate the region of conflict on a map.
- D But such hopes are grounded in a misunderstanding of how humans actually think.
- E In the coming decades, the world will become even more complex than it is today.
- F We think we know far more today, but as individuals, we actually know far less.
- G From an evolutionary perspective, trusting in the knowledge of others has worked extremely well for *Homo sapiens*.
- H Still, the scientific community believes in the usefulness of facts.
- I Most people don't like too many facts, and they certainly don't like to feel stupid.

Humans rarely think for themselves. (0) A Just as it takes a tribe to raise a child, it also takes a tribe to invent a tool, solve a conflict, or cure a disease. No individual knows everything it takes to build a cathedral or an aircraft. What gave *Homo sapiens* an edge over all other animals and turned us into the masters of the planet was not our individual rationality, but our unparalleled ability to think together in large groups.

Individual humans know embarrassingly little about the world, and as history progressed, they came to know less and less. A hunter-gatherer in the Stone Age knew how to make her own clothes, how to start a fire, how to hunt rabbits and how to escape lions. 19 Instead, we rely on the expertise of others for almost all our needs. In one humbling experiment, people were asked to evaluate how well they understood the workings of an ordinary zip. Most people confidently replied that they understood them very well – after all, they use zips all the time. They were then asked to describe in as much detail as possible all the steps involved in the zip's operation. 20 This is what Steven Sloman and Philip Fernbach have termed 'the knowledge illusion'. We think we know a lot, even though individually we know very little, because we treat knowledge in the minds of others as if it were our own.

This is not necessarily bad. Our reliance on groupthink has made us masters of the world, and the knowledge illusion enables us to go through life without being caught in an impossible effort to understand everything ourselves. 21 Yet like many other human traits that made sense in past ages but cause trouble in the modern age, this trust illusion has its downside. The world is becoming ever more complex, and people fail to realise just how ignorant they are of what's going on. Consequently, some who know next to nothing about meteorology or biology nevertheless propose policies regarding climate change and genetically modified crops. 22 People rarely appreciate their ignorance because they lock themselves inside an echo chamber of like-minded friends, where their beliefs are constantly reinforced and seldom challenged.

Providing people with more and better information is unlikely to improve matters. Scientists hope to dispel the wrong views by better science education, and experts hope to sway public opinion on issues such as global warming by presenting the public with accurate data and reports. 23 Most of our views are shaped by communal groupthink rather than individual rationality, and we hold on to these views out of group loyalty. Bombarding people with facts and exposing their individual ignorance is likely to backfire. 24 Don't be so sure that you can convince politicians of the truth of global warming by presenting them with sheets of statistical data.

Even scientists are not immune to the power of groupthink. Those who believe that facts can change public opinion may themselves be the victims of scientific groupthink. 25 Hence, scientists who are loyal to that community believe that they can win public debates by throwing the right facts around, despite so much empirical evidence to the contrary.