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Introduction: The joy of uncommon knowledge

"EVERYTHING THAT IS NEW or uncommon raises a pleasure in the imagination," wrote Joseph Addison, an English essayist and poet, "because it fills the soul with an agreeable surprise, gratifies its curiosity, and gives it an idea of which it was not before possessed." He was writing in 1712, but today, more than three centuries later, his remark neatly summarises the objective of this book.

This is a compendium of explanations, and what they all have in common is that they are uncommon: a word that has two meanings. On the one hand, it refers to things that are rare or infrequently encountered. In the realm of knowledge, that means things that not many people are aware of or know about. But these unusual explanations also have the power to stretch your mind and subtly change how you see the world. In other words, they are uncommon in the second sense of the word, which means exceptional and extraordinary. As Addison observed, uncommon knowledge is enjoyable to encounter because it is unexpected and surprising; because a neat explanation is mentally satisfying; and because encountering a previously unfamiliar idea, and storing it away for future reference, expands the intellect.

Many people would be surprised to hear that the global suicide rate is falling; that most refugees do not live in camps; that carrots were not originally orange; or that the far side of the Moon isn't always dark. They probably couldn't explain why donkey skins are the new ivory; why Westerners are eating so much more chicken; why Americans are sleeping longer than they used to; or why

death is getting harder to define. These aren't the sorts of things you wonder about every day. But when you learn the underlying explanations, you do not merely learn something that most people don't know – you also broaden your perspective just a little bit, as your mind makes room for a new way of looking at things. That is the joy of uncommon knowledge, in both senses of the word.

Rooting out these appetising intellectual morsels is something we love to do at *The Economist*, and this book brings together unexpected explanations and fascinating facts from our output of explainers and daily charts. We hope you will enjoy this collection of the fruits of our never-ending quest to uncover the mechanisms that explain why the world is the way it is. By the time you reach the last page, you will have learned things you did not know before – and you will also have equipped your mind to understand the world more fully. Read this book, and you will join the ranks of the uncommonly knowledgeable.

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Uncommon knowledge: little-known explanations to stretch your mind

Why Swaziland's king renamed his country

The King of Swaziland, Mswati III, has a problem. "Whenever we go abroad", he says, "people refer to us as Switzerland." So on April 18th 2018, at a celebration marking the 50th anniversary of the country's independence from Britain, the king announced that he was changing Swaziland's name to eSwatini. (As an absolute monarch he can make such decisions.) With its lower-case "e", this new name might seem at first glance to be an attempt to rebrand one of the world's last remaining absolute monarchies as something a little more modern for the internet age. But the new name in fact simply means "Land of the Swazis".

Whether many people did in fact confuse Swaziland with Switzerland is unclear. Both are gorgeous mountainous countries with small populations. Both are landlocked and surrounded by bigger neighbours. But the differences are perhaps more striking. As well as being ruled by a man with 15 wives, Swaziland is a poor country with the highest rate of HIV infection in the world. Some 26% of the adult population is infected. That in turn contributes to a life expectancy at birth of 58 years, the 12th-worst in the world. Changing the name from Swaziland to eSwatini strikes some people as a distraction from bigger issues.

Nonetheless, the king's decision did have a logic to it. Many other former British colonies in Africa took new names on becoming independent. The Gold Coast became Ghana; Northern Rhodesia and Southern Rhodesia became Zambia and Zimbabwe respectively. Basutoland, a tiny enclave surrounded by South Africa, became Lesotho. Swaziland's transformation into eSwatini was much the same story, serving to distance the country from its colonial past, albeit 50 years after the separation. The king had in fact long used the new name in addresses to the United Nations and at the opening of his country's parliament.

But it is likely to take some time to get Swaziland accepted as eSwatini. The Czech Republic is still rarely referred to as "Czechia" in English, despite the best efforts of its government over the past few years to promote the name. In the case of eSwatini, maps and

globes will obviously have to be updated, and so will their modern replacements: Google Maps is still using the old name. Within the country, many institutions will have to be renamed. The Royal Swaziland Police, the Swaziland Defence Force, and the University of Swaziland all come to mind. Indeed, the constitution may even have to be rewritten to make sure that the new name sticks.

Why terrorists claim credit for some attacks but not others

Two terrorist attacks hit the southern Philippines in the final days of January 2019. The first, a double bombing at a Roman Catholic church on January 27th, killed at least 20 people. A few days later, an attack on a mosque claimed the lives of two Muslim religious leaders. The jihadists of Islamic State quickly claimed responsibility for the first attack, but the perpetrators of the latter remain unknown.

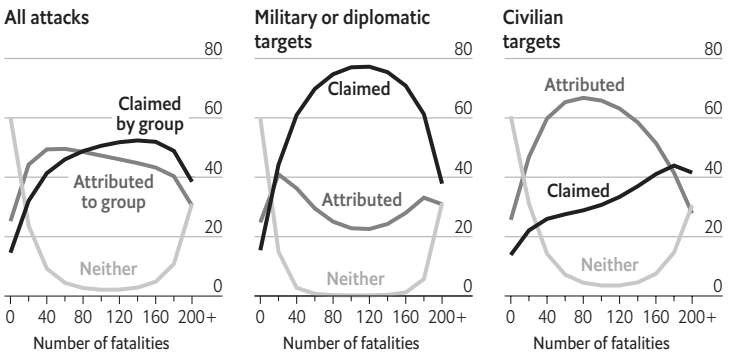
These attacks were representative of a broader trend. In the past two decades, fewer than half of all terrorist attacks have been either claimed by their perpetrators or convincingly attributed by governments to specific terrorist groups. A paper by Erin Kearns of the University of Alabama, covering 102,914 attacks committed in 160 countries between 1998 and 2016, reveals a consistent pattern to these claims and attributions. Her study shows that attacks causing few deaths, like the assault on the Philippine mosque, tend to remain anonymous. But very deadly ones, such as the attack on a Nepalese military base that killed at least 170 soldiers in 2002, are also less likely than average to be claimed or attributed – particularly when aimed at a military or diplomatic target. Instead, it is those in the middle, causing around 100 deaths, whose perpetrators are most often identified.

What might account for this reverse U-shaped relationship? At one end of the spectrum, terrorist groups have little incentive to claim minor acts of violence. Their opponents could consider such attacks a failure, executed by an incompetent group. At the other extreme, terrorists who inflict the most carnage might fear a backlash from the government or the local population. While killing just a few people may be considered tolerable, extremely savage attacks might threaten the group's survival.

This relationship also holds for attributions by governments. In the absence of fatalities, the state faces less pressure to invest resources into an investigation. After more brutal attacks, a

Blame theory

Global, probability of terrorist attacks being claimed or attributed, 1998–2016, %
By number of fatalities in attack



Source: "When to take credit for terrorism? A cross–national examination of claims and attributions" by E. M. Kearns, 2019

government has greater incentives to find those responsible – but only up to a point. Attacks on a very large scale are rare, and almost always occur in countries that are poor and authoritarian. Governments in such countries are often less able to investigate attacks, or have no desire to identify the perpetrators.

How carrots became orange

Carrots used to be white. They were grown for their leaves and seeds, much as their distant relatives, parsley and coriander, still are. The chemical compounds that give carrots their vivid colour, carotenoids, are normally used by plants that grow above ground to assist in the process of photosynthesis. But carrots live underground. Subterranean cousins, such as the parsnip and the turnip, are both mainly white. How then did the carrot bring a bit of colour to the dinner table?

Carrots originated in modern-day Iran and Afghanistan. They contain around 32,000 genes (more than humans), of which two recessive ones contribute to a build-up of carotenoids, such as alpha- and beta-carotene. Scientists believe early farmers grew colourful carrots unintentionally, and then continued the practice more purposefully in order to differentiate them from wild ones. Around 1,100 years ago, purple and then yellow varieties emerged, followed another 600 years later, thanks to further selective breeding, by the modern orange form, which has lots of beta-carotene.

There is a theory that orange carrots were promoted by the Dutch, who bred them in honour of William of Orange, the leader of a 17th-century revolt against the Spanish Habsburg monarchy that ruled over a swathe of north-western Europe. Whatever the truth of that particular idea, the orange carrot did become associated with the House of Orange. The conspicuous display of orange carrots at markets came to be seen as a provocative gesture of support for an exiled descendant of William. But whatever their political significance in the past, almost all modern European carrots descend from a variety originally grown in the Dutch town of Hoorn.

The triumph of orange carrots over other varieties ended up being fortuitous. The orange carrot is the most nutritious, and is rich in vitamin A, which contributes to the health of the eye. That spurred another myth, popularised by the British during the second world war, that eating a lot of carrots gives people night-vision. (The story was intended to keep the Royal Air Force's development of

radar technology hidden from the Germans, who were encouraged to believe that carrot consumption explained the British pilots' ability to see them coming.) An attempt by a British supermarket to reintroduce the traditional purple variety of carrot in 2002 failed, because shoppers preferred the selectively bred orange sort. The modern preference for orange carrots has led to the breeding of varieties with ever more vivid shades; today's carrots have 50% more carotene than those of 1970. Food for thought.

Why the Mediterranean will eventually disappear

If you happen to find yourself on the Mediterranean Sea, take a minute to observe the shore. Watch closely for a while (for a year, to be precise), and you might notice it move slightly (by about 2cm, or a little less than an inch). Africa and Europe are slowly colliding in a process that has been going on for 40m years, pushing up the Alps and Pyrenees along the way. This continental drift will continue long into the future, until 50m years from now when the two continents meet and become one mega-continent: Eurafrica. The Mediterranean will disappear altogether, to be replaced by a mountain range as big as the Himalayas. It will be an unrecognisable world.

Continental drift is a relatively recent addition to the geological canon, and was only widely accepted in the 1960s. The tectonic plates that underpin the Earth's surface are constantly moving, dragged around by convection currents in the planet's mantle. In recent years, scientists have gained a good understanding of how continents used to move: they now theorise that multiple super-continents have been created in cycles over the course of Earth's history. The most recent such landmass, Pangea, broke up approximately 200m years ago, which means the Earth is currently in the middle of a cycle. Extrapolating from historical data allows researchers to forecast what might be in store.

The next 50m years are relatively easy to predict, and most geologists agree that the Mediterranean will close up. The fate of other seas and oceans is very much up for debate, though. The best-known prediction comes from Christopher Scotese, a geologist at the University of Texas. His "introversion" theory suggests that the Atlantic, which is currently widening, will eventually start to shrink. Over the next 200m years it will slowly close, he suggests, and the Americas will collide with Eurafrica to form Pangea Proxima. Others think the exact opposite could happen: the Atlantic will continue to widen while the Pacific closes, with California eventually colliding

with far-east Asia. A frostier forecast holds that all the continents will move north, closing up the Arctic Ocean and forming "Amasia" around the North Pole. A rather different prediction has been proposed by João Duarte at the University of Lisbon. His team think the evidence indicates that both the Atlantic and Pacific Oceans could close. To resolve the spatial conflict that would create, they suggest Asia will cleave in two, being ripped apart along the India/Pakistan border. A new Pan-Asian ocean would form in the space, becoming the world's largest ocean, while "Aurica" (an assemblage of all the world's existing land masses) would be created in the middle of what was once the Pacific.

Forecasting geological events 200m years ahead is clearly not an exact science. These scientists are in the enviable position of being able to say things that will never be disproved, as it is unlikely that humanity will be around to see the next super-continent form. Nevertheless, such contemplations of the future are rather sobering: a reminder that the land beneath our feet is ultimately little more permanent – on a geological scale – than the borders we draw on its surface.