

**BBC**

SOLVING THE MYSTERY OF WHY WE SLEEP

# Science Focus

A SEA CHANGE IS COMING

Life's building blocks  
**IN INTERSTELLAR SPACE**

What if we all  
**QUIT FAST FASHION?**

How dangerous is  
**ANTIBIOTIC RESISTANCE?**

**OCEANS  
SPECIAL  
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HOW WE'LL

# SAVE OUR SEAS

Genius ideas that could safeguard our blue planet's future

**PLUS** What's waiting to be discovered in the deep

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**IN THIS ISSUE**

**Eugenics**

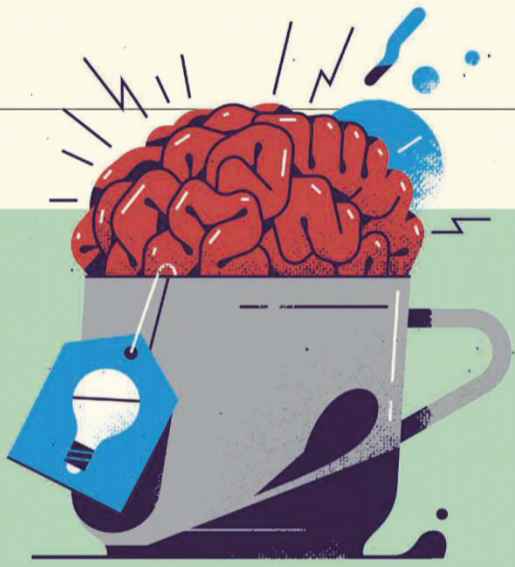
Dealing with science's greatest scandal

**Extinction Rebellion**

How peaceful protests can inspire meaningful change

**Whales**

Why do so many beach on our shores?



### TEA DRINKERS

Put the kettle on! Lovers of a cuppa have healthier brains than non-tea drinkers, a study at the National University of Singapore has found. MRI scans of a group of over-60s showed that the brains of tea drinkers are more efficiently connected.

### OPTIMISTS

People with a 'glass half full' disposition are less likely to have a heart attack, researchers in New York have found. They gathered together data from 15 studies involving more than 200,000 participants and found that those with high levels of optimism were 35 per cent less likely to suffer a heart attack.

## Good month

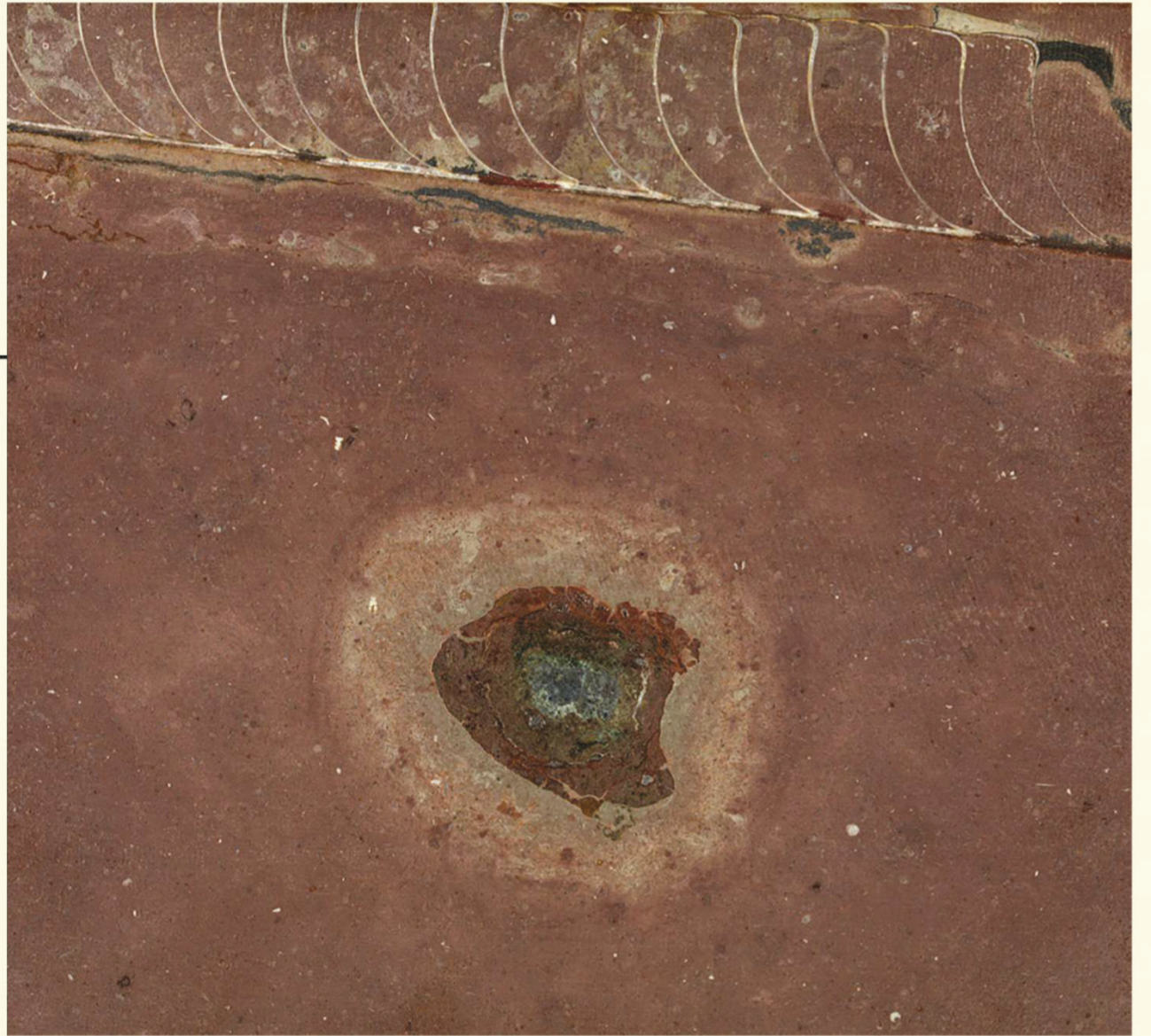
## Bad month

### POSING POLITICIANS

Striking a power pose – the Wonder Woman-esque stance touted in some quarters as a way to reduce stress levels and increase confidence – is no more effective than simply standing up straight, a review of 40 previous papers carried out at Iowa State University has found.

### CYBERBULLIES

Trolls beware! Researchers at Binghamton University have developed an AI that can identify aggression, harassment and bullying in social media posts with 90 per cent accuracy. They hope the tech will be used to flag up cyberbullies and get their accounts deleted.



This fossil meteorite was created from the same asteroid collision that led to an ice age 466 million years ago

## CLIMATE SCIENCE

# Giant asteroid collision in outer space kicked off ancient ice age

An ice age that occurred on Earth 466 million years ago may have been triggered by dust sent floating into the atmosphere by a giant asteroid collision in outer space, a study by researchers based in Sweden and the US suggests. A similar cooling effect could potentially be harnessed to tackle climate change, they say.

The team made the discovery by comparing the chemical composition of rocks dating back to a known ice age 466 million years ago, to that of tiny meteorites discovered in Antarctica. They were looking for elements that rarely appear in Earth rocks, and for isotopes – alternate forms of atoms that have differing numbers of neutrons – that show hallmarks of coming from outer space. For instance, some helium atoms that are shot out of the Sun and into space are missing a neutron. The presence of these special helium isotopes, along with rare metals often

found in asteroids, proves that the dust originated from space.

The researchers found that tens of thousands more particles than usual fell to Earth from space over a period of around two million years – a period that perfectly corresponds with the onset of the known ice age. This extra dust in the atmosphere helps to explain why the ice age occurred: by filtering out sunlight, the dust would have caused global cooling. A similar effect could potentially be used to cool the Earth in an attempt to reverse the effects of climate change.

“Our results show for the first time that such dust, at times, has cooled Earth dramatically,” said the study’s lead author Prof Birger Schmitz of Sweden’s Lund University. “Our studies can give a more detailed, empirical-based understanding of how this works, and this in turn can be used to evaluate if model simulations are realistic.”