

NAUTILUS

HOW TO LOVE UNCERTAINTY
Life lessons from quantum theory

LISTENING TO LAB-GROWN BRAINS
What the organoids are saying

MY FRIEND CORMAC MCCARTHY
The novelist's scientific mind



The Great Forgetting

Contents

Editor's Note

- 5 *Lost Worlds*
BY KEVIN BERGER

Preludes

- 11 *Insatiable insects; why we lucid dream; how your brain perceives the future; the biggest wave in the world; and a nearly invisible feline*

Cover Story

GEOSCIENCE

- 20 *The Great Forgetting*
Earth is losing its memory
BY SUMMER PRAETORIUS

The Last Word

Preludes

ZOOLOGY

The Invasion of the Super Insects

ONE DAY, ABOUT 60 MILLION YEARS AGO, a little leafcutter moth landed on an ancient sycamore tree to lay eggs in its leaves. The larvae grew, nestled inside a comfy enclosure akin to a sleeping bag made between the leaf's thin layers. Once hatched, they ate their way through to the surface and left to perpetuate their kin. Most of the chewed-up leaves swirled down to the earth, decomposing shortly after.

But this leaf, along with a few lucky others, was destined for something else, an unimaginable feat verging on immortality. When it fell, this leaf either sank deep into mud or was swept away by a flooding river that buried it within the sediment layers. There, tucked away from oxygen and the bacteria that would've finished what the larvae did not, it survived for millennia, becoming fossilized. It lay there, tucked into the bedrock of obscurity, until one day scientist Lauren Azevedo-Schmidt, who was working on unearthing such relics,

The intractable problem we face is the asymmetry of timescales: It takes time to build memory, but it can be erased in a geological instant. Like so many things we take for granted, it is difficult to see these stabilizing forces until they are gone. As we untether the anchors of the past, the future becomes unmoored.



While I can never know whether the snowboarding accident was directly linked to Jebesen’s schizophrenia, when I think back to the tragic turn of

Can Organoids Take Us into a New Era of Medicine?

Using organoids instead of animals will improve the prediction of drug response in several types of organs.

eyes interact in development.¹² Others recently trans

Life Is Hard. And That's Good

When the going gets tough, the tough get philosophical

Cormac and I often speak of Montaigne, who achieves an integration of moral gravity and intellectual lightness.

love of works of art and philosophy—to the extent of surrounding himself with engraved quotations from these in his writing loft—in

Change starts with imagination⁵



