

# New Scientist

WEEKLY 30 March 2024

**PEAK PEOPLE**  
How the global population faces dramatic decline

**FORCE OF NATURE**  
The flying physicist trying to weigh gravity

**ANTI-AGEING PILLS**  
Four everyday medicines that may help you live longer

## THE POWER OF SOLITUDE

How mastering the art of being on your own can boost your mental health

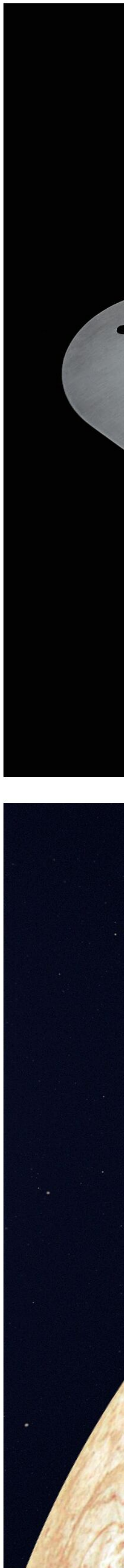
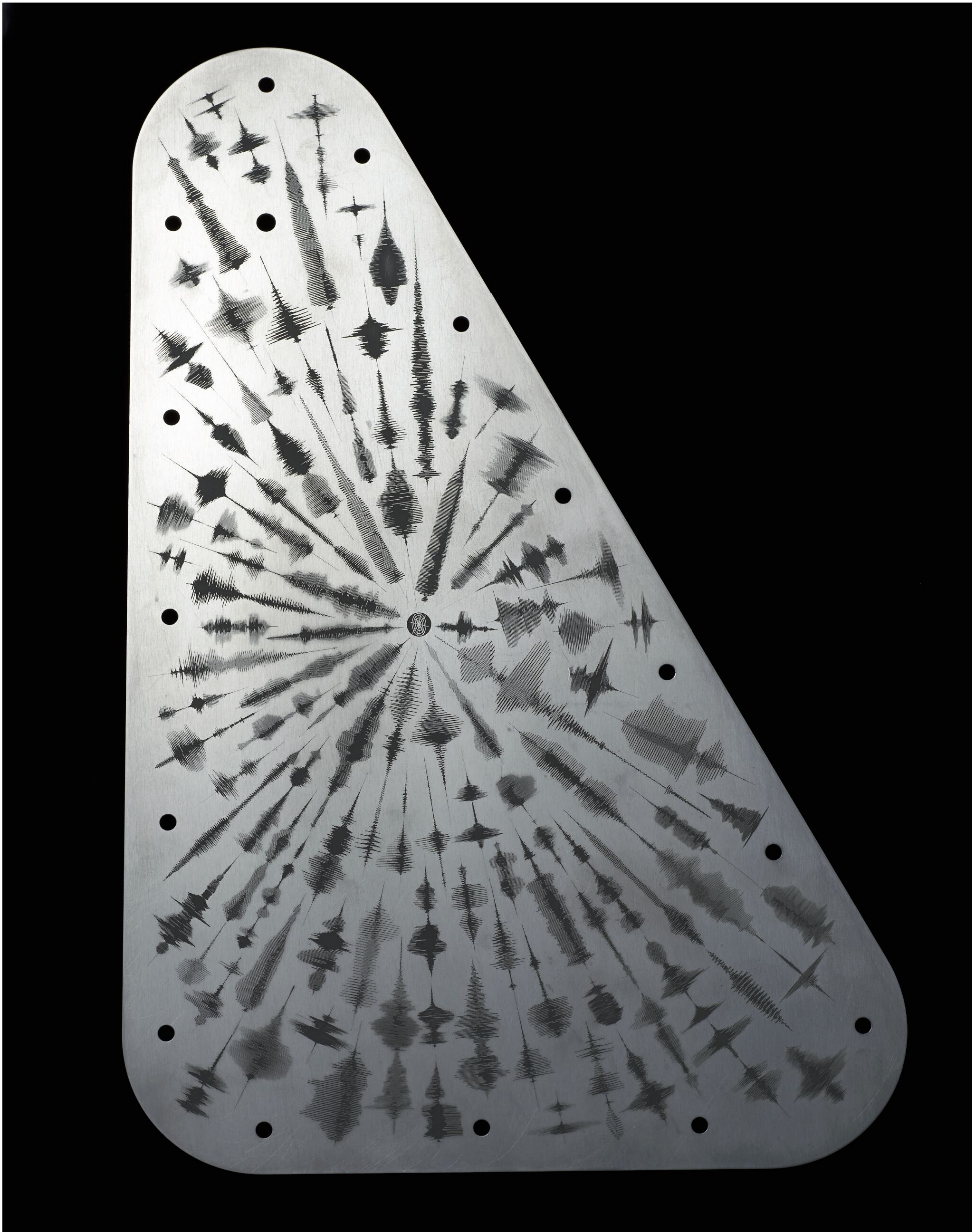
**PREHISTORIC YOUTH**  
The archaeological insights revealing the origins of childhood

**PLUS WHY TEENS ARE SMELLY / BRITAIN'S POMPEII / ADAM SANDLER IN SPACE / WORLD'S HAIRIEST BEETLE / HOW SPACEX ACCIDENTALLY MADE A VOLCANO**

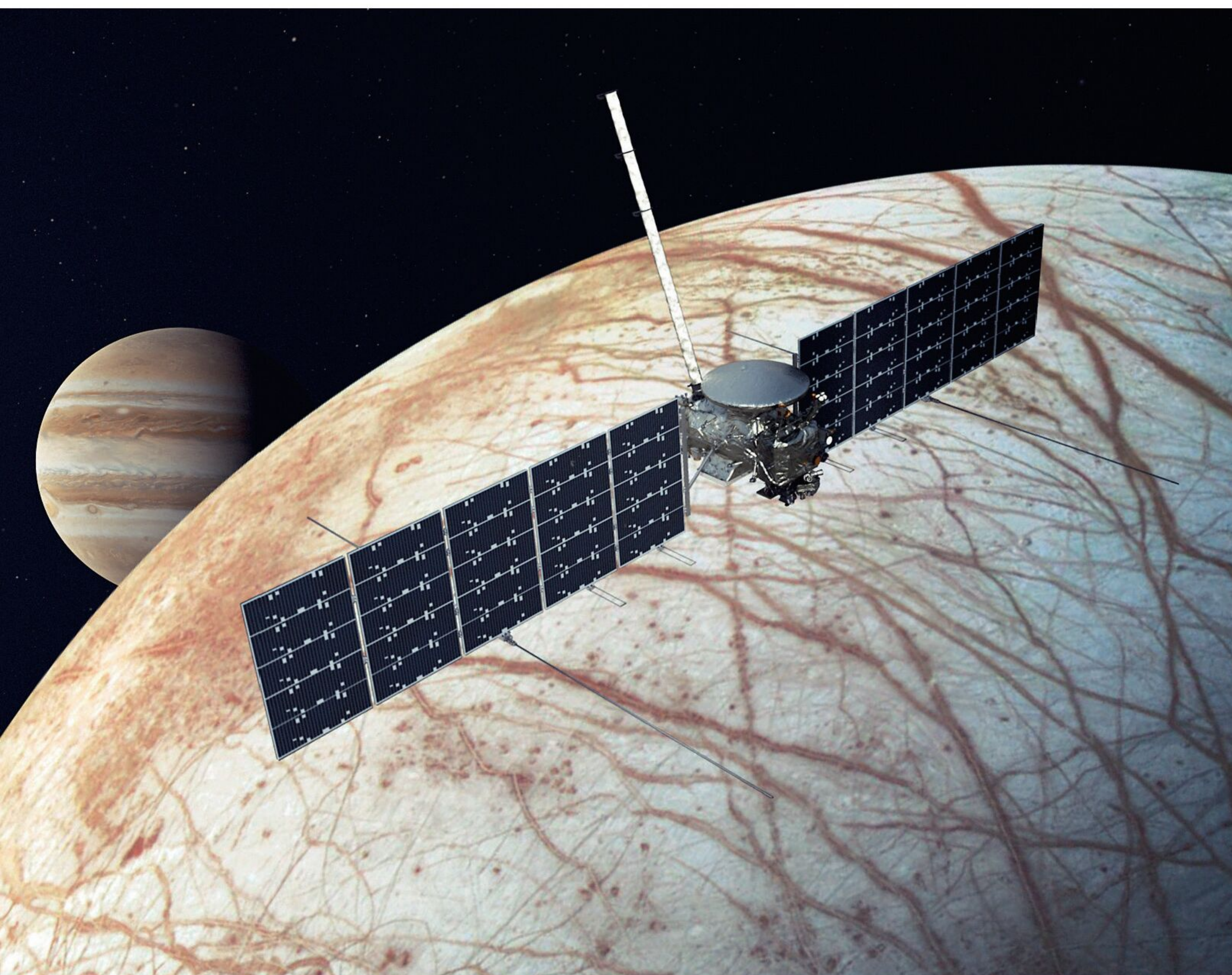
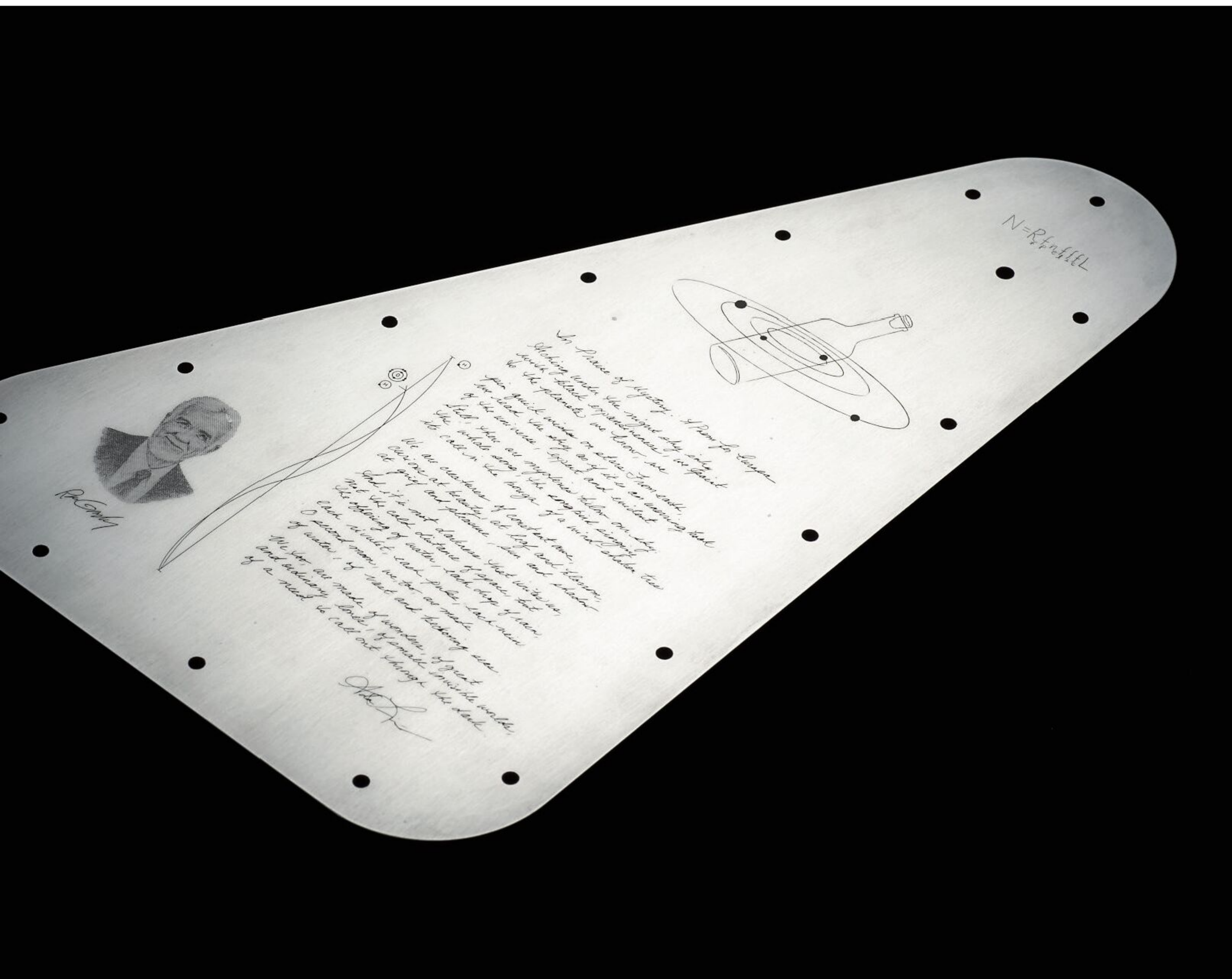
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## O second moon



**NASA/JPL-Caltech**

IN OCTOBER, NASA's Europa Clipper spacecraft is due to start its journey to explore Jupiter's ice-encrusted moon Europa (imagined here in illustration).

NASA asked the scientific organisation that I lead, METI International, to draw on our expertise at attempting to contact extraterrestrial intelligence and help craft a symbolic missive engraved on a tantalum plate attached to the spacecraft – greetings from one water world to another.

We helped create two parts of the message. First, we collected a globally representative sample of audio recordings of the word for water in 103 languages, showing each as a waveform on the outward-facing side of the panel (shown at far left) that protects sensitive scientific instruments.

On the other, inward-facing side (near left, at top), we designed the scientific part of the message. This describes water in terms of the “water hole”, the band of frequencies between the hydrogen and hydroxyl (which combine to form water) emission lines in the radio spectrum where many early searches for intelligence beyond Earth were conducted.

Other parts of the interior message include: the Drake equation, which estimates the number of extraterrestrial civilisations in our galaxy; a microchip with the names of 2.6 million endorsers, to be added closer to launch; and US poet laureate Ada Limón's poem to Europa, which ends: “O second moon, we, too, are made / of water, of vast and beckoning seas... / of a need to call out through the dark.” The Europa Clipper is due to enter Jupiter's orbit in April 2030. ■

**Douglas Vakoch, president of METI International**