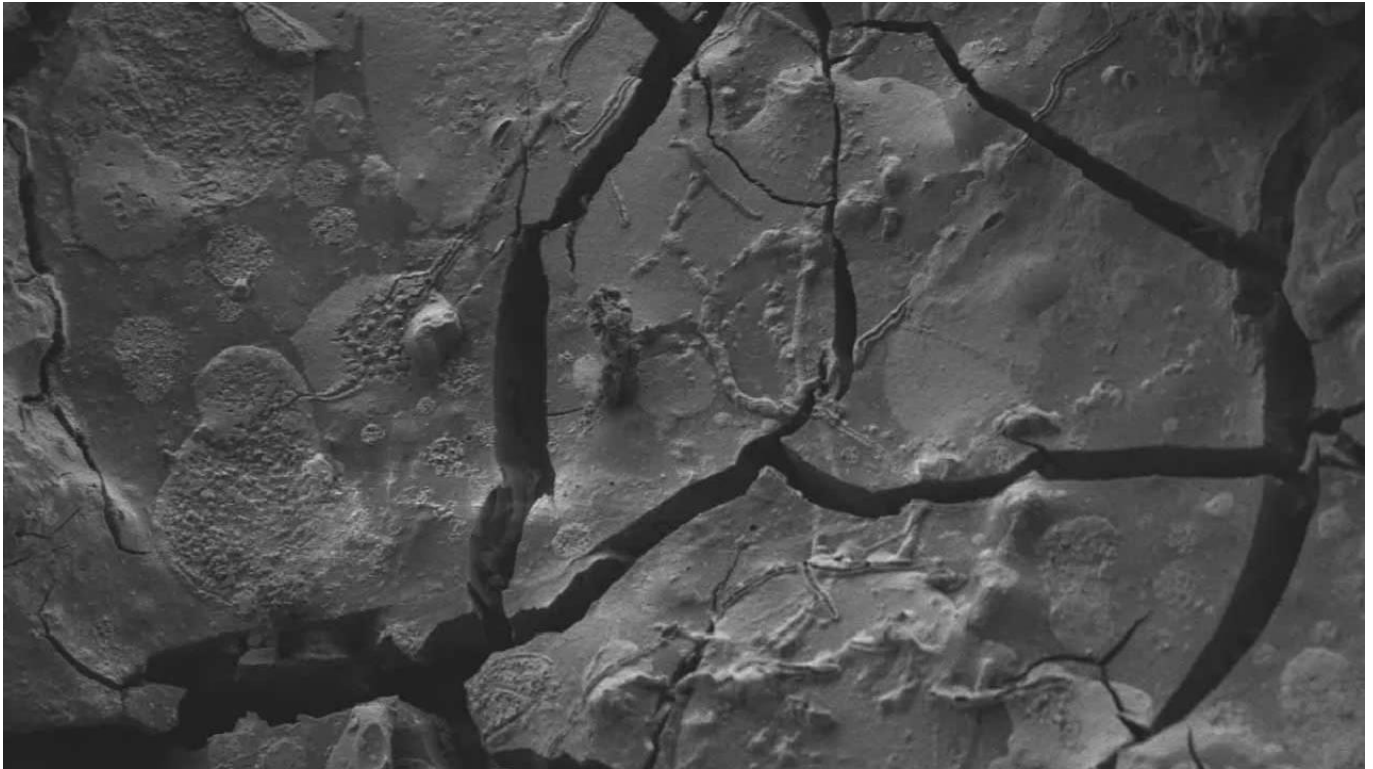


Preserved brain cells found in a victim of Mount Vesuvius eruption

By Shane McGlaun



Scientists have discovered preserved brain cells from the victim of a young man who died during the infamous eruption of Mount Vesuvius in A.D. 79. Researchers say the brain cells' structure is still visible in a black, glassy material found inside his skull. Scientists have been working to determine if the glassy material was part of the man's brain, and the discovery of the cellular structure shows the material is indeed part of his brain.

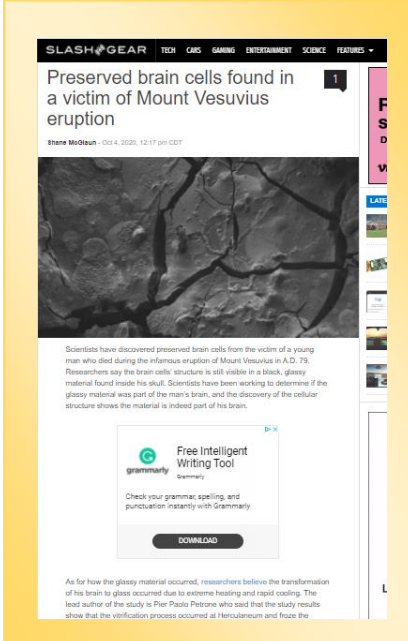
As for how the glassy material occurred, researchers believe the transformation of his brain to glass occurred due to extreme heating and rapid cooling. The lead author of the study is Pier Paolo Petrone who said that the study results show that the vitrification process occurred at Herculaneum and froze the neuronal structures of the victim, preserving them intact until today.

Herculaneum was an ancient town that sat at the foot of Mount Vesuvius, which erupted almost 2000 years ago. Pompeii is the most famous victim of the volcanic eruption, but the pyroclastic flow claimed most victims hit Herculaneum first. The massive and superheated ash cloud was so hot that materials like flesh and wood were carbonized in moments.

Researchers say that in rare cases, the preserved organic material seems to include the brain. The glass material was found within the man's cracked and charred skull, believed to be in his 20s. He was found lying face down on the bed in Herculaneum's Collegium Augustalium.

Electron microscopy was used to see the most minuscule details of the sample. Researchers discovered tiny spherical structures and long tubular structures that look like neurons and their projections called axons. The structures are tiny at 550 to 830 nanometers, and researchers say they are too small to be capillaries. The spherical structures also appear to retain cell membranes and internal filaments or structural proteins inside the cell. The samples were also studied with energy-dispersive x-ray spectroscopy. Using that technique when the scientists found a protein called ATP6VIF known to be involved in transmitting chemicals known as neurotransmitters.

<https://www.slashgear.com/preserved-brain-cells-found-in-a-victim-of-mount-vesuvius-eruption-04640961/>



The image is a screenshot of a news article on the Slashgear website. The article title is "Preserved brain cells found in a victim of Mount Vesuvius eruption". The author is Shane McQuinn, and the date is Oct 4, 2020, 12:17 pm CDT. The article features a large image of a brain specimen with dark, branching structures. Below the image, the text reads: "Scientists have discovered preserved brain cells from the victim of a young man who died during the infamous eruption of Mount Vesuvius in A.D. 79. Researchers say the brain cells' structure is still visible in a black, glassy material found inside his skull. Scientists have been working to determine if the glassy material was part of the man's brain, and the discovery of the cellular structure shows the material is indeed part of his brain." There is a Grammarly advertisement for a "Free Intelligent Writing Tool" with a "DOWNLOAD" button. At the bottom, a small text block states: "As for how the glassy material occurred, researchers believe the transformation of his brain to glass occurred due to extreme heating and rapid cooling. The lead author of the study is Pier Paolo Petrone who said that the study results show that the vitrification process occurred at 1100°C and froze the..."