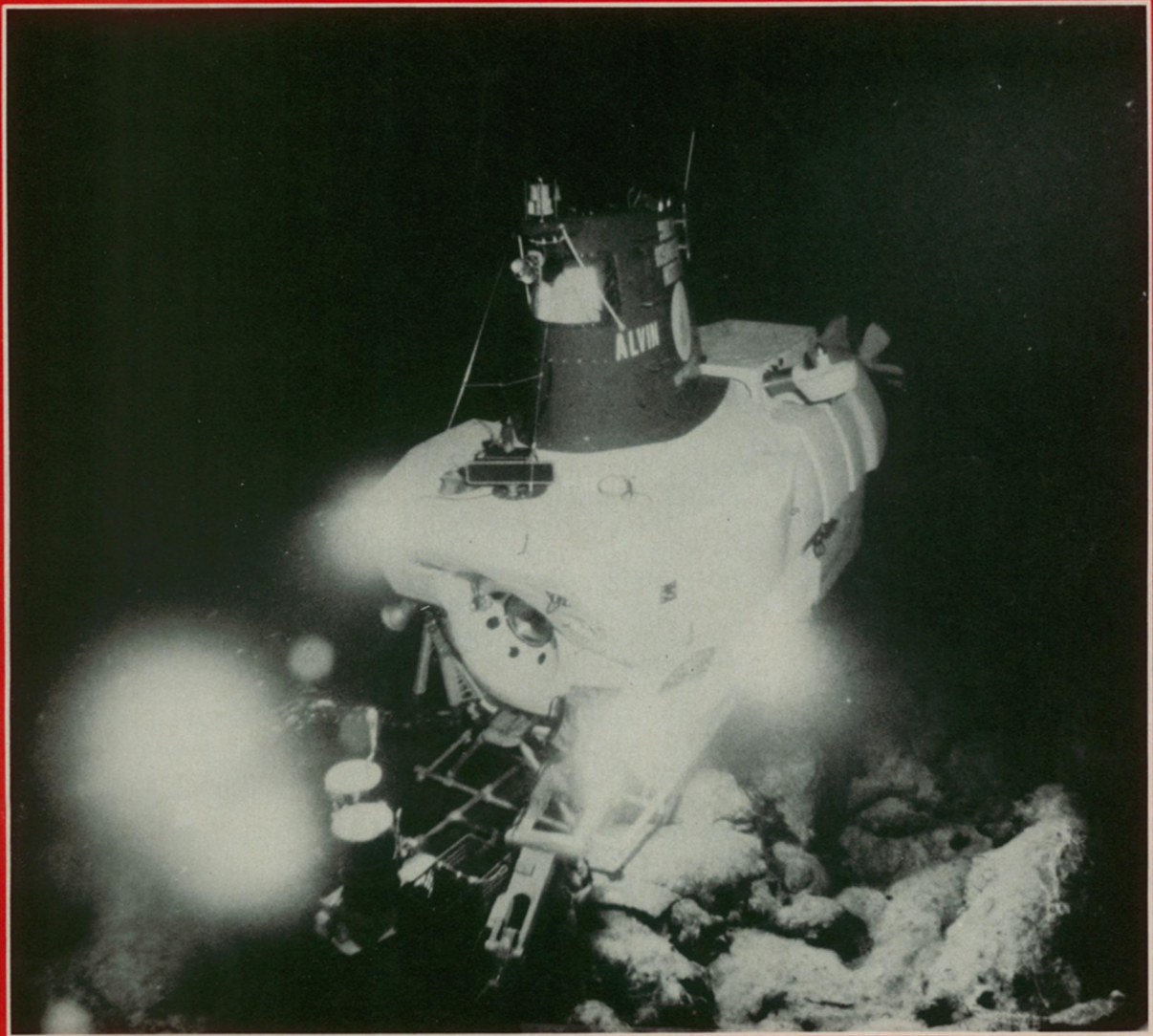
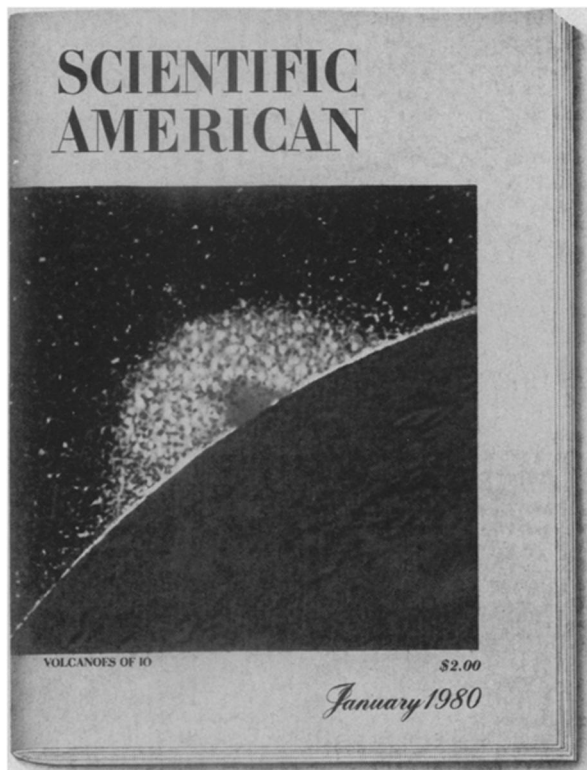


SCIENCE NEWS

JANUARY 12, 1980
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DIVING FOR THE MOTHER LODE



The spectacular exploration of the moons of Jupiter.

One of the most spectacular scientific adventures of all time began in March 1979. In a period of some 30 hours the spacecraft *Voyager 1* flew past Jupiter sending back closeup pictures of three of the planet's four largest moons: Io, Ganymede and Callisto. In July detailed pictures of the fourth, Europa, were made by *Voyager 2*, which also explored the hemispheres of Ganymede and Callisto not visible to its sister craft. In the January *SCIENTIFIC AMERICAN*, you will read about the dramatic discovery by *Voyager 1* that volcanic eruptions were in progress on Io. *Voyager 2* devoted nearly 10 hours to observing Io in a "volcano watch" inspired by the discovery. In all, the new sightings by the Voyagers have doubled the number of earth-

like bodies that scientists can now compare as they seek to learn how the planets evolved.

In the same issue you will look at the cell biology of human aging. When normal human cells are grown in tissue culture, they lose the ability to divide and replicate themselves

in about 50 generations. Is that what sets the ultimate limit on the human life-span?

You will explore geometrical illusions. Why do these figures look different from the way they really are? What do the answers to that question tell us about the working of the apparatus of visual perception?

You will read how the classic Pasteur vaccine treatment for rabies can now be replaced by a shorter and less painful series of inoculations... How the next generation of particle accelerators will enable physicists to delve more deeply into the question: What is matter? ... How the ancient water wheel evolved into the water turbine, which today provides a fourth of the world's electric power... How

new evidence from plant breeding, archaeology and folklore supports the hypothesis that the ancestor of corn is the wild grass known as teosinte.

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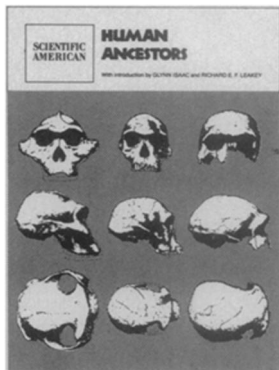
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