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Sky at Night

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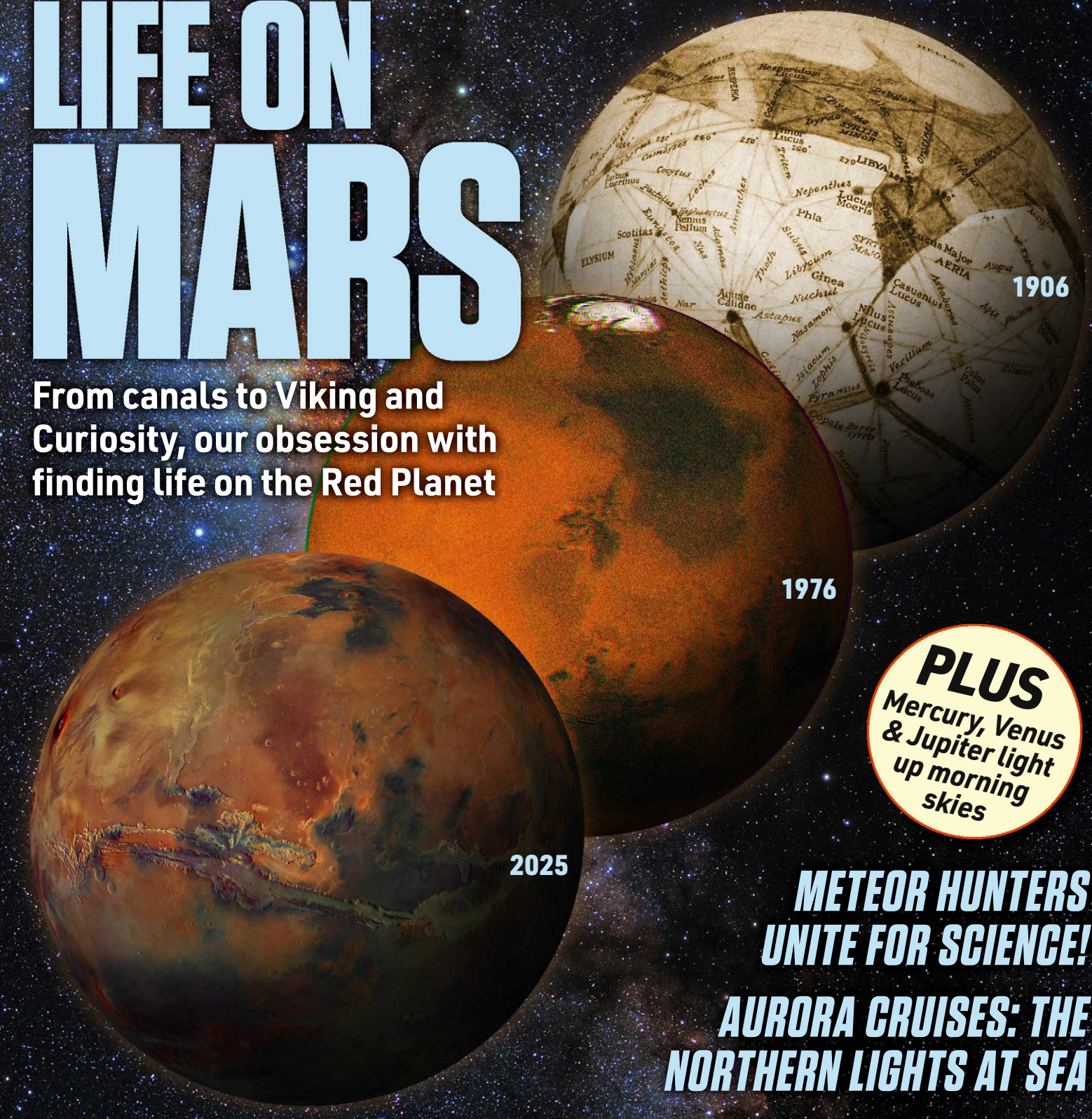

PLUS Mercury, Venus & Jupiter light up morning skies

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Solar raindrops snapped in Sun's corona

A new imaging system has produced astonishing pictures of our star

The outermost layer of the Sun's atmosphere, or corona, is usually only visible during eclipses. It is a region of violent eruptions, large plasma prominences and extreme temperatures, but observing it through Earth's turbulent atmosphere has been a long-standing challenge. Scientists from the US National Science Foundation, National Solar Observatory and New Jersey Institute of Technology have now corrected the atmospheric blur, providing images of the stellar corona that show tiny, raindrop-like structures.

They used 'adaptive optics', where telescope mirrors are deformed in real time to correct for blurring. The technique isn't new and is employed by some of the world's most sophisticated ground-based telescopes, but the researchers have developed a specific version for imaging the Sun's corona.

"This transformative technology, which is likely to be adopted at observatories worldwide, is poised to reshape ground-based solar astronomy," says Philip R Goode, one of the researchers behind the project. "This marks the beginning of a new era in solar physics, promising many more discoveries in the decades to come."

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New optics from US researchers have revealed 'coronal rain' – fine plasma streams in the Sun's outer atmosphere