Life on Venus? U-M prof speculates

Evidence that the hot, dry planet Venus may have once had an ocean has important implications for that planets history and for the future of Earth, according to a University of Michigan space scientist.

"If Venus lost an ocean several billion years ago, could some form of life which might have developed earlier on that planet have been lost? Could Earth be heading toward the same fate, becoming like today's Venus, which has long been thought to be nearly Earth's identical twin when the planets were formed?"

identical twin when the planets were formed?"

So wonders Thomas Donahue, U-M professor of atmospheric and oceanic science. He is chairman-elect of the National Academy of Sciences' Space Science Board, which advises the National Academy of Science Science Science Board, which advises the National Academy of Science Science Board, which advises the National Academy of Sciences' Space Science Board, which advises the National Science S

tional Aeronautics and Space Administration on space exploration. His concern for Earth's welfare and his interest in reconstructing the history of Venus have been heightened by new analysis of data from the U.S. Pioneer Venus mission in December 1978. Findings based on that data have been supported by measurements shared from Russia's landing probes on Venus in March.

THE POSSIBLE early existence on THE POSSIBLE early existence on Venus of a 24-kilometer-deep ocean — as deep as those found on Earth — is reported in the May 7 issue of Science magazine by Donahue and his colleagues, John Hoffman and Richard Hodges Jr. of the University of Texas at Dallas, and Andrew Walson of the Marine Biological Association of the United Kingdom. The investigators re-examined measurements taken during a malfunctioning of an instrument on the Pioneer spacecraft.

spacecraft.
"Not until last autumn did we realize

that instead of atmospheric gases, the neutral mass spectrometer was sam-pling Venus water in the form of sul-furic acid solution in the clouds," ex-

pilog Venus water in the form of suljurte acid solution in the clouds," explained Donahue.
"From these observations, we could
determine that Venus once had 100
times as much water as it loses now.
The planet would have been covered
with an ocean whose average depth
would have been 30 feet. It is possible
that the equivalent of a full terrestrial
ocean had existed."
What happened to the water on Venus.
"Seientists suspect the forming of a
phenomenon called the 'greenbouse effeet,' where solar heat is trapped in the
atmosphere,' said Donahue.
"Then, water and carbon dioxide
would have prevented heat from escaping the planet, causing it to grow still
warmer. The result would have been a
'runaway greenhouse,' the evaporation
of even more water and production of
more carbon dioxide.
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PLATE TECTONICS is the process involving great slabs of rock that require water to enable them to sleep over the plate and the set of the court of the plate of t

pearance of an occan, plate motion would have ceased. Subsequently, heat would have been transported from the interior through a multitide of large and small volcanoes distributed over the surface of the now-barren sea floor.

"Law slowly flowing over that surface would have supplied the iron and other material required to dispose of the oxygen associated with the lost occan." "Other supporting evidence are the measurements reported at the time of the Pioneer Venus mission that the amount of radiogenic argon and helium on Venus is much less than expected.

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the surface rocks revealed basalt, the same rock found on the sea floor of Earth.

"But one way to tell if there really was an ocean would be to return to Ve-nus," Donahue continued. "It still night be possible to detect traces of river channels, deltas and shorelines on Measurements from the recent Soviet missions, Venera 13 and 14, support this picture, noted Donahue. "The Russian spacecraft landed and took photographs of Venus' surface. Analyses of the surface rocks revealed basalt, the the ancient continents.

"We can learn much more about Earth by taking a closer look at our sister planet, whose surface temperature is now 800 degrees Fahrenheit — so hot that metals melt." Just for Dad & Grads!

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Mester has challenger for Circuit Court seat

In Oakland County judicial elections, there will be only one contest for a single Circuit Court seat.
Judge Fred M. Mester of Huntington

Judge Fred M. Mester of Huntington Woods, recenty appointed to the bench by Gov. William Milliken, and Thomas G. Kavanaugh Jr. of Pleasant Ridge will vie for the term that expires Jan. 1, 1985.

With only two candidates in the race,

With only two candidates in the race, there will be no primary. The contest will appear on the Nov. 2 ballot. Four Oakland Circuit Court judges are unopposed for six-year terms Nov. 2. They are David F. Breck, Alice L. Gilbert, Francis X. O'Brien and James

Gilbert, Francis A. O'Brief and Saines S. Thorburn. In the Probate Court election, incum-bent Judge Norman R. Barnard is unopposed for another six-year term.





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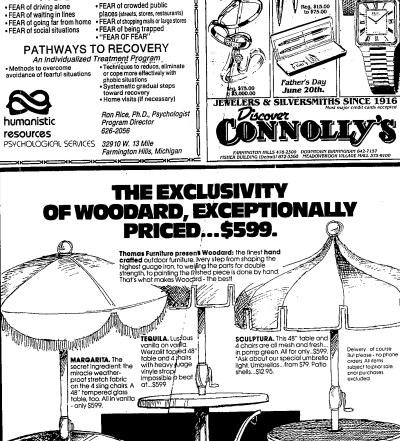
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