RANDOM SAMPLES

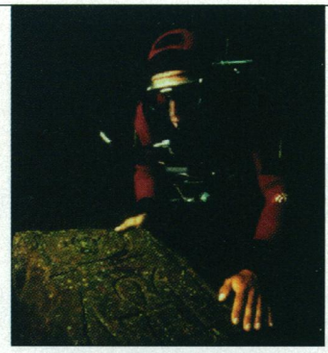
edited by CONSTANCE HOLDEN

Underwater Treasures in Alexandria

A French-Egyptian team of archaeologists is claiming to have discovered the submerged royal section of ancient Alexandria, where the Ptolemaic queen Cleopatra and the Roman Mark Antony loved, and lost, and finally committed suicide. This quarter is thought to have been underwater since at least A.D. 365, after earthquakes and tidal waves destroyed most of the classical city. But until now there has been little archaeological activity in the area.

Using satellite-based global positioning technology, the team—led by Franck Goddio, a French businessman turned marine archaeologist—says it has pinpointed the location of the small island of Antirrhodos, which the Greek geographer Strabo (63 B.C. to A.D. 21) described as the site of the royal quarter.

Goddio told *Science* that divers found the inundated island, which measured about 350 by 100 meters, only 6 meters down in the murky, polluted waters of the Port of Alexandria. They found many signs of a royal city, including columns, statues, broad paved areas, and a small port with an intact pier cluttered with amphoras. At the moment, says Goddio, "we do not want to move anything" for fear of disturbing historical evidence.



HILTI FOUNDATION

Submerged history. Diver holds ancient tablet found in port of Alexandria.

Experts say there is little reason to doubt that Goddio has found the royal quarter. "It's where everybody said it would be," says Dorothy Thompson, a historian at the University of Cambridge who specializes in Ptolemaic Egypt. Curator Morris Bierbrier of the British Museum says "It's a great new development in marine archaeology. ... If nothing more, they have proved that the city sank under the sea as we have long suspected." Bierbrier notes that Cleopatra was not the only occupant of the royal quarter: "We assume that it continued in use for some time after Cleopatra's death [in 30 B.C.] by the Roman government of Egypt."

Thompson says that better understanding of how the city changed from its founding by Alexander the Great in 332 B.C. may be the most interesting result of the discovery—"To what extent was the style Greek, and how much did it come under Egyptian influence?"

Locus for Parkinson's

For more than 100 years, doctors and scientists have debated whether Parkinson's disease is hereditary or the result of an unknown environmental factor. Now, on page 1197 of this issue, researchers present the first solid evidence that the disease has at least some genetic roots.

Geneticist Mihael Polymeropoulos of the National Institutes of Health's Center for Human Genome Research and his colleagues analyzed blood samples from 400 members of a Parkinson's-prone family who originated in a small town in southern Italy. They found a region in chromosome 4 that is strongly linked to the disease.

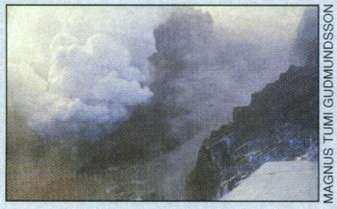
Co-authors Roger Duvoisin and Lawrence Golbe of the Robert Wood Johnson Medical School in Piscataway, New Jersey, located the family a decade ago, several years after publishing the results of a twin study showing no evidence of a genetic cause for the disease. That study sent scientists on a hunt for environmental causes ranging from herbicides to head trauma. But the two were intrigued with the genealogies of two patients with extensive family histories of Parkinson's. Both, Golbe found, were descended from an 18th century Italian man. It took 8 or 9 years to collect blood samples from descendants living everywhere from New York City to Argentina. But the researchers' persistence has paid off.

The mapping is "a very major discovery" which will spark intensive new research into other families with multiple cases of Parkinson's, says Demetrius Maraganore, a neurologist at the Mayo Clinic in Rochester, Minnesota. He says further studies will likely implicate other genes, as well as environmental triggers. Says Duvoisin: "Now we know what steps we have to take; there's a light at the end of the tunnel."

Icelandic Waterworks

Volcanic eruptions under a glacier in the south of Iceland last week unleashed a flood—known as a jökulhlaup—which wiped out 7 kilometers of roads, downed power lines, and crippled the country's longest bridge. "Many large icebergs (up to 200 tons) are scattered on the plain," reported the University of Iceland's Science Institute over the Internet.

Scientists thought the flood would come as soon as the eruption stopped on 13 October, but it didn't start until 5 November. Says volcanologist Rick Wunderman of the Smithsonian Institution's Global Volcanism Network, "[Our] understanding [of the] dynamics of this sort of complex system has a long way to go."



MAGNUS TUMI GUDMUNDSSON

Breakthrough. Water gushes from volcanic fissure.

Jökulhlaups are common in Iceland, but this was the biggest since 1938. As a volcanic eruption heats a glacier, the water melts into a subglacial lake in the caldera of the volcano. When the lake becomes too full, the water actually lifts the glacier and floods down into the plain, according to Helgi Torfason of Iceland's National Energy Authority. Torfason says scientists "assumed the water would rise exponentially. [But] it came in one flow-wave" of 3 cubic kilometers of water.

This event began on 30 September, when earthquakes triggered an eruption on a fissure between two large volcanoes which lie about 600 meters under Vatnajökull, the glacier that covers about 10% of Iceland.

PETA Invades NASA

Congress has approved it, an independent panel has given it the green light, and NASA officials are eager to get on with it. But animal-rights activists are not backing off their opposition to the joint U.S.–Russian Bion mission to test the effects of weightlessness on primates by putting two monkeys into orbit later this month.

Last week, seven protesters from People for the Ethical Treatment of Animals chained themselves together with bicycle locks in the NASA suite that includes the offices of Administrator Daniel Goldin (Goldin was out of town). Security personnel swarmed into the suite but could not remove all the protesters until a senior agency official found the bike lock keys in a nearby women's room.

Bion's exact launch date is still unclear, given problems securing a Russian launcher.