

# EXPLORING



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## Great Women

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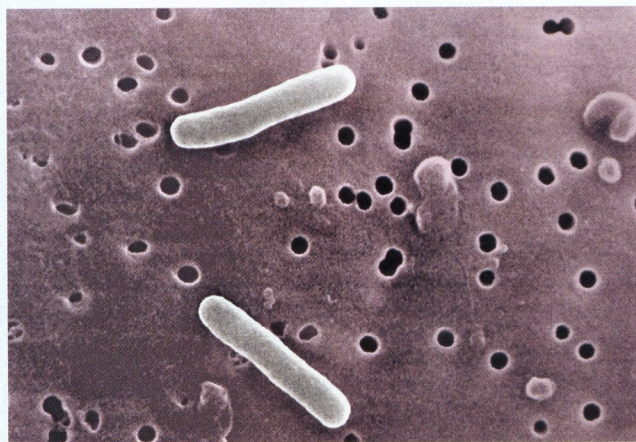




## THE IMMUNE SYSTEM

## Hidden Killer

Scientists have figured out one way the strain of salmonella bacteria that causes typhoid fever hijacks our immune system's attack cells to create unwitting carriers like Typhoid Mary.



Mary Mallon, the Irish immigrant who came to be known as Typhoid Mary, didn't mean to kill dozens of New Yorkers in the early 1900s. She didn't realize she was spreading typhoid fever in food she prepared because, like as many as 6 percent of people infected, she had no symptoms. Researchers have long known that the deadly salmonella bacteria can hide in unwitting carriers like Mary (1909 illustration, left) but until recently haven't understood precisely how.

In a study of a closely related bacteria strain (above) that causes disease in mice, a team

at Stanford University discovered that the microbes hide in an unlikely place—inside macrophages, the immune system's attack cells that smother and destroy microbial invaders. Macrophages have a hostile phase and a docile phase. The salmonella bacteria that survive the initial hostile-phase assault can set up shop inside macrophages that have switched to non-attack mode. The devious trickery doesn't end there. The researchers found evidence that the bacteria can actively switch macrophages into docile mode and get their hosts to manufacture salmonella-friendly food.

## THE CLASSICAL WORLD

## Transit of Venus

The goddess of love turns up more than a thousand miles from Rome.



Despite chipping, the face of Venus remains beautiful after nearly two millennia. At some point her body was likely burned to make mortar.

When a team of archaeologists and art historians with the University of Nebraska–Lincoln, Clark University, and Turkey's Atatürk University returned for their eighth year of excavation at Antiochia ad Cragum, an ancient Roman-era town along southern Turkey's Mediterranean coast, they discovered something unexpected. Lying facedown in the earth was the detached, life-size, marble head of Venus—Aphrodite to the

Greeks—the goddess of love, beauty, and fertility. The head (left) and the missing statue it once crowned date back to the second or third century.

Finding the trappings of mainstream Roman civilization—religious statuary—more than a thousand miles from the capital refutes a once common belief that far-flung corners of the empire were relatively untouched by the cultural influence of Rome itself.

Typhoid fever vaccines have existed since the 1800s, but the disease still kills 200,000 annually.