

Caesar for a Day

A third-century coin (right), recently excavated in southern England, has brought to light an unknown chapter of Roman history: the troubled reign of Domitianus, an emperor whose hold on power was so fleeting that the only other archaeological evidence of his existence is a similar coin found a century ago and dismissed as a hoax.

The new coin was found fused to others amid a hoard of 5,000, a location impossible to fake. "There are only a few vague text references to a military officer named Domitianus who was tried for treason," says Ian Leins, a British Museum archaeologist who suspects Domitianus made a bold grab for power and then lost out.

Domitianus ruled during a period of economic and political instability, when the outer reaches of the Roman Empire were unraveling. "Basically, anyone with an army could walk in and declare himself emperor, and there wasn't much Rome could do about it," Leins says. Domitianus probably seized control of Gaul, Germany, and Britain for a short period before Emperor Aurelian firmly reclaimed the area for Rome. "Just about the first thing a new emperor did to demonstrate his position was start minting coins," Leins notes. "If this Domitianus fellow had ruled for more than just a few days, I think we'd have found more of them lying about."

—Jocelyn Selim



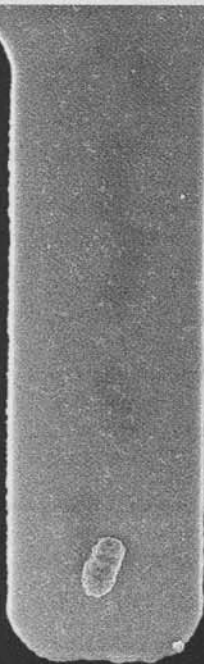
Our knowledge can only be finite,
while our ignorance must
necessarily be infinite

—Philosopher Karl Popper

Atto Boy!

Scientists have built the world's most sensitive scale and the fastest stopwatch. Both devices measure the world at the atto level—one part in a million trillion—allowing new ways to sniff out hazards and study chemical reactions.

Physicist Harold Craighead, along with graduate student Rob Ilic and colleagues at Cornell University, fashioned a scale from a vibrating silicon rod (right) just $\frac{1}{50,000}$ of an inch wide. Tiny gold samples chemically bonded to the rod changed its vibrating frequency. "The rod was like a diving board going up and



down," says Craighead. "We bounced a laser beam off the rod and watched it move as the angle of reflection changed." The result: He and Ilic can weigh masses as light as six attograms. The technique could be used to identify potentially dangerous viruses simply by detecting their mass.

Meanwhile, scientists at the Max Planck Institute for Quantum Optics and the Vienna University of Technology have created a strobe so fast it can illuminate rapidly moving atoms. Physicist Ferenc Krausz, who led the project, plans to go further: "We believe that we should get down to 100 attoseconds by the end of the year." —Alex Stone