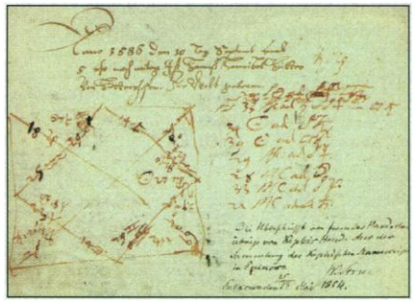
Kepler Discovery

One day in the early 1600s, an Austrian nobleman named Hans Hannibal Huetter von Huetterhofen visited a local astrologer to get his horoscope cast. The soothsayer was none other than astronomer and mathematician Johannes Kepler. Nearly 4 centuries later, the horoscope has turned up at California's Lick Observatory, where it had lain forgotten for a hundred years.

Kepler, who discovered that planets move in ellipses and set the stage for Newton's theory of gravitation, was no fan of horoscopes. "A mind accustomed to mathematical deduction, when confronted with the faulty foundations [of astrology], resists a long, long time, like an obstinate mule, until compelled by beating and curses to put its foot into that dirty puddle," he once wrote. Nonetheless, he cast horoscopes for a living throughout his life.



One page of two-page horoscope by Kepler.

Anthony Misch, an amateur bibliophile and astronomer at the observatory, on the campus of the University of California, Santa Cruz, discovered the horoscope in a drawer at the library. The yellowed document, which had been in the possession of Pulkovo Observatory in St. Petersburg, was purchased in Russia by the first Lick director, Edward Holden, in 1896.

Payoff Seen From Keys Fishing Ban

A controversial attempt to rejuvenate fisheries in the Florida Keys appears to be paying off. In 1997, over the strong objections of some anglers, officials at the Florida Keys Marine Sanctuary banned fishing in 23 small coral reef reserves. Their action created one of the highest profile "no-take" zones in U.S. seas (*Science*, 25 July 1997, p. 489).

Spiny lobsters get time to grow.

Now, preliminary results released last week show that spiny lobsters, groupers, and other economically important sealife are rebounding within the protected zones. Harvestable lobsters in 12 refuges, for instance, were about 3 mm longer than their unprotected cousins, suggesting they were living longer. "We are surprised how quickly animal populations are responding," says sanctuary science coordinator Ben Haskell. It is still too early, however, to measure a hoped-for benefit of such preserves: serving as spawning grounds to replenish populations outside their boundaries.

Crane to Head Kew Gardens

A botanist who studies the origin and diversification of land plants has been chosen to lead the Royal Botanic Gardens, Kew, whose collection of 7 million dried plants represents some 90% of the world's species.

Peter Crane, 44, since 1992 has been head of the Field Museum of Natural History, Chicago, where observers say he has strengthened research and made better use of its collections. "He's a star both in research and administration," says Michael Novacek, research director at the American Museum of Natural History in New York.

Crane will succeed Sir Ghillean Prance, who retires in July. Under his tenure, Kew began a massive seed bank that seeks seeds from 10% of the world's plants by 2010. "London has a great garden," says Crane. "The question will be how to keep it flourishing."

Computer Gibirish

First your 1.4-gigabyte hard drive became obsolete. Now the term gigabyte itself may be headed for the trash heap, to be replaced by the more precise "gibibyte."

Computer users currently employ the metric prefixes kilo- (1000), mega- (1 million), and giga- (1 billion) to describe the number of bytes of a system's capacity. But computers actually crunch numbers in binary, so the number of bytes accumulates as a power of two, not 10. So a kilobyte is really 1024 (2^{10}), not 1000, bytes. Mega- and gigabytes are off by a slightly higher factor.

To be strictly scientific, "there was a need to straighten this out," says Barry Taylor of the National Institute of Standards and Technology in Gaithersburg, Maryland. So last December, the International Electrotechnical Commission voted to enthrone a new set of prefixes. That means replacing kilo with kibi, mega with mebi (2^{20}), and giga with gibi (2^{30}).

Latest and Hottest

Apoptosis, tumor-suppressor genes, and genome sequencing are the main vehicles carrying researchers onto the latest list of "hottest" investigators—those with the largest number of highly cited papers during 1997 and 1998. Topping the list, compiled by the Institute for Scientific Information in Philadelphia, is John C. Reed, cell biologist at the Burnham Institute for Cancer Research in La Jolla, California, who works on programmed cell death, or apoptosis.

The hottest single research paper of 1998, with 112 citations, was by Masato Enari of the Osaka University Medical School and colleagues: "A caspase-activated DNase that degrades DNA during apoptosis, and its inhibitor ICAD." Appearing in *Nature*, the paper got the jump on competitors: It was published on 1 January.

SCIENTISTS RANKED BY NUMBER OF HOT PAPERS, 1997–98

	Name	Institution	Topic	No. papers
1.	John C. Reed	Burnham Inst.	Apoptosis	9
2.	Hans-Joachim Gabius	U. of Munich	Lectins	8
3.	Bert Vogelstein	Johns Hopkins U. (HHMI)	Cancer genetics	7
	Kenneth W. Kinzler	Johns Hopkins U.	Cancer genetics	7
4.	J. Craig Venter	Inst. for Genomic Res.	Gene sequencing	6
	Ronald M. Evans	Salk Inst. (HHMI)	Genetics	6

Source: ISI

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