

SCIENCE NEWS

of the Year

This year, we at SCIENCE NEWS began to cast a wider net to capture readers interested in science. Like many other publications, SCIENCE NEWS now has a site on the World Wide Web of the Internet. Moreover, our writers are relying more and more on the Web for hauling in information for use in news stories.

We debated for months about what would be most useful on a Web site. We wanted it both to attract the attention of potential readers and to provide additional services to our many loyal subscribers. Some of the features that have proved most popular—among subscribers and non-subscribers alike—appear only on SCIENCE NEWS ONLINE. In MathLand, Ivars Peterson takes a free-wheeling look at the eccentricities of mathematics and mathematicians. In Food for Thought, Janet Raloff gives a taste of what's new in the study of food, from the surprising medicinal qualities of chocolate to scrumptious recipes for lampreys. TimeLine gives a snapshot of science history, and Mystery Box offers a new surprise each week.

For nonsubscribers, we provide brief summaries of all the articles in each week's SCIENCE NEWS, the full text of three or more stories each week, and a growing, searchable archive of articles that have appeared on the site or have been specifically requested by visitors. Subscribers can click onto reference information about the scientists and publications cited in SCIENCE NEWS articles.

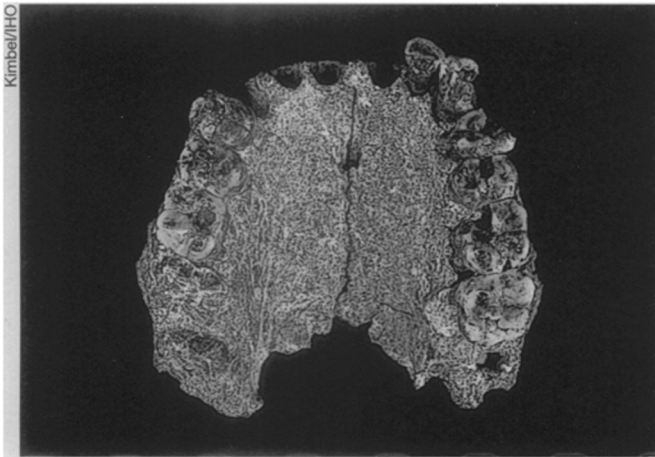
SCIENCE NEWS harvests information from the Web as well. To produce an up-to-date weekly, we need speedy access to scientists and their work. Writers obtain information about scientific activities, copies of reports—often before publication—and graphics that can be quickly downloaded to illustrate stories.

Will the Web evolve into the New Media, as Wall Street analysts proclaim, replacing television, newspapers, and other sources of information and entertainment? Maybe, maybe not. But we are already benefiting from its ability to reduce the obstacles of distance and time to help us carry the news of science to an ever-widening audience.

Visit SCIENCE NEWS ONLINE at <http://www.sciencenews.org>. An asterisk in the items below indicates that the text of the article is available at that site. — Julie Ann Miller

Anthropology

- People settled in Australia as many as 176,000 years ago and produced the oldest known rock art in the world, dated at up to 75,000 years old (150: 196*).
- A distinctive tropical culture thrived in Brazil around 11,000 years ago (149: 244).
- Investigators described a partial jaw of the oldest known member of the *Homo* lineage, which lived about 2.3 million years ago (150: 342).
- Separate teams of fossil hunters uncovered the remains of nearly 10-million-year-old apes in Turkey (150: 73) and Spain (149: 22).
- A new study dated the Chinese *Homo erectus* fossils collectively known as Peking Man to at least 400,000 years ago (149: 292).
- Researchers interpreted examples of ancient rock and cave art from around the world as depictions of shamans' trance-induced travels to spirit worlds, as defined in local belief systems (150: 216*).
- An ancient jar yielded the oldest known evidence of wine making, from at least 7,000 years ago (149: 359). Other finds unveiled advanced Egyptian methods of bread baking and beer brewing from up to 4,000 years ago (150: 55).
- Tree-ring analyses enabled scientists to construct a precise calendar of ancient history for eastern Mediterranean civilizations from 2220 B.C. to 718 B.C. (149: 405).
- Finds at a 600,000-year-old Israeli site suggested that human ancestors carried African cultural traditions to the Middle East in a series of population movements (149: 183).



Early Homo upper jaw found at Hadar, Ethiopia.

● Researchers unveiled the Hubble Deep Field, the most detailed view of a patch of sky ever taken (149: 36, 77). Analysis of the images spawned fresh insights into the birth and evolution of galaxies, as well as the fate of the cosmos (149: 246).

● Astronomers discovered several more planets outside the solar system and gained new insight into the relationship of these planets to brown dwarfs (149: 52, 77, 267, 373*; 150: 11, 59).

● Analyses of 80 infant galaxies that date from a time when the cosmos was only about 15 percent of its current age indicated rules of star formation and galaxy evolution (149: 120; 150: 166).

● Scientists moved toward a consensus on the age of the universe—about 12 billion years (149: 127, 292).

● Researchers reported firm evidence that a black hole lies at the heart of our galaxy (150: 212*).

● In the first billion years of the cosmos, an entire generation of stars may have lived and died (150: 68).

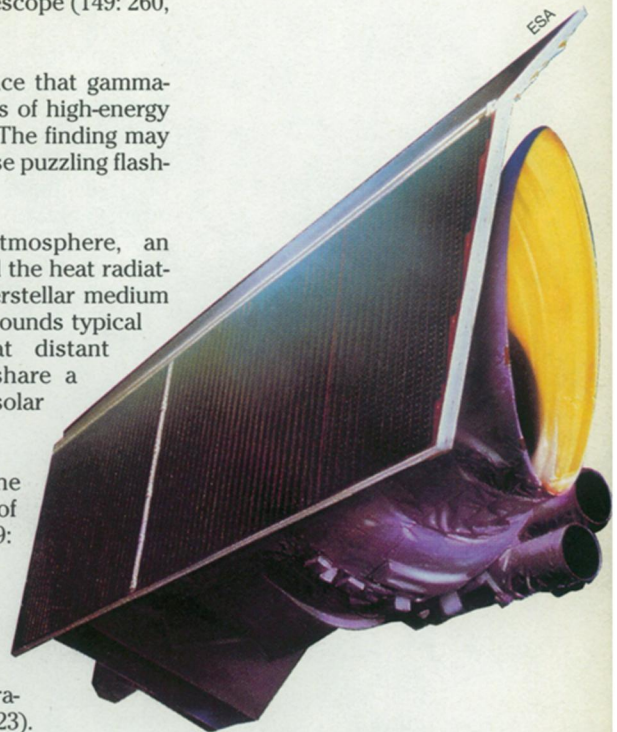
● Galaxies clustered together surprisingly early in the cosmos, according to studies with the world's largest optical telescope (149: 260, 406; 150: 230).

● Astronomers found evidence that gamma-ray bursts, mysterious flashes of high-energy radiation, sometimes repeat. The finding may shed light on the origin of these puzzling flashes (150: 389).

● Flying above Earth's atmosphere, an infrared observatory detected the heat radiated by water vapor in the interstellar medium and icy, carbon-bearing compounds typical of comets, suggesting that distant regions of the Milky Way share a chemical heritage with the solar system (149: 168, 389).

● Astronomers produced the first direct image of the face of a star other than the sun (149: 63).

● After 18 years of observations, NASA and the European Space Agency pulled the plug on the aging International Ultraviolet Explorer satellite (150: 223).



Infrared Space Observatory.

Behavior

● Two research teams announced that they had isolated a gene that influences people's tendency to seek out novel, exciting experiences (149: 4); independent studies challenged that conclusion (150: 279).

● Scientists linked a specific gene to a facet of thought—the ability to visualize and mentally manipulate parts of objects (150: 39).

● Brain-imaging studies indicated that separate neural systems handle conceptual and verbal knowledge about certain categories, such as animals and tools (149: 234, 103).

● Young children get a hefty intellectual boost from parents who talk to them frequently, a practice most often observed in white-collar families (150: 100*).

● An immune reaction by pregnant women to the blood of their unborn babies may cause fetal brain damage that underlies some cases of schizophrenia (149: 68).

● Efficient decision making requires "fast and frugal" mental strategies that exploit limited knowledge and actually benefit from partial ignorance (150: 24).

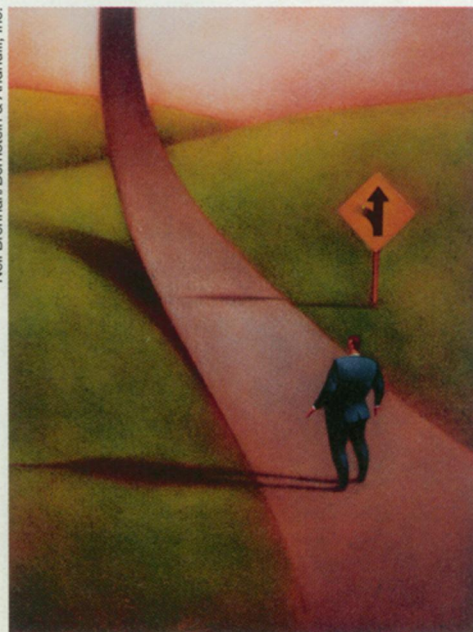
● World War II Holocaust survivors often pass

on to their children a vulnerability to post-traumatic stress disorder (149: 310).

● People across cultures tend to sort animals and plants into genus-level categories, although their ways of reasoning about living things vary with how much they know about local ecology (150: 308).

● Neuroscientists identified a brain network located mainly in the right hemisphere that mediates the recall of personal memories (150: 5). Other projects examined ways in which memory can misfire (150: 126*).

● A controversial theory proposed that sexual orientation springs from personality traits that gear children toward sex-typical or sex-atypical activities (150: 88).



Neil Brennan/Bernstein & Andriulli, Inc.

Relatively simple mental strategies provide routes to effective reasoning.

- Investigators sequenced the genomes of a microbe belonging to the third branch of life (150: 116*), a virus that causes skin disease (150: 85), and baker's yeast, whose cells resemble those of people (149: 278*).

- A mouse was born from an immature egg cell grown in the laboratory (149: 54), and a new technique may make possible the cloning of large numbers of genetically altered livestock (149: 148).

- Memory-related brain cells do not appear to die as people age (150: 150).

Ross



A monogyne fire ant queen and her workers.

- Plants take more than one approach to photosynthesis (150: 39).

- Birds' use of magnetic and celestial cues for migration is more complex than previously thought (150: 164).

- The reproductive role of the hormone oxytocin is surprisingly small (150: 246).

- Bacteria called *Wolbachia* manipulate the reproduction of the species, generally insects, that they infect (150: 318*).

- A controversial study suggested that bacteria cause coral bleaching (149: 379).

- The accidental release of a virus intended to reduce the Australian rabbit population has some scientists, and rabbit lovers, worried (149: 206*).

- Populations of Rocky Mountain carnivores, which have strong influences on other species, will continue to decline unless land-

use and conservation practices change, researchers predicted. (150: 344*).

- Cells shed by a fetus can survive up to 27 years in its mother's blood (149: 85).

- Butterflies can alter their wing patterns in just a few generations, using only a few genes (150: 324*).

- Scientists expanded the arsenal of biological weapons against mosquitoes (149: 270*).

- The human brain has internal stopwatches that monitor intervals of minutes to hours (149: 101).

- Shrimp colonies reveal that communal living isn't just for landlubbers like ants and bees (149: 359*).

- Worker ants produce more soldiers when threatened (149: 102); female ants kill their brothers to boost their genes' future (150: 295); and ant mating strategies may generate new species (150: 284).

- Ecologists mapped out endangered species' hot spots (150: 101*).

- Souping up plants' *cyclin1* gene, which activates cell division, promotes faster root growth (149: 267).

- Bacterial enzymes created hydrogen gas, a potential fuel, from paper and grass (150: 7*).

- Genetic analysis confirmed the discovery of the remains of former Russian Czar Nicholas II (149: 255).

- A musical ability, perfect pitch, appears to be inherited (150: 316).

- Scientists combined virtual reality technology and brain imaging (149: 28).

Biomedicine

- New AIDS drugs reduce the amount of HIV in the blood (149: 184; 150: 21), and new tests can detect minuscule amounts of the virus (150: 36). Exotic strains of HIV were found in the United States (150: 40*).

- Scientists found genes that cause diabetes (150: 359), a cardiac abnormality, pancreatic cancer, a form of epilepsy, a premature aging syndrome, and the most common human cancer (149: 31, 39, 221, 301, 372). They closed in on genes for Parkinson's disease and prostate cancer (150: 348, 397).

- Scientists discovered cell surface proteins used by HIV to infect cells (149: 293, 390) and

learned that mutations in these proteins make some people resistant to HIV or the progression of AIDS symptoms (150: 103, 284).

- A human version of mad cow disease was reported in the United Kingdom (149: 228; 150: 282); scientists developed prototype tests for that disease and similar brain disorders (150: 238).

- Regular aspirin use was found to lower the risk of breast cancer (149: 116).

- The United States was identified as having the largest epidemic of sexually transmitted diseases of any developed country (150: 343).

Infectious diseases continued to rebound worldwide (149: 38).

- Compounds in cigarette smoke damage a cancer-preventing gene (150: 284).

- Government approval of a new drug for stroke prompted a policy to speed patients to the hospital and treat them within an hour of their arrival (150: 388).

- Grafts of tissue from the peripheral nervous system, transplants of immune cells called macrophages, and X rays all encouraged damaged rodent spinal cords to regenerate (150: 52,180, 214).

- An excess of the amino acid glutamate may cause Lou Gehrig's disease (150: 340); a glutamate-blocking drug slows the progression of the disease (149: 341).

- Bone marrow transplants offered a risky cure for sickle-cell anemia (150: 125); umbilical cord blood provided an alternative to bone marrow (150: 38).

- Paclitaxel, a drug derived from the yew tree, prolonged the lives of women with ovarian cancer (149: 22).

- Children with cystic fibrosis get respiratory infections because the disease disarms a natural antibiotic bathing the inner surface of the lung (149: 279).

- Fertility specialists artificially matured eggs from the ovaries, sparing women daily hormone injections, which raise the risk of ovarian cancer (149: 295).

- Diet pills were linked to deadly pulmonary hypertension (150: 134*).

- Smoking increases the risk of macular

degeneration, an eye disease (150: 231*).

- Researchers deciphered the genetic make-up of two fetuses by peering into the mothers' blood (150: 276*).

- Many cases of unexplained coughing in adults may stem from *Bordetella pertussis*, the whooping cough bug (150: 46).

- The elusive Ebola virus can thrive in bats (150: 294*).

- Scientists developed a new form of antibiotic that deprives bacteria of their coating (150: 335).

- Fetal cell transplants helped people blinded by retinitis pigmentosa (150: 325).

- New studies probed an ignored facet of aging—muscle wasting (150: 90).

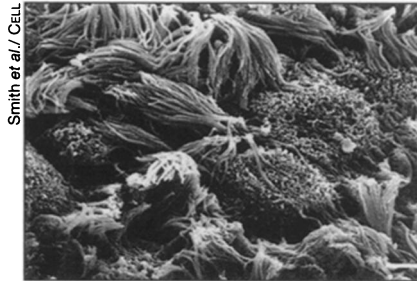
- Several scientific teams presented new evidence that a novel herpesvirus causes Kaposi's sarcoma (150: 206).

- Hemoglobin dilates blood vessels so oxygen-rich red cells can penetrate them (149: 180).

- A study argued that doctors have been performing needless mastectomies for ductal carcinoma in situ (149: 196).

- Scientists found a rotavirus toxin that targets the digestive tract (149: 213).

- A simplistic writing style early in life predicted the development of Alzheimer's disease decades later (149: 312).



Smith et al./Cell

Normal lung tissue remains infection-free 41 days after being painted with bacteria.

Chemistry

- Heated, pressurized carbon dioxide can dissolve proteins, enhancing its status as an environmentally friendly solvent (149: 71).

- Short chains of amino acids can make copies of themselves, lending support to some theories of how life may have originated on Earth (150: 87).

- Researchers identified a previously unnoticed type of bonding between hydrogen atoms of different molecules (150: 37).

- New chemical agents help drugs for psoriasis and arthritis penetrate the skin (149: 223).

- Two groups reported the three-dimensional structure of a fluorescent jellyfish protein used widely as a biological marker (150: 212).

- A new microcoil made it possible to take nuclear magnetic resonance images of

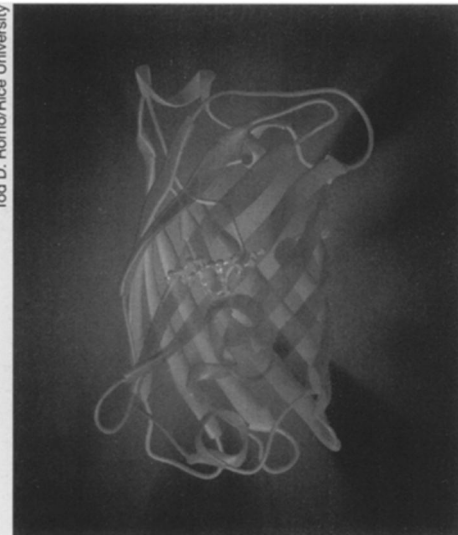
nanoliter-size samples (149: 4).

- Researchers began developing smart contrast agents—injectable proteins that light up specific biological actions—for magnetic resonance imaging (149: 100).

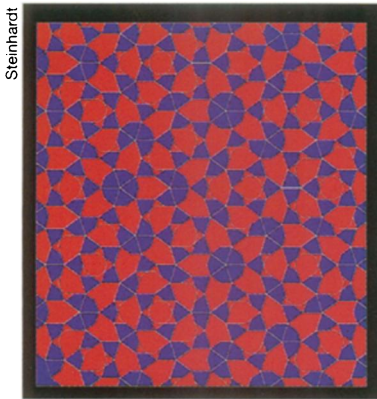
- Like chlorophyll in plants, some newly synthesized inorganic molecules harvest sunlight and store it as an electric charge (149: 212).

- Myrrh, an ancient balm, was shown to have pain-killing properties (149: 20).

Tod D. Romo/Rice University



The structure of green fluorescent protein.



A nonperiodic tiling.

● The development of novel error-correction schemes improved the prospects of building computers based on quantum logic (149: 38).

● An algorithm that takes advantage of quantum logic provided, in principle, a faster way to identify a particular item in an unsorted list (150: 143).

● Congestion on the Internet prompted new efforts to circumvent information traffic jams (149: 181).

● Chess champion Gary Kasparov defeated the IBM chess computer Deep Blue in a six-game match (149: 119, 200*).

● A newly discovered pattern made up of overlapping, 10-sided tiles may serve as a

model of how atoms arrange themselves into a quasicrystalline structure (150: 232*).

● Characterizing mathematical knots as tightly pulled tubes instead of one-dimensional strings offered a useful model of knotted DNA loops and polymer chains (150: 310).

● Turning to the mathematics of cake cutting and point allocation, researchers developed improved methods of settling disputes (149: 284*).

● A National Research Council report called for greatly increased use of cryptography to protect electronic information and highlighted shortcomings of current government policies on the availability of cryptographic technology (149: 357*).

Earth Science

● Seismic studies revealed that Earth's inner core is spinning faster than the rest of the planet (150: 36*).

● Enigmatic patches of warm and cold water rove the Atlantic Ocean for years on end (149: 276*).

● A submerged volcano off the coast of Hawaii suffered a major collapse this summer, providing insight into processes that shape volcanic islands (150: 228*).

● A volcano erupted beneath Iceland's largest ice cap, triggering a huge flood that damaged roads and bridges (150: 327).

● Meteorologists captured the most detailed pictures yet of the winds whirling inside a tornado (149: 388*).

● Records of lunar cycles preserved in 900-million-year-old rocks revealed that at that time, Earth's day lasted only 18.2 hours (150: 4*).

● A layer of partially molten rock was found under Tibet (150: 356*).

● Subterranean rivers carry freshwater into the ocean in quantities far larger than previously suspected (149: 245).

● The amount of ozone-destroying compounds in the atmosphere started to decline for the first time since measurements began (149: 151).

● Oceanographers drilled into the seafloor to

study frozen deposits of methane gas, a potential fuel of the future (150: 298*).

● In Antarctica, researchers mapped an ice-covered lake, one of Earth's largest, deepest bodies of freshwater (149: 407).

● Theorists struggled to explain a pale glow emanating from superheated water erupting from the seafloor (150: 156*).

● A study of 3.2-billion-year-old rocks revealed that Earth's magnetic field matured early in its history (150: 103).

● Atmospheric scientists investigated whether airplane exhaust produces clouds and alters Earth's climate (150: 12*).

● Seismologists determined which faults generated the greatest series of earthquakes in U.S. history (149: 362).

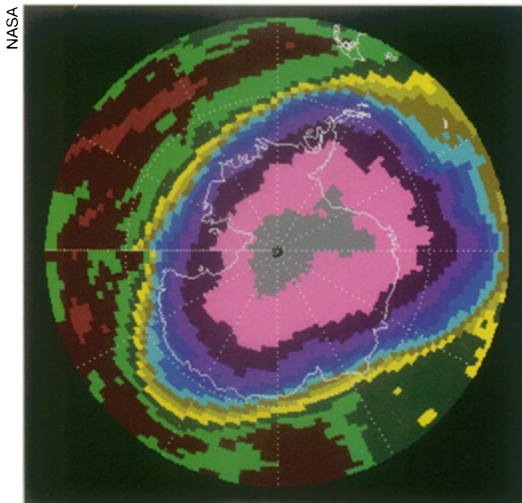
● A series of active faults zigzagging through Missouri may threaten the mid-United States (149: 213).

● Climate scientists and public health researchers predicted that global warming will cause adverse effects on human health (149: 218*).

● Discoveries of abrupt climate shifts in the last 10,000 years forced researchers to revise their ideas about climate stability (149: 140).

● The 1996 ozone hole over Antarctica failed to reach record depths, confounding expectations of some scientists (150: 246).

● A computer model of Earth's interior offered an explanation of why tectonic plates are so large (150: 213).



The ozone hole over Antarctica extends outward to the blue bands.

● Trawling causes significant, long-term damage to seafloor communities (150: 268*).

● The Environmental Protection Agency tightened limits on the most respirable dust-sized pollutants, whose outdoor concentrations seem responsible for many deaths from respiratory and heart disease (150: 410).

● Many pesticides compromise immunity, making people vulnerable to life-threatening infections (149: 149). Spotty information on production and trade complicated international efforts to limit the spread of pesticides in the environment (149: 174).

● Survivors of the Chernobyl nuclear accident appear to have passed on radiation-induced mutations to their children (149: 260*).

● Preserving or reestablishing prairies can reduce erosion and increase sequestering of the carbon emitted by fossil fuel burning (149: 44; 150: 356*).

● Environmental laws revised limitations on pesticide residues in foods and set new controls on drinking water contaminants (150: 159).

● Children exposed to polychlorinated biphenyls in utero exhibit IQ decrements through at least fifth grade (150: 165*).

● Adjusting to polluted water takes a toll on the health of fish (149: 21).

● A pandemic of parasites in North American honeybee populations is part of a larger threat to natural pollinators (149: 406*).

● Scientists used heat, sometimes with reactive chemicals, to break down chlorofluorocarbons (149: 36) and polychlorinated biphenyls (150: 308).



MAFF/British Crown Copyright

● Scientists have diagnosed why centuries-old salt statues in an underground Polish mine are dissolving (149: 264*).

● Spanish scientists demonstrated that chemicals mimicking the action of female sex hormones leach from dental sealants (149: 214).

● Exposure to high levels of lead early in life was linked to attention problems, aggression, and delinquency in preteen boys (149: 86).

This 4-meter-wide beam trawl has a chain matrix to keep rocks and rough terrain from damaging the gear.

Food Science

● Food poisoning in the United States costs an estimated \$22 billion annually, a congressional study found; research programs announced inroads in fending off the germs responsible (149: 326*; 150: 172*).

● A popular antioxidant supplement, beta carotene, doesn't prevent heart disease or cancer and may increase a smoker's risk of lung cancer (149: 55).

● Despite worries that Olestra might pose health risks, the federal government approved the calorie-free fake fat for use in processed foods (149: 61*, 68*). Researchers unveiled Z-trim, a no-calorie fat substitute made of indigestible grain fiber, that lacks Olestra's gastrointestinal side effects (150: 132*).

● Dark beer, certain fruit juices, and chocolate, all antioxidant-rich foods, may lower the risk of heart disease and cancer (149: 287; 150: 235).

● An apparent increase in the incidence of

lifelong nut allergies may stem from the recent trend of feeding peanut butter to very young children; the allergies may be presaged by eczema (149: 279; 150: 150).

● Simply tasting fat—without swallowing it—can alter the body's processing of fats already in the stomach, thus increasing the heart disease risk posed by these substances (149: 373). Nerves running from the brain to the stomach help a diner determine when it's time to stop eating (150: 343).

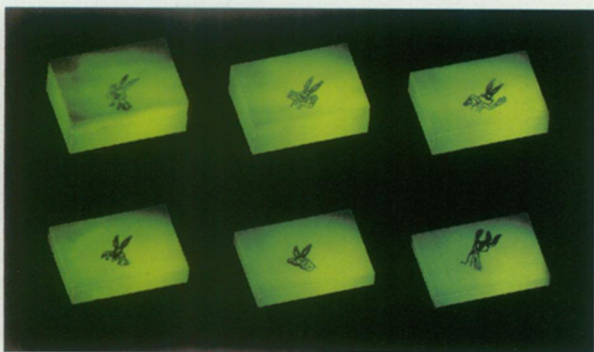
● People at greatest risk of heart disease may benefit from drinking up to three alcoholic drinks daily (149: 197).



Zotzola

Microscopic food particles are attaching via thin filaments to a stainless steel surface.

Prasad et al./SUNY-Buffalo



Bugs Bunny recorded on layers of a dye-doped polymer.

- Scientists produced metallic hydrogen, the lightest metal in the universe (149: 250).
- Atoms guided through a holographic diffraction pattern fall into the intended image on a surface (149: 263).
- Polarized ultraviolet light makes liquid crystal displays easier to see (149: 348).
- A thin metallic film switches from a reflective mirror to a transparent window (149: 182).
- A polymer doped with a fluorescent green dye can store up to 1 trillion bits of data in a cubic centimeter (150: 148).
- A material made of flexible nylon and X-ray-absorbing particles appeared promising as the basis of digital X-ray film (150: 70).
- By producing bright laser light, a polymer demonstrated its potential as a material for electronic displays (150: 119*).
- A composite of nanometer-size gold particles and DNA strands was developed for biological sensing and electronics use (150: 100).
- During a straightforward materials synthesis, researchers observed ice that remained solid at temperatures well above its melting point (150: 252).

Paleobiology



Artist's view of Oviraptor in life.

- Analysis of carbon isotopes in ancient Greenland rocks pushed back the history of life on Earth to 3.85 billion years ago (150: 292*).
- Chinese scientists discovered a dinosaur covered with featherlike structures, providing further support for a link between dinosaurs and birds (150: 260*).
- Continental plants suffered a massive die-off 250 million years ago, coincident with a great animal extinction (149: 164).
- Excavations in Mongolia uncovered the bones of a carnivorous dinosaur sitting on a nest of eggs (149: 7).
- Paleontologists discovered scales belonging to the earliest known sharks (149: 101).
- The fossilized bones of a 115-million-year-old bird from Spain provided insight into early avian evolution (150: 71).
- Analysis of genes in living organisms suggested that the first animals emerged a billion years ago, far earlier than previously thought (150: 335).
- Chinese scientists described one of the earliest known chordates (150: 311).
- Two carnivorous dinosaurs were unearthed in Morocco (149: 335).

Physics



A single atom can appear in two places at the same time.

Monroe/NIST

- An occasional antihydrogen atom appeared when a beam of antiprotons passed through a gas jet in experiments at CERN and Fermilab (149: 20; 150: 340).
- Evidence of the existence of a quark-gluon plasma emerged from high-energy collisions between nuclei of lead atoms (150: 190).
- Vibrated up and down, a thin layer of granular material can display isolated structures that oscillate from a peak to a craterlike shape embedded in an otherwise flat surface (150: 135).
- Researchers obtained the first direct images of an unusual form of matter called a Bose-Einstein condensate and observed how this material vibrates when excited (149: 327).
- Using lasers and an electromagnetic trap, physicists created a state of matter in which a single beryllium atom appears in two positions at the same time (149: 325).
- A new type of X-ray source capable of generating pulses lasting only 300 femtoseconds may make it possible to track rapid changes in atomic and molecular structures (150: 228).
- A magnetic field unexpectedly suppressed the temperature at which liquid helium-3 trapped in a glass sponge becomes a superfluid (150: 358).

● President Clinton's \$1.6 trillion proposed research and development budget for 1997 did not keep pace with inflation and called for sharp cuts in energy and space programs (149: 86, 202, 297). The funding legislation that finally passed failed to make up for cuts during the past 3 years (150: 246).

● A global network of seismometers was created to scout for evidence of nuclear tests, which will be banned under an international treaty adopted in September (149: 298*; 150: 183).

● Congress abolished the Bureau of Mines, divvying up many of its responsibilities among other federal agencies (149: 7).

● The Army started up its first full-scale plant to dismantle and incinerate chemical weapons (150: 135).

● The National Research Council issued the nation's first precollege science education

standards, a blueprint for engaging children in the conduct of science (149: 72).

● An appeals panel cleared immunologist Thereza Imanishi-Kari of charges of scientific misconduct (150: 4).

● U.S. undergraduate science and math programs are substantively "a mile wide and an inch deep," an international study found (150: 244*). Though U.S. children do more homework, their learning lags behind that of peers in many other nations (150: 341).

● Deeply held beliefs cause a large and growing share of the U.S. population to reject important aspects of science, a host of studies found (149: 360*). Most U.S. adults score low in science literacy (149: 367).

● Several studies focusing on projected population growth identified social issues that complicate analyses of how many people Earth can sustain (149: 396*).



Inside the International Data Center.

Space Science

● In a controversial report, scientists announced that a meteorite from Mars may contain fossils of primitive Martian bacteria (150: 84, 380*); a younger Martian meteorite may harbor chemical fingerprints of life (150: 292*). Researchers showed that it's much easier for a rock from Mars to journey to Earth than vice versa (150: 205*).

● The Galileo spacecraft provided further hints that Jupiter's moon Europa may contain an ocean beneath its icy surface (149: 345; 150: 8, 102) and new information on Jupiter's other large moons (150: 37, 53, 277).

● Ganymede became the first moon in the solar system known to sport an aurora (150: 181*).

● A new analysis confirmed that a probe of Jupiter last year found surprisingly little water in the planet's atmosphere (149: 199), which may be as stormy as a star's (150: 133). Measurements of the giant planet's deuterium abundance indicated how much deuterium was present when the solar system was born (150: 223).

● Comet Hale-Bopp seemed well on its way to becoming the most dramatic comet of the century when it nears Earth next spring (150: 296).

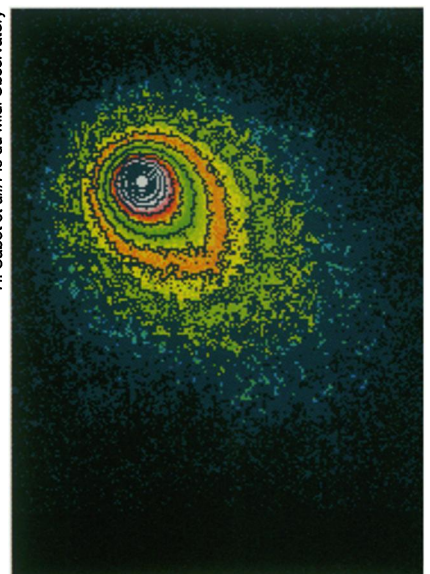
● Although it appeared only as a fuzzy snowball in urban skies, Comet Hyakutake provided astronomers with information on its chemical composition and mystified them with its X-ray glow (149: 103, 346*, 410). Observations of Hyakutake suggested that some comets carry ices preserved from the cloud of gas and dust that built the solar system (149: 346*; 150: 245).

● Radioactive dating of primitive meteorites revealed that water flowed in the solar system just 20 million years after its birth, at least 30 million years earlier than previous studies had indicated (149: 117).

● A rocket mishap destroyed a mission to map Earth's magnetosphere (150: 59). Russia's Mars '96 probe crashed (150: 324).

● A spacecraft that stares nonstop at the sun provided a deeper understanding of the solar corona (149: 277; 150: 136*).

H. Cabot et al./Pic du Midi Observatory



False-color image of Comet Hyakutake.

This is a review of important science stories of 1996 reported in the pages of SCIENCE NEWS. The reference after each item refers to the volume and page number on which the main article on the subject appeared (vol. 149 is January-June; vol. 150 is July-December). An asterisk indicates that the text of the

item is available on SCIENCE NEWS ONLINE (<http://www.sciencenews.org>).

Back issues or, when out of stock, copies of 1996 articles are available for \$2 each; earlier articles are \$3 each (prepaid); send orders to SCIENCE NEWS, 1719 N Street, N.W., Washington, D.C. 20036.