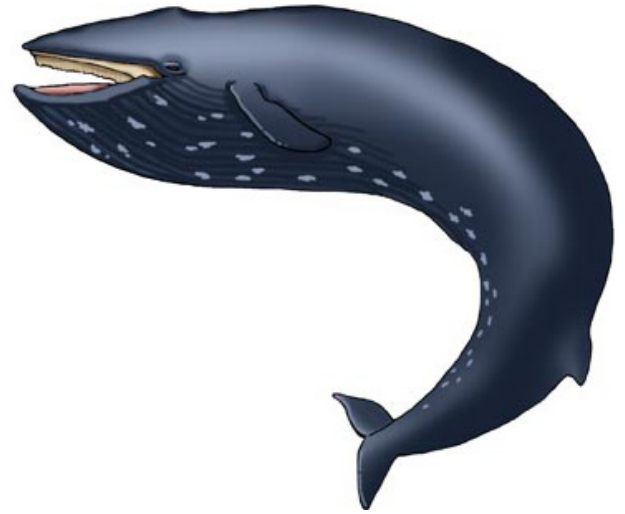


# Science Discoveries and Inventions in the News

## Blue Whales Speaking Their Own Language

Scientists have discovered that whales in different areas of the ocean speak differently! Scientists recorded blue whales speaking in their ocean habitat off the coast of the Pacific Northwest and those living in the western Pacific Ocean near Chile and found they speak a different whale language!



## Dog Diseases

Man's domestication of wild dogs into faithful companions began some 10,000 years ago. Over the centuries, many desirable traits have been bred into dogs like speed, strength, color, shape, hunting ability, loyalty, friendliness and fierceness. But with the good traits some serious bad traits have tagged along. Genetics studies now show that selective breeding of dogs over time also brings out serious diseases. Labrador retrievers develop bad hip joints. Golden retrievers get a cancer called lymphoma. Dachshunds get epilepsy. Samoyeds get diabetes. It may turn out that a mixed breed mutt is really man's best friend. (Kruglinski, Susan. "Doctor's Best Friend" Discover March 2006: P. 15)



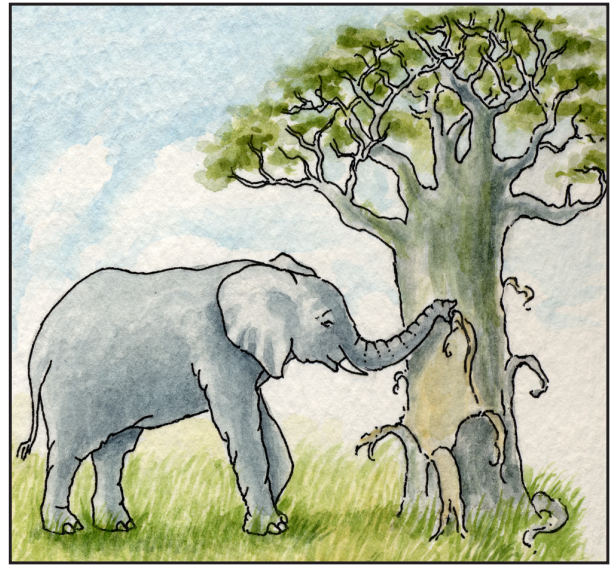
## Drug Sniffing Wasps

For years, dogs have been trained to sniff out drugs hidden in traveler's baggage. Now biological engineers at the University of Georgia have discovered that wasps can do it just as well, without the dog biscuits. The wasps are trained so that when they smell the drugs, they will be fed. After that, whenever the wasp's sensitive antennae detect the odor of drugs, the wasps react like they are about to be fed. The wasps are kept in a small, hand-held canister so they can be brought on site for drug sniffing. Wasps only live for about two days, so new wasps have to be brought in and trained (training only take about ten minutes) regularly. Scientists have shown that wasps can also be used to sniff out bombs, toxins or even dead bodies. (Kruglinski, Susan. "Cop Wasps vs. Drug Smugglers." Discover February 2006: P. 13)



## Elephants Know Themselves

Scientists know that only some animals are smart enough to know themselves when they look in a mirror. This is called “self-awareness.” They include humans, some apes and monkeys, and dolphins. Other “less intelligent” animals think their reflection is another animal in their pack and may act aggressively or friendly toward it. Some are puzzled by the mirror and look behind it. A rare few do things like repeating behaviors in front of the mirror. But only the “self-aware” animals can tell they are looking at themselves. Now elephants can be added to that group. Researchers at the Bronx Zoo placed a huge mirror in the elephant enclosure and have discovered that the elephants could see their reflection as themselves. This was proven when the elephants touched and examined their faces in the mirror, something researchers had never given them the opportunity to do before. Now we know elephants are truly the highly intelligent animals many suspected them to be.



## Gladiator -- The First Robotic Soldier

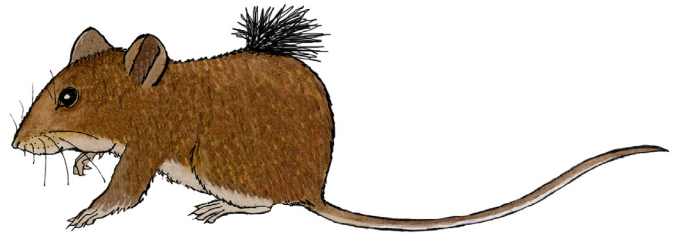
Technologists have invented a way to keep our soldiers safer. It's called the Gladiator, a robotic soldier. It replaces the first wave of Marines in a battle who face the first assault of enemy fire. An unmanned ground vehicle, the Gladiator is sturdy enough to survive guns, grenades and mines. It can take important readings, like heat, mapping, photos, sound and chemicals present and send the information back to the troops. It can send out a smoke screen and carries mounted weapons. (Kotler, Steven. “Mans Best Friend.” Discover December 2005: P. 57)

## How Small Will Computers Get?

Just thirty years ago, a computer could take up an entire room. Now they sit on our desk tops comfortably, travel with us on airplanes and trains and the simplest versions can be held in the palm of our hands. Only in science fiction have computers gotten so small that they can be implanted under your skin or balance on the head of a pin. Until now... a scientist at Harvard University using silicon wires just 10 atoms thick ( so many atoms stretched across a ruler would measure one centimeter) has reduced the size of transistors (the way electricity travels in computer circuits) to the size of mere molecules. So far, these tiny circuits have only performed simple addition problems, but in the years to come, this technology is expected to develop a whole new level of computer uses. Consider a computer that can be injected into your bloodstream to perform medical tasks! (For more information: see Discover Magazine - April, 2002).

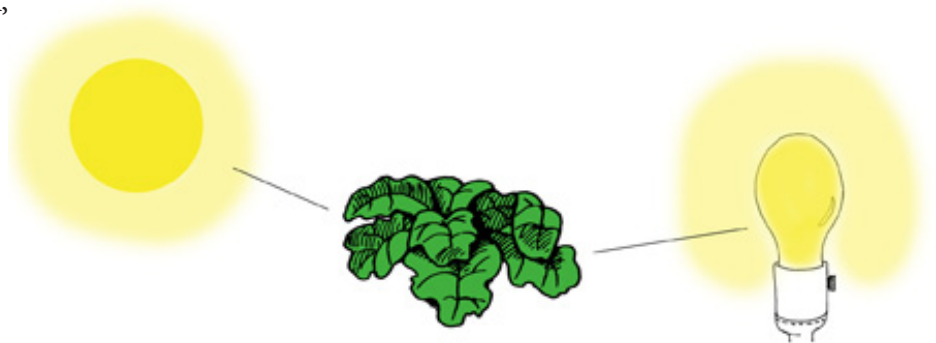
### How to Grow Hair on Bald Heads

No matter how much you might like grandfather's bald head, most men are unhappy about balding. That is why millions of dollars are spent every year trying to stop it from happening. The cure may finally be on the way. Researchers at Rockefeller University research used stem cells from adult skin to grow hair. Small amounts of stem cells were discovered saved in each hair follicle to replace skins cells when they die. One stem cell could grow hair, skin and oil glands. Scientists attached (grafted) them, skin and all, to the body (in this case a test mouse). The hair grew and the new skin had oil glands keeping it healthy and best of all, the bald spot was gone! (Sender, Aaron J. "Bald Men: This Mouse Is for You." Discover January 2005: p. 33)



### Plants Making Electricity

Photosynthesis is how plants make food. They take the light from the sun and change it into sugars that they use for energy, growth and repair. They collect the light using special proteins in their chlorophyll. Scientists at MIT have invented a way to make those photosynthetic proteins collect light and instead of making it into sugars, they make it into electricity! They had to find a way to protect the electrodes from the water and salt that the photosynthetic proteins needed to survive. So they created tiny peptide molecules that would wrap around the photosynthetic proteins like a fish tank keeping them wet and working, while the electrodes stayed dry! So far, the electrical current they made is weak, but building on this new technology, eventually they hope to make enough power to fuel solar cells for computers and cell phones and well -- anything that can sit out in the sun! (Epstein, David. "Will Your Next Computer Be Powered by Spinach?" Discover January 2005: p. 69)



### That Train is Full of... Cow Manure

A company in Sweden has built the first train locomotive ever to be fueled by cows and their manure. The process they have developed is simple. They take old cow parts and manure and mix then together in a big organic slop. Then they kill all the bacteria with heat. Then they add a new bacteria that will digest the mixture. The bacteria, as it digests, gives off methane gas. The company collects the methane gas, cleans it up and sells it as fuel. They have found that it takes about 30 cows-worth of fuel to send the train on its 75 mile trip between towns. (Carey, Bjorn. "All Aboard the Cow Train." Discover May 2006: P.18)

