

# SCIENCE ILLUSTRATED

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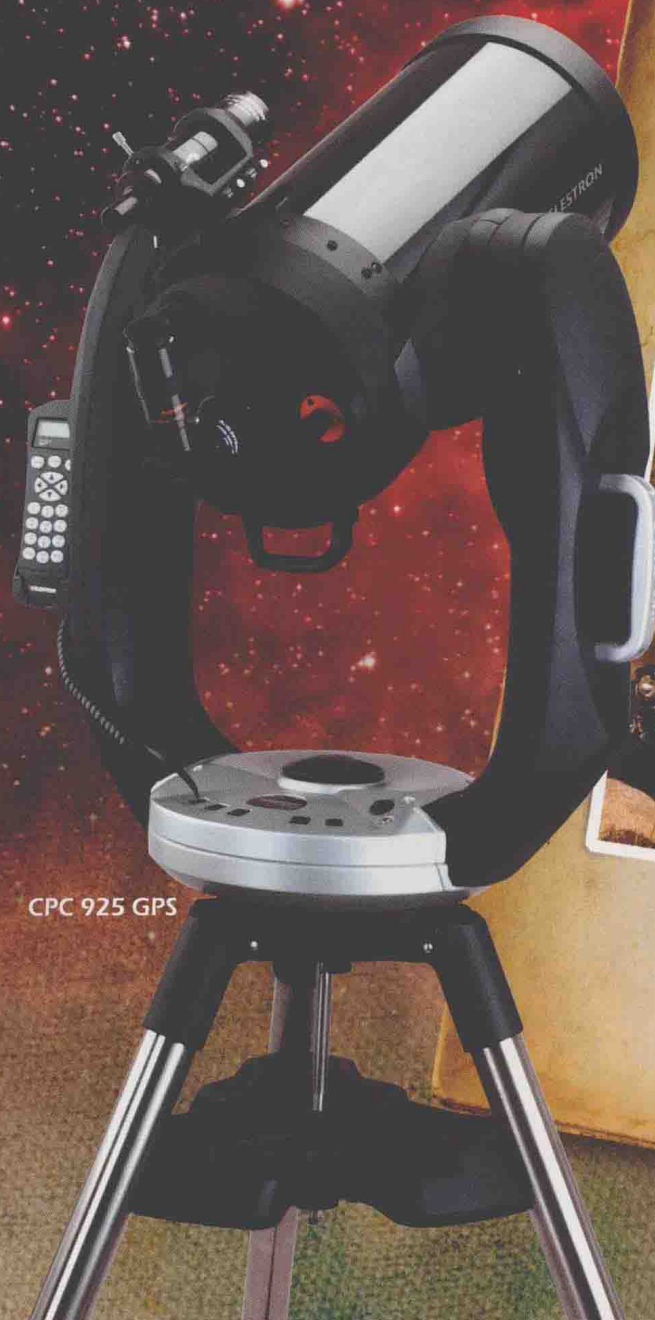
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May Hold Clues to  
Alzheimer's, Autism

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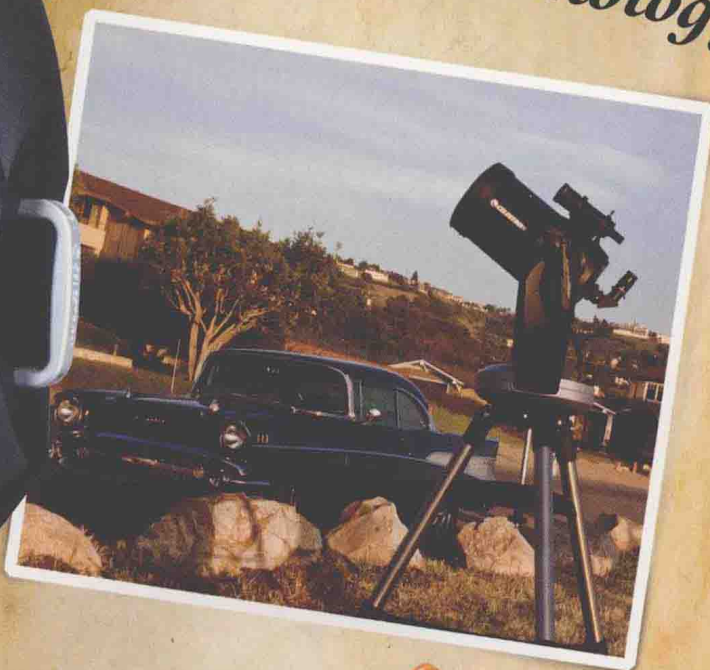






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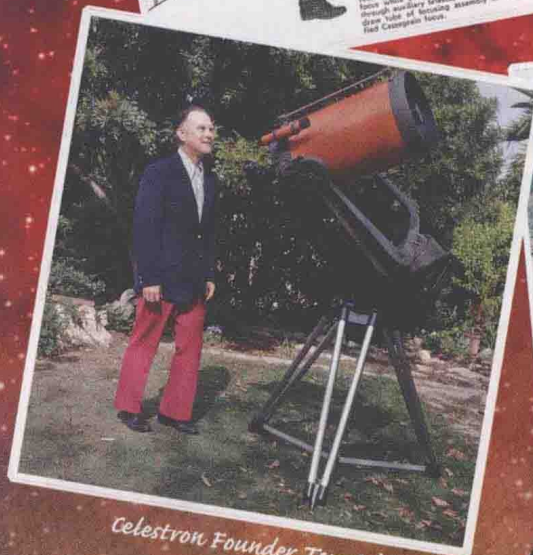
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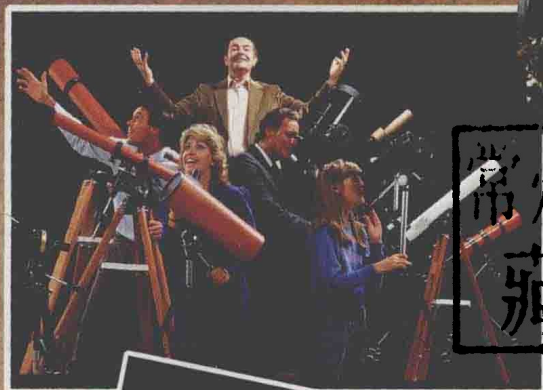
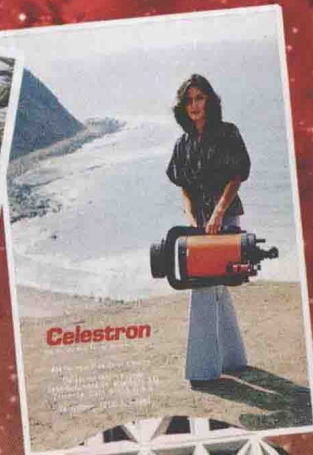
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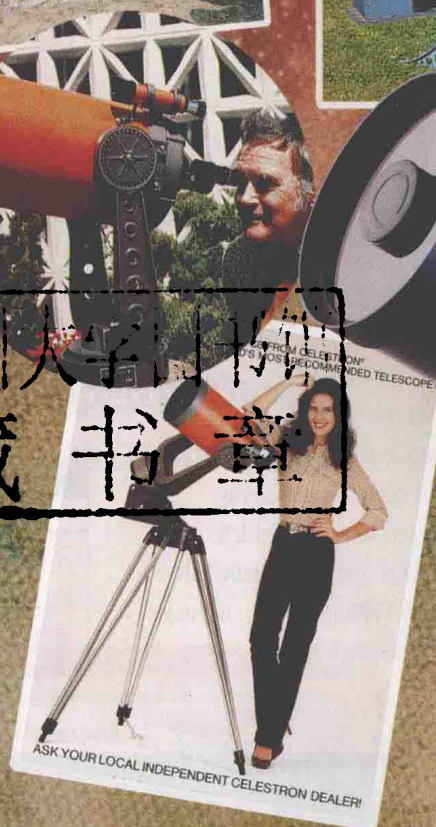




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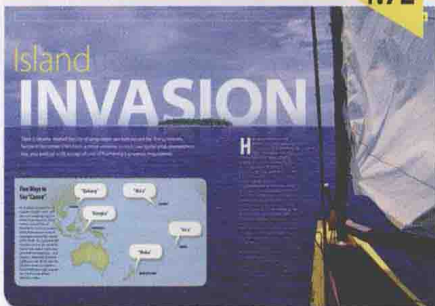


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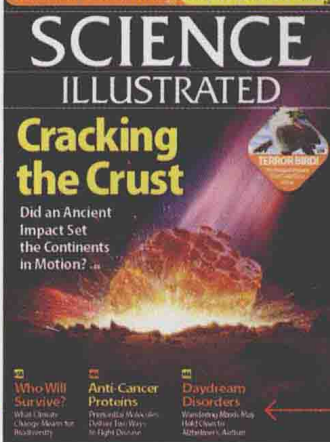
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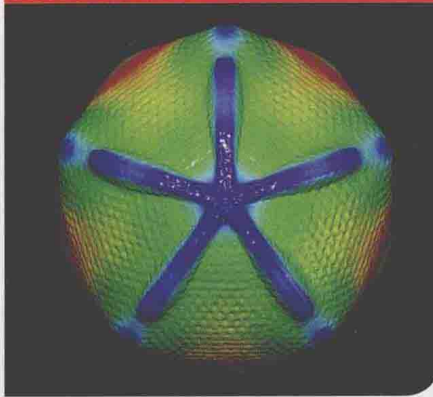
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**"Henry Philip Hope would be impressed with the superfine deep blue of the Stauer Eternal Hope Necklace. Ever since the original first surfaced centuries ago, it has been shrouded in legend and mystery."**

**— JAMES T. FENT,  
Stauer GIA  
Graduate Gemologist**

*This colossal, brilliant cobalt blue stone is enlarged to show details.*

# World's Most Famous Diamond Found Inside Toaster

***Stauer introduces a scientifically created tribute to the legendary Hope Diamond!***

It's a wonder that the *Hope Diamond* survived the 20th century. In the hands of eccentric millionaire heiress Evalyn Walsh McLean, the 45½ carat deep blue diamond was treated more like a fancy plaything than a precious gem. McLean wore it on rollercoasters, while swimming and when doing yard work. She hid it underneath couch cushions and from time to time, even kept it inside her toaster!

These days, the *Hope Diamond* is the superstar of the National Gem Collection at the Smithsonian's Museum of Natural History. And even though the spectacular blue stone attracts millions of visitors a year, it looks lonely stuck behind that 3-inch bulletproof glass. So we decided to set it free.

**Science recreates a legend of luxury.** We challenged our gemologists to reimagine the largest and most perfect blue diamond in existence. They came back with the magnificent *Eternal Hope Necklace*, a lab-created beauty inspired by the \$350 million original. Using the legendary *Hope* as their guide, they carefully cut lab-created blue spinel to match the color, shape and geometric angles of the world famous stone. And, because of our advanced science, our lab-created stone's clarity is superior to the original.

The *Hope Diamond* remains one of the world's most unattainable treasures, but we've set the price of our *Eternal Hope Necklace* at an unbelievably accessible \$195!

**When being called a "jewel thief" is a badge of honor.** The final product is so convincing that it will surely have museum curators double checking their vault. Our update keeps the allure of the original, the magic that captivated Maharajahs, kings and queens.

The custom-cut stone is brilliant cobalt blue lab-created spinel. Spinel is considered the greatest impostors in gemstone history. One of the most valuable gemstones in the world, the *Black Prince* in the British Crown Jewels, was only recently discovered to be a spinel. They are favored by jewelers because of their brilliance and hardness. And the structure of a spinel is similar to a diamond—they both have the same high symmetry (4/m bar 3 2/m).

**Add the world's most famous rock band.**

Enhance the look of your stunning Necklace with the *Eternal Hope Ring*, a gorgeous ring version of the pendant stone, prong-set on a .925 sterling silver band. Flanked by 10 dazzling, lab-created DiamondAura®, the Ring perfectly complements the Pendant.



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Try the *Eternal Hope Necklace* for 30 days. If for any reason you are not satisfied with your purchase, simply return it to us for a full refund of the purchase price. Don't miss this chance to claim your own historic piece of Hope!

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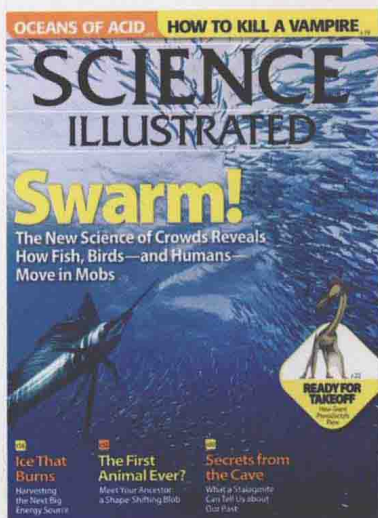
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## Targeting the Flu

Now that we know that swine flu replicates better in lungs than seasonal flu [Bull's-Eye, November/December 2009], we can develop a targeted treatment. Unlike when the Spanish flu hit in 1918, modern medicine will let us target the cause, rather than just treating the symptoms.

**Ronald Edwards** Via e-mail

## Defining Day

"What does the 'D' in D-day stand for?" [Ask Us, Nov./Dec.] omits the term's true origin and meaning. "D-day" was not used for the many invasions prior to the June 6, 1944, Normandy invasion. Dwight D. Eisenhower and his staff coined the term for an unknown date with a purpose: the debarkation of troops from their ships to the shore. Hence "D-day" is "debarkation day."

**Robert Marsh** Via e-mail

**EDS:** Michael J. Edwards, a historian at the University of New Orleans Eisenhower Center, says that the "D" in D-day was first

used during World War I as a stand-in for the actual date of an upcoming operation. He suspects that alternative definitions, including "debarkation," "death" and "doom," may have been coined by World War II troops during the invasion at Normandy.

## Increasing Visibility

"The Search for Another Earth" [September/October 2009] points out how difficult and indirect the process for finding other "Earths" is. Perhaps we should change our strategy. What can we do to become more visible to searchers from other planets?

**Ben Dubner** Via e-mail

**EDS:** The Search for Extra-Terrestrial Intelligence (SETI) Institute used the Arecibo radio telescope in 1974 to broadcast a simple pictorial message into space. According to SETI astrophysicist Frank Drake, it's unclear whether repeating such a transmission would be cost-effective. The Earth's many high-power radio transmissions may already make it visible enough.

## Corrections

The world speed record held by the Blackbird jet is 2,193 mph, not 1,293 mph [World of Science, Nov./Dec.].

In "Colors of Infection" [Bull's-Eye, Sept./Oct.], the image of virus-infected cells was not fully credited. The image was captured by Anthony Ambrosini, a Princeton University molecular-biology graduate student. It is part of Princeton's 2009 Art of Science Exhibition ([princeton.edu/~artofsci](http://princeton.edu/~artofsci)).

Two alternative solutions were omitted from question #5 in Brain Trainers [Nov./Dec.]: 4, 2, 3, 4, 7, 1 and 3, 3, 2, 5, 6, 2.

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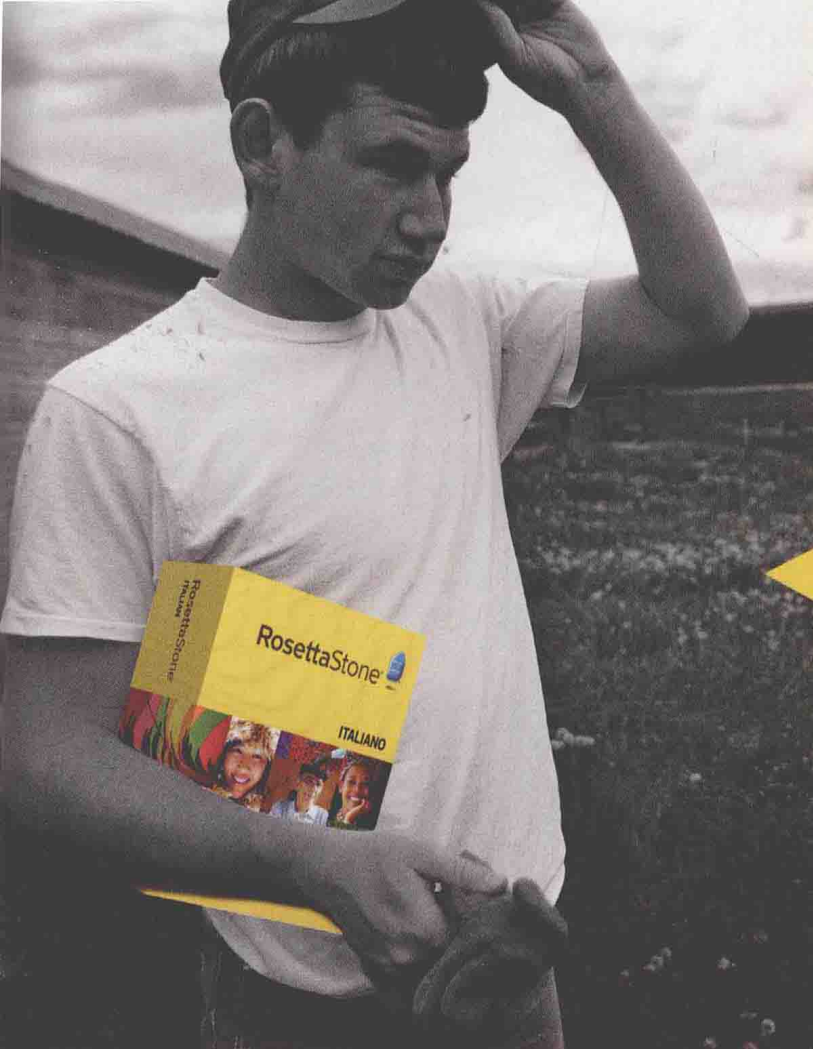
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## Puppet Masters

The Royal de Luxe street-theater group marches its Little Giantess and Big Giant puppets through Berlin. The wooden marionettes, operated by ropes, pulleys and hydraulics, are recurring characters in the French troupe's performance-art saga, adapted for six countries so far. This four-day event, starting last October 1, celebrated the 20th anniversary of the reunification of Germany. The giantess started her journey in East Berlin, while her "uncle" crawled out of the Spree River and walked toward her from West Berlin. They were reunited at the historic Brandenburg Gate.

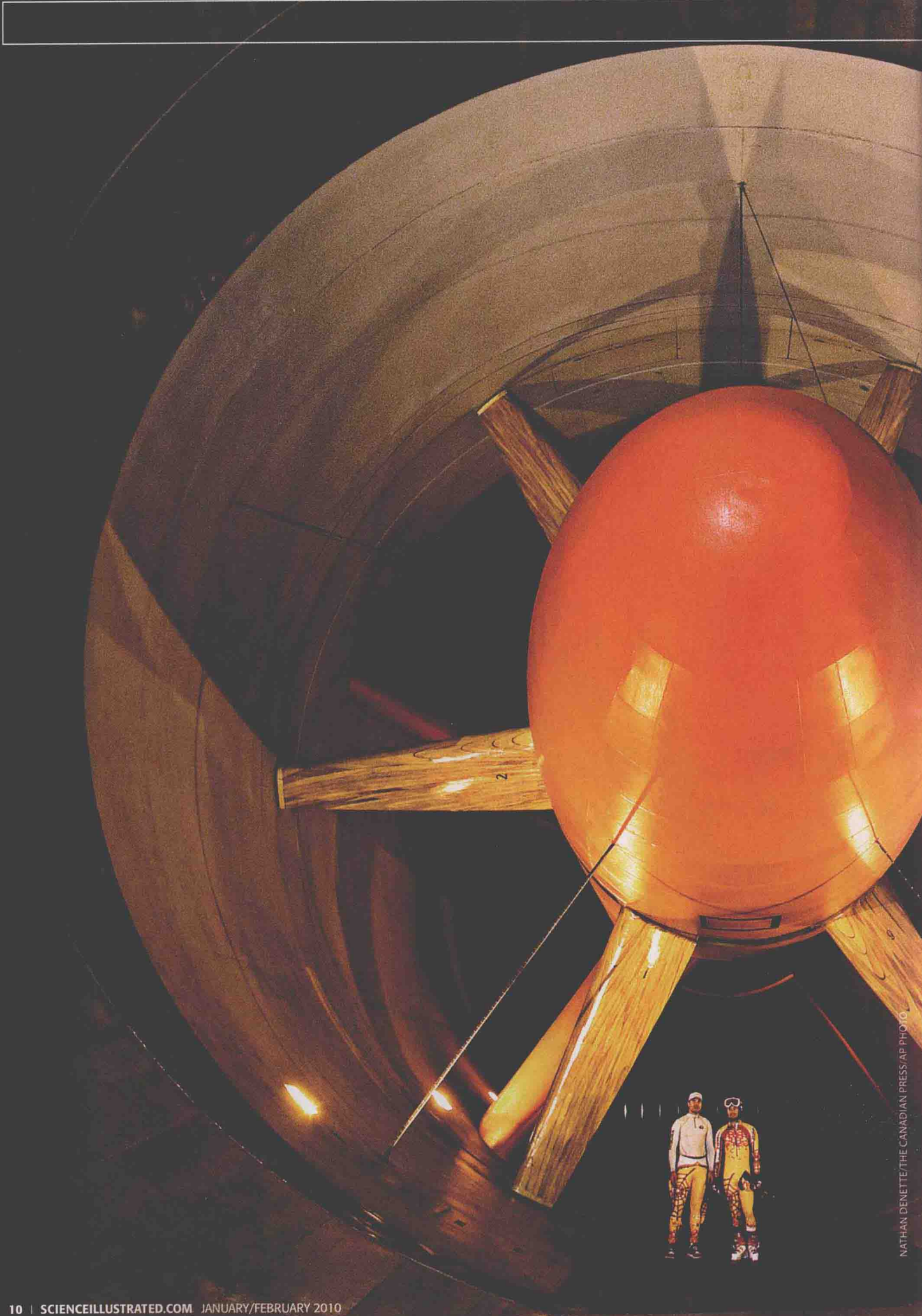






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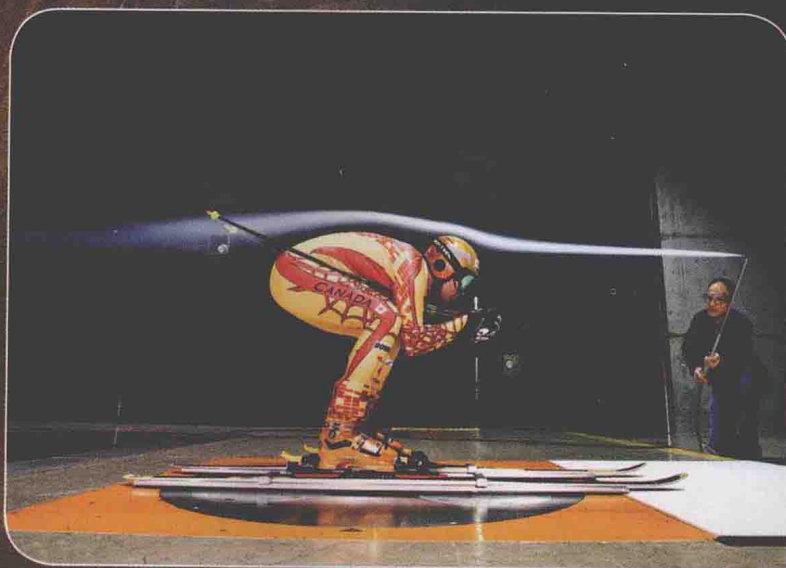
NATHAN DENETTE/THE CANADIAN PRESS/AP PHOTO





## Wind-Blown Look

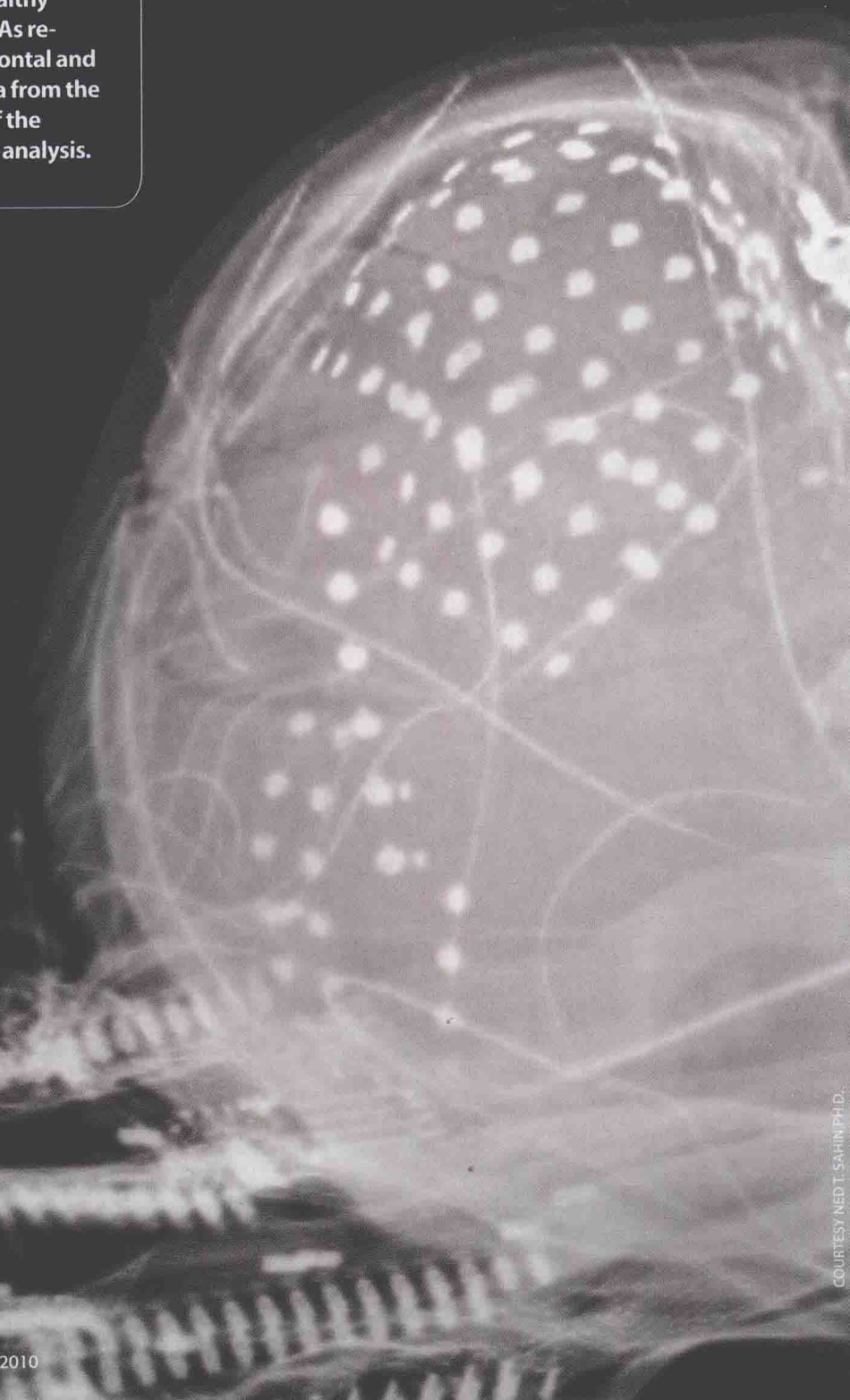
Canadian alpine skiers Jan Hudec [left] and Tyler Nella show the scale of the 43-foot-tall propeller in the world's largest wind tunnel at the General Motors Aerodynamics Laboratory in Warren, Michigan. The skiers used the facility to refine their form before the World Cup races in Alberta last November. The hundreds of GM cars tested at the lab every year are subjected to winds of up to 138 mph, while the skiers endured a maximum of 75 mph in the tuck position [inset].





# Mind Mapping

In research led by scientists at the University of California at San Diego, doctors implant electrodes into the brains of epilepsy patients to pinpoint seizure-causing regions for removal and to map healthy brain functions like language and hearing. As revealed in this x-ray, electrodes on the left frontal and anterior temporal lobes send electrical data from the brain to ribbonlike cables along the back of the head, which then connect to computers for analysis.



COURTESY/NEET T. SAHIN PH.D.







# Mane Attraction

A lion relaxes after a meal of Cape buffalo in Kenya's Masai Mara game reserve, home to more than 200 of the cats. During an early morning drive through the park in 2008, nature photographer Marc Sootmaekers came across this lion and two other males finishing up with their night's kill. Surrounded by buzzing flies, the animal's blood-soaked mane and piercing eyes earned Sootmaekers, who lives in Belgium, a win in the Veolia Environnement Wildlife Photographer of the Year contest, which is organized by the Natural History Museum in London and *BBC Wildlife Magazine*.