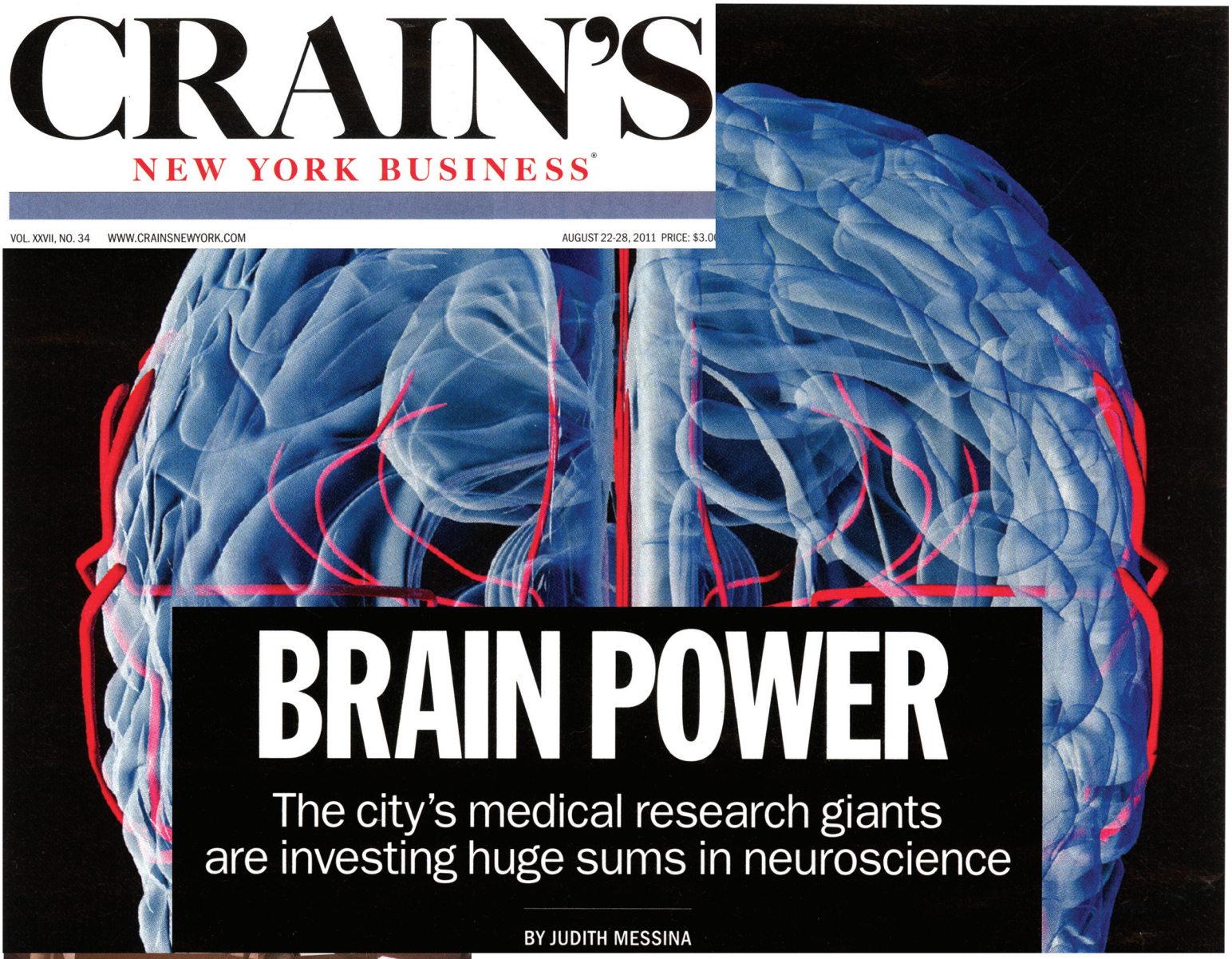
CRAIN'S
NEW YORK BUSINESS®
VOL. XXVII, NO. 34 WWW.CRAINSNEWYORK.COM AUGUST 22-28, 2011 PRICE: $3.0



BRAIN POWER

The city's medical research giants are investing huge sums in neuroscience

BY JUDITH MESSINA

CAMERA READY: Drs. Theodore Schwartz (right) and Vijay Anand, an otolaryngologist and surgeon, use new 3-D technology on a patient.

IT'S NOT EXACTLY BRAIN SURGERY

Theodore Schwartz

Weill Cornell Medical College

THEODORE SCHWARTZ REGULARLY powers up a digital camera, called a 3-D endoscope, that lets him operate at the base of the brain without having to move the organ or run the risk of injuring nerves involved in seeing, hearing and maintaining balance.

A minimally invasive tool that requires no incision, the camera is inserted through a patient's nostrils and into the nasal cavity. An image of a tumor and surrounding tissue is displayed on a large video screen.

And, just like the audiences at 3-D action movies, the surgeons must wear polarized 3-D glasses to view the image.

"The anatomy is literally on the screen, coming toward you," said Dr. Schwartz, who is associate professor of neurological surgery and director of Weill Cornell Medical College's Center for Epilepsy Surgery, Brain Tumors, Minimally Invasive Skull Base and Pituitary Surgery.

He helped Visionsense develop the camera and has used it in about 50 procedures over the past two years.

The *Avatar*-like atmosphere doesn't stop there.

In his lab at Weill Cornell, Dr. Schwartz, 46, is implanting multiple cameras and electrodes on the brain surface of animals to record electrical activity, blood flow and oxygenation. This allows him to see seizures in real time.

'The anatomy is literally coming toward you'

"What we hope to find is that the blood flow, and the optical and oxygenation changes, will show us where [epileptic] seizures are going to occur before they happen," Dr. Schwartz said. "If we know when and where, we can stop them."

He's also testing a version of this technology on humans.