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Spotted: CRISPR crisis; tools of the trade

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CRISPR crisis

Few scientific techniques create as much unease as **CRISPR**, the gene-editing tool that can rewrite the genome as though it were jotted in pencil. A story published Wednesday in *Wired* looks at **the history of CRISPR** and forecasts its unnerving future. “The technique is revolutionary, and like all revolutions, it’s perilous,” the article reads.

One of the biggest worries around CRISPR is its simplicity. “Genome editing started with just a few big labs putting in lots of effort, trying something 1,000 times for one or two successes,” **Hank Greely**, bioethicist and professor of genetics at Stanford University, told *Wired*. “Now it’s something that someone with a [bachelor’s degree] and a couple thousand dollars’ worth of equipment can do.”

We’ll be watching to see what CRISPR has in store **for the field of autism** and beyond.

Tools of the trade

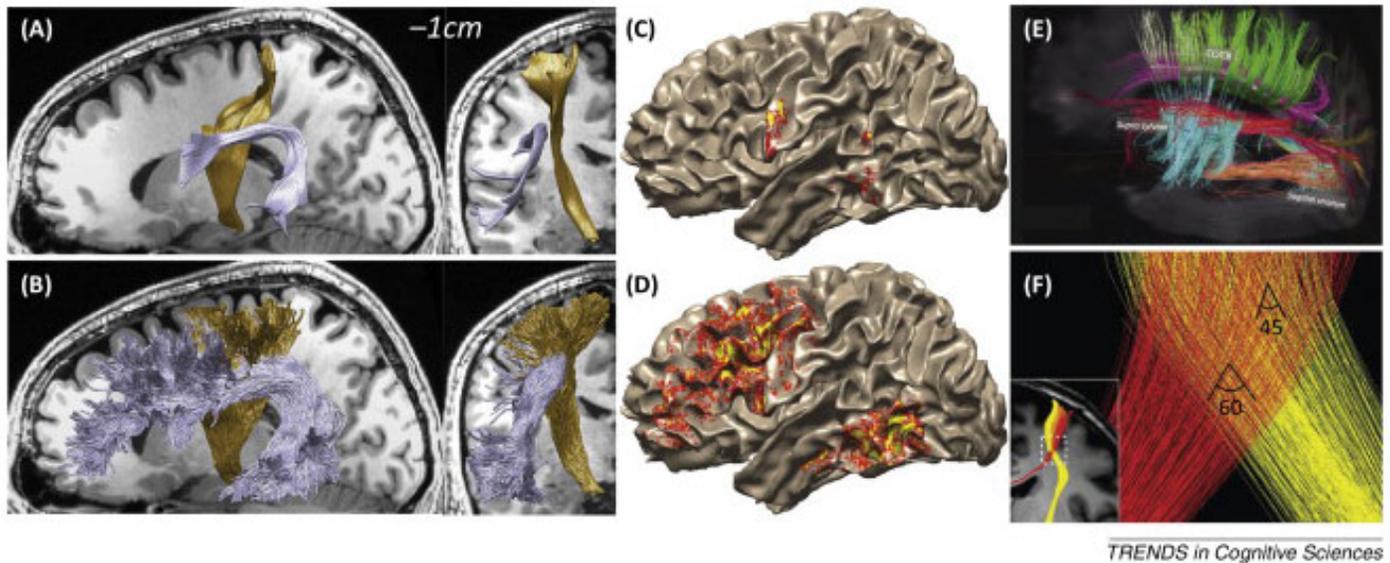
Speaking of techniques, a review in *Nature Reviews Neuroscience* earlier this month highlighted how **research tools shape our theories** about the brain and behavior.

In the late 1800s, for example, the Golgi staining method allowed researchers to study single neurons under a microscope. This advance led to the notion that individual neurons are the functional units of the nervous system — a theory known as the ‘neuron doctrine.’ Now techniques that show **neurons working in networks** are revamping the field of neuroscience, according to **Rafael Yuste**, professor of neuroscience at Columbia University in New York City.

Focusing on networks instead of individual neurons “may help us to take a fresh look at data, reveal novel phenomena, and perhaps help generate a unified theory about how neural circuits

give rise to behavior and mental or pathological states,” Yuste wrote in the review.

Pretty pictures



The beautiful illustrations in neuroscience papers serve an important purpose, helping researchers to visualize complex relationships between the brain and behavior. A review published last week in *Trends in Cognitive Sciences* highlights the **tremendous amount of work** that goes into crafting one meaningful image. It also provides nine helpful tips for creating cool visuals, and six inspiring examples.

Public perception

As autism awareness has increased over the past decade, some dangerous misconceptions are beginning to fade. Still, a study in this month’s issue of the *Canadian Journal of Psychiatry* suggests that clinicians still have **a lot of myth-busting to do**.

The study looked at newspaper coverage of autism treatments between 2004 and 2013 and found more mentions of alternative treatments than empirically supported ones. More than half the articles about these alternative therapies, which ranged from **supplements** to the widely debunked **chelation therapy**, provided favorable reviews despite a lack of evidence supporting their effectiveness.

Sharing is caring

Science can be cutthroat. Researchers spend years collecting data, keeping the information under wraps in the fear that they might be scooped. Even after publishing their papers, many researchers cling tightly to their raw data, concerned that an independent analysis would generate contradictory results.

A study in Wednesday's *International Journal of Epidemiology* drives home the dangers of this mindset. The reanalysis of newly released data from a 2004 study on deworming in Kenya **revealed several major flaws**. Had the researchers released the data a decade ago, these flaws might have changed the way millions of children in impoverished parts of the world were protected from worms.

"Independent reanalysis can improve the results of clinical trials, and help us not go down blind alleys, or give the wrong treatment to the wrong people," **Ben Goldacre**, author of the book "Bad Science," **wrote in an op-ed** appearing Wednesday in *BuzzFeed*. "And yet, this kind of independent check is almost never done. Why not? Partly, it's resources. But more than that, when people do request raw data, all too often the original researchers duck, dive, or simply ignore requests."

Although the study centers on deworming, there's a lesson here for autism researchers. Sharing data protects the people who matter most — those you are working to help.
