

SPOTTED

Trumping science; Brexit blowback; baby brains

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Trumping science

With the presidential inauguration just one week away, many are wondering how the new administration will affect science in the United States.

A story in *STAT* this week examines **how Donald Trump and Barack Obama differ on scientific issues** such as disease control and biomedical research. The piece points out that the president and president-elect had very different reactions to the Ebola outbreak in 2014. Whereas Obama responded calmly, Trump suggested health officials were downplaying the risks. “Ebola is much easier to transmit than the [U.S. Centers for Disease Control and Prevention] and government representatives are admitting,” he said, calling for a ban on all flights to Africa.

Another warning that conspiracy theories may trump evidence for the president-elect came this week when **Robert F. Kennedy, Jr.** said he had been asked to chair a **commission on vaccine safety**. Kennedy has long pushed the vaccine-autism myth.

“I am confident that the president-elect could not have found someone less qualified for this role,” **David Mandell**, professor of psychiatry and pediatrics at the University of Pennsylvania in Philadelphia wrote in a Viewpoint for *Spectrum*.

SOURCES:

STAT / 09 Jan 2017

Obama vs. Trump: 5 ways they clash — or don't — on health and science

<https://www.statnews.com/2017/01/09/obama-vs-trump/>

Brexit blowback

The United Kingdom has yet to leave the European Union after voting to do so last June. But the impending departure, dubbed 'Brexit,' is weighing heavily on the minds of scientists, according to a *Nature* poll published Monday.

About 42 percent of professors and lecturers in the U.K. say the vote has made them consider **leaving the U.K. higher-education sector**, according to the poll. Non-U.K. university staff feel more compelled than U.K. natives to ditch academic posts based in Britain, with 76 percent of these individuals reporting they're more likely to consider alternative careers in the wake of the referendum.

Some researchers **forecasted this sentiment** in a *Spectrum* story about Brexit published late last year. **Simon Baron-Cohen**, director of the Autism Research Centre at Cambridge University, feared the move could make non-U.K. scientists feel insecure and unwelcome.

Brexit threatens to strain collaborations and drain funding opportunities for U.K. scientists. It could also spawn administrative headaches for researchers who suddenly need visas and work permits to do their jobs.

SOURCES:

Nature / 09 Jan 2017

Brexit vote drives U.K. academics to think about leaving

<http://www.nature.com/news/brexit-vote-drives-uk-academics-to-think-about-leaving-1.21259>

Baby brains

Preterm babies show atypical patterns of brain activity before birth, according to one of the first functional magnetic resonance imaging (fMRI) studies of **fetuses in the womb**.

The findings, published Monday in *Scientific Reports*, may offer clues to why **preterm babies** are more likely to have autism than are those born close to or on their due dates.

"Harnessing the power of these advanced tools is offering us for the very first time the opportunity to explore the onset of neurologic insults that are happening in utero," **Catherine Limperopoulos**, associate professor of neurology at George Washington University School of Medicine in Washington, D.C., told *Science*.

The researchers scanned 32 women in their second or third trimester of pregnancy. Fourteen of

the women went on to deliver before 35 weeks of gestation. The scientists found that in the womb, babies born preterm showed reduced synchrony between a brain area involved in language processing and other regions of the brain.

SOURCES:

Scientific Reports / 09 Jan 2017

Weak functional connectivity in the human fetal brain prior to preterm birth

<http://www.nature.com/articles/srep39286>**Science** / 09 Jan 2017

Pioneering study images activity in fetal brains

<http://www.sciencemag.org/news/2017/01/pioneering-study-images-activity-fetal-brains>

Facing forward

Another imaging study, this time involving infants, reveals that babies show patterns of activity in brain areas that **respond to faces** that are **similar to patterns seen in adults**.

The findings, published Tuesday in *Nature Communications*, suggest that the cerebral cortex, at the brain's surface, "is already starting to have a bias in its function," lead researcher **Rebecca Saxe**, professor of cognitive science at the Massachusetts Institute of Technology in Cambridge, Massachusetts, told *Quanta*.

Saxe's son Arthur is one of nine infants included in the study. Saxe lay with Arthur in the MRI machine, soothing him as he watched movies of faces, scenes and random objects on a screen inside the scanner.

"Some of those days, he didn't feel like it, or he fell asleep, or he was fussy, or he pooped," Saxe told *Quanta*, listing the many reasons that MRI studies of infants can be cut short. "Getting good data from a baby's brain is a very rare occurrence."

SOURCES:

Nature Communications / 10 Jan 2017

Organization of high-level visual cortex in human infants

<http://www.nature.com/articles/ncomms13995>**Quanta** / 10 Jan 2017

Infant brains reveal how the mind gets built

<https://www.quantamagazine.org/20170110-infant-brains-reveal-how-the-mind-gets-built/>

Mind reading

Imaging isn't just for babies, of course. A new book, "**Sex, Lies, and Brain Scans**: How fMRI Reveals What Really Goes on in our Minds," explores the tool's promise for understanding the brain — as well as its technological pitfalls. In the book, the authors ask: Will machines one day allow us to read a person's mind?

"That may just be a matter of time," **Russell Poldrack**, professor of psychology at Stanford University in California, writes in a **book review** published Wednesday in *Nature*.

Poldrack, who once **scanned his own brain** twice a day for 18 months, says machine-learning methods may eventually allow researchers to guess what a person is thinking based on his or her brain activity. The ethical implications of this are wide ranging.

"Will we see dystopias such as that in Steven Spielberg's 2002 film 'Minority Report' — in which people are arrested for crimes that they have not yet committed?" Poldrack writes. "The issues raised in this book provide a good grounding for thinking about that particular brave new world."

The book comes out 19 March.

SOURCES:

Nature / 11 Jan 2017

Neuroscience: The risks of reading the brain

<http://www.nature.com/nature/journal/v541/n7636/full/541156a.html>

Job news

Making a career move? Send your news to jobmoves@spectrumnews.org.
