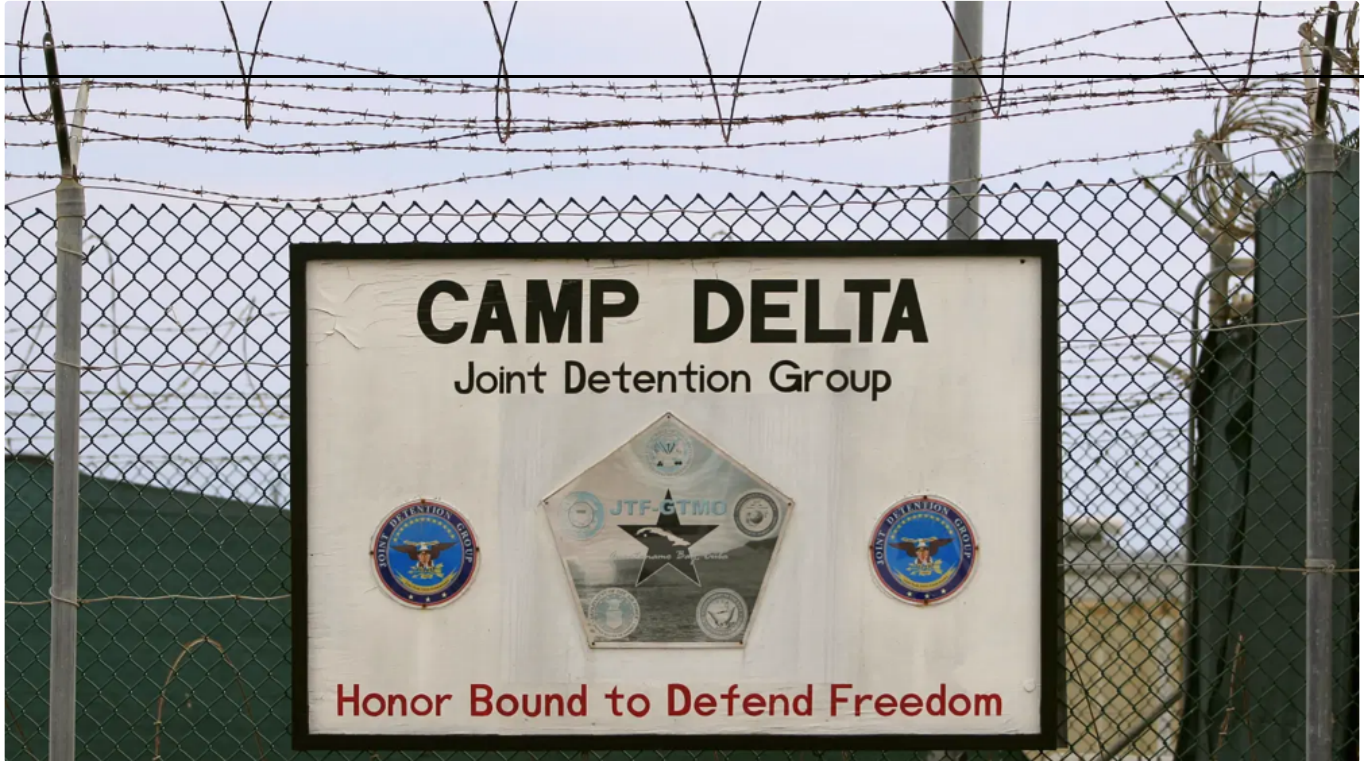




Neuroscience proves torturing terrorists won't keep us safe



REUTERS/BOB STRONG/FILES

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By **Vivian Giang**

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Seven years after US president Barack Obama put an end to his predecessor's extreme CIA interrogation techniques, torture has re-entered American politics. Defying the position of the current CIA director as well as national and international law, Republican frontrunner Donald Trump told CBS's "Face the Nation" in March that the US needs "to play the game the way

[ISIL is] playing the game.” He has previously said in debates that he would “bring back a hell of a lot worse” than the now-banned tactic known as waterboarding.

During waterboarding, victims are restrained on a bench with their feet elevated above their heads, while a cloth is placed over the mouth and nose. Airflow is restricted for around 20 to 40 seconds as water is poured onto the cloth, which simulates the feeling of drowning. Some, including Ted Cruz and CIA ex-chief Michael Hayden, argue that waterboarding does not meet the United Nation’s definition of torture. Even if that were true, the technique should be banned for a more impartial reason—it doesn’t work. Ethics aside, science tells us that it has no value as an intelligence-gathering tactic. Indeed, waterboarding can actually *lessen* the brain’s ability to extract memory.

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Shane O’Mara, a professor of experimental brain research at the University of Dublin’s Trinity College and director of its Institute of Neuroscience, has dedicated the last few years to studying the brain under extreme interrogation conditions. As O’Mara notes in his new book, *Why Torture Doesn’t Work: The Neuroscience of Interrogation*, no matter what your moral or legal position, “torture undermines the very neurocognitive mechanisms requisite for recalling veridical information from memory.”

“When I was reading [the Torture Memos, which was released

by Obama in 2009], it occurred to me that each and every one of those procedures were the kinds of things where if you were a malevolent psychologist and you wanted to destroy the fabric of memory, this is what you would do,” he says. “It was just about the worst possible means of retrieving information from people’s memories.”

To understand why torture fails to produce information, we must first understand how recall information is stored in the brain. Our memories are stored in a complex network that connects the brain’s frontal lobes, temporal lobes, and a region deep in the brain known as the anterior thalamus. But accessing those memories is not as easy as we might believe. Memories are not simply recorded and stored forever like titles at a video store. They are fragile and subject to revision, according to O’Mara. Instead of thinking of memories as videotapes, it’s more accurate to think of them as vivid “snapshots” based on emotions and circumstances. Consequently, we should expect our memory to be fluid and modifiable.

A tortured brain isn’t a truthful one

For centuries, physical and psychological pain has been used in an effort to loosen tongues. Medieval societies were infamous for the many ingenious and brutal devices developed for this macabre purpose. But whether utilizing a medieval rack in the 17th century or the infamous hoods used by US soldiers in Abu Graib in 2003, torture is most effective at producing false confessions.

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shown to make people five times more likely to make a false confession.



Of course, you don't need to be tortured to make a false confession. The Innocence Project says one in four people wrongfully convicted in the US and later exonerated were convicted because of a false confession or incriminating statement. Even mild sleep deprivation has been shown to make people five times more likely to make a false confession, according to a recent study from researchers at Michigan State University.

Why? It all comes down to neurological consequences of stressors.

“The effect of chronic stress on the hippocampus [the portion of the brain responsible for memory, learning, and emotions] is hypotrophy—it causes the hippocampus to shrink, along with deficits in the function it supports (namely, memory),” O'Mara writes in his book.

This means techniques that involve repeated stress shut the brain down as the victim's focus narrows to survival—how can he or she stop the experience as quickly as possible.

The art of the confession

Yet Americans have long believed in the integrity of confessions. The myth of the forced—yet reliable—confession is a classic trope in spy movies. Meanwhile, American police officers are trained in a process called the Reid Technique, a method of questioning where interrogators look for signs of

anxiety in their subjects, such as folding arms or a shifty gaze. Developed in the 1950s, critics argue that the Reid Technique is based on science that is no longer credible. Still, even educators are allegedly using the technique to interrogate students, as reported by *The New Yorker*.

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Instead of trying to force confessions out of people, O’Mara suggests a gentler, more informed approach. “What you need are professionals who know what they’re doing, who know how easy it is to contaminate the kind of evidence that you get during a confession just through leading questions,” he says.

After all, it takes clinical psychiatrists and psychologists multiple years of study and hundreds of hours of training to understand the kinds of questions that may help people recall stored information. As it turns out, asking open-ended questions in a respectful, friendly fashion is astonishingly effective at getting people to speak.

Professional interrogators should use this information to their advantage. Despite the ongoing use of torture and extreme interrogation, O’Mara believes developments in brain science will eventually convince more governments to change their methods. Ultimately, these types of decisions cannot be left to popular opinion, especially not when cultural depictions of “effective torture” remain popular. A recent Reuters poll found that two-thirds of Americans still believe the use of torture on suspected terrorists is sometimes justified. But while Donald

Trump may be following the will of some people, he's simply not on the correct side of science.

Correction: An earlier version of this post incorrectly identified ex-CIA director Michael Hayden.