Lying Appears to Make It Easier to Tell More Lies

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Is lying a slippery slope—bullshit begets bullshit? When we tell one lie, in order to maintain that lie, we're so often forced to lie again. A lie is a discontinuity in reality, a fabrication isolated from real-world causes and effects. Even the simplest, most innocent lie can lead to the creation of supporting lies, which then necessitate their own supporting lies. And soon enough we've spun an actual web of fictions.

As it turns out, there may be a neurobiological analog to this cascade of untruth. According to a paper (http://nature.com/articles/doi:10.1038/nn.4426) published Monday in *Nature Neuroscience*, telling lies repeatedly appears to have the effect of numbing or conditioning the brain to further

dishonestly. This was uncovered in a set of experiments involving 80 participants in the UK, who were given tasks rewarding varying degrees of lying.

The central mechanic of the tasks involved one participant advising an actor (who they thought was another participant) as to the amount of money contained in a jar of pennies (which the participant had more accurate information about than the actor). In some versions of the task, the participants were rewarded when the partner's estimate was accurate, while in others they were rewarded when the partner made overestimates. So, sometimes the participant was incentivized to lie to the partner, while in others they were incentivized to tell the truth.

> "The amount by which participants lied got larger and larger."

"The nice thing about this design is that it allows us to quantify how much participants lie in each trial," study co-author Neil Garrett said in a press briefing last week. "When we looked at the data, what we discovered is that the amount by which participants lied got larger and larger. They started with small lies, and this grew to be quite large lies." It was difference between around 1£ of overestimation in the beginning and nearly 8£ by the end.

This is pretty obvious, of course. We get away with one lie, and the next becomes easier, if not necessary. What Garrett and colleagues wanted to know is whether or not this increasing ease has a biological component.

"We suspected that there may be a basic biological principle of how our brain works that contributes to this phenomenon," said co-author Tali Sharot, director of the Affective Brain Lab at University College London, at the briefing. It's called emotional adaptation.

The idea is that when you first encounter an emotional stimuli, let's say a photo of a mutated body, you have quite a strong emotional response. The neurons in your amygdala, the part of the brain responsible for emotional processing, fire quite fiercely. If you see the photo again and again and again, your brain slowly adapts over time, the neurons quiet down. You no longer have such a strong emotional response. This holds for many other sensory experiences.

Twenty-five of the original 80 participants were evaluated in a second phase of the study using fMRI brain scans. Generally, what they found is that as a participant told more and more lies, the amount of corresponding neural activity in the amygdala decreased. As participants told lies of increasing

magnitude (overestimating the contents of the jar more and more), the less the amygdala lit up.

Though obvious, it may be taken as a small reassurance that these findings appear *on average* among a diverse pool of participants. Some people lie a lot and some don't. Generally, those that lied more in the study self-reported that they were more likely to be dishonest in real-life (a finding that has yet to be published, but was discussed in the briefing). We are not all condemned to dishonesty.

But we are also not invulnerable. Garrett emphasized the point that small lies can be dangerous for the simple reason that every successful lie represents a biological predisposition to telling a further, perhaps greater lie. We now have empirical evidence, arguably the first of its kind, for that escalation. It may well prove true as well for risk-taking and violent behavior.

You can make your own connections to contemporary politics.

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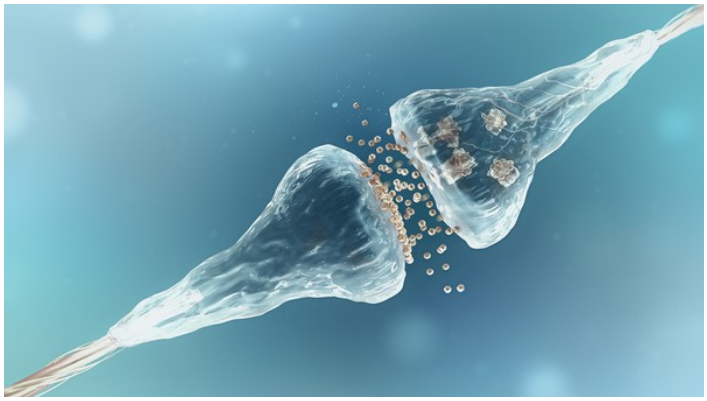

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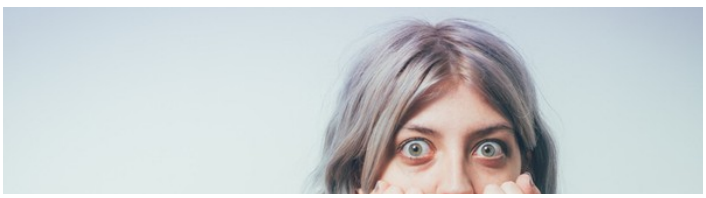

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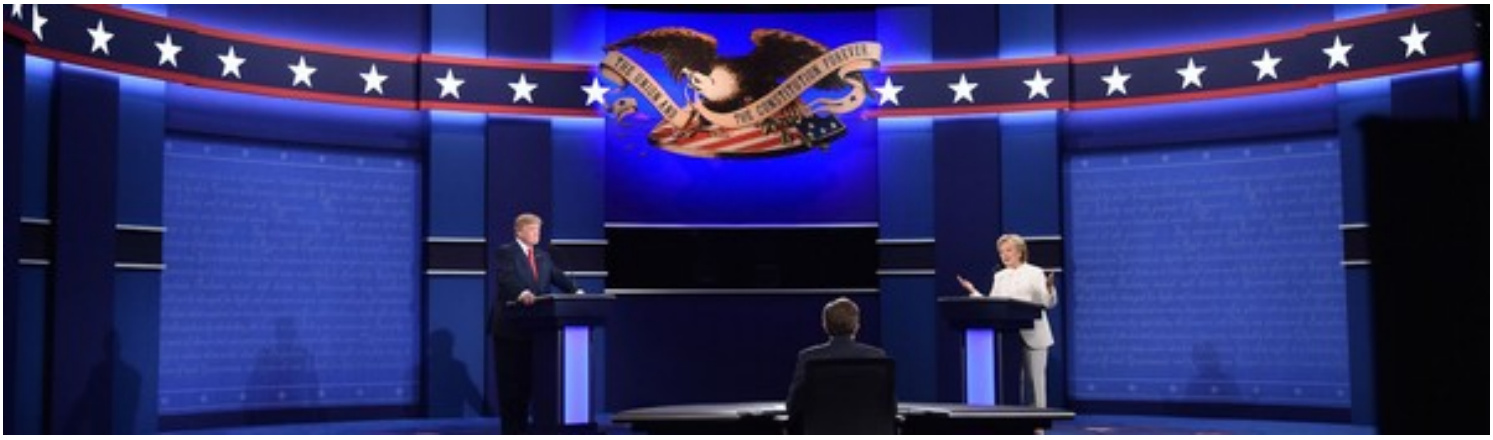

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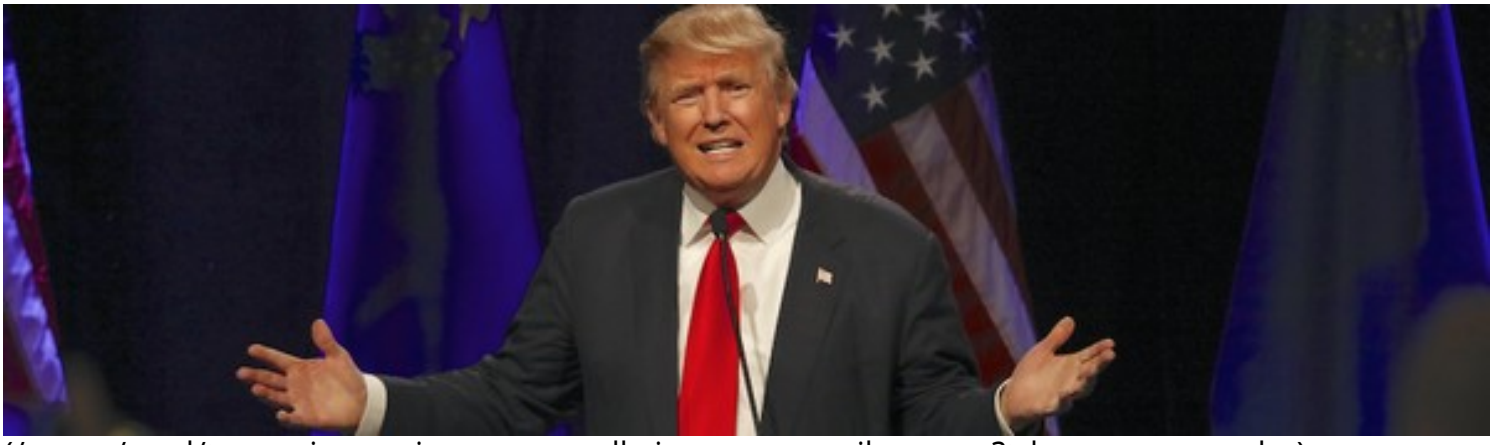

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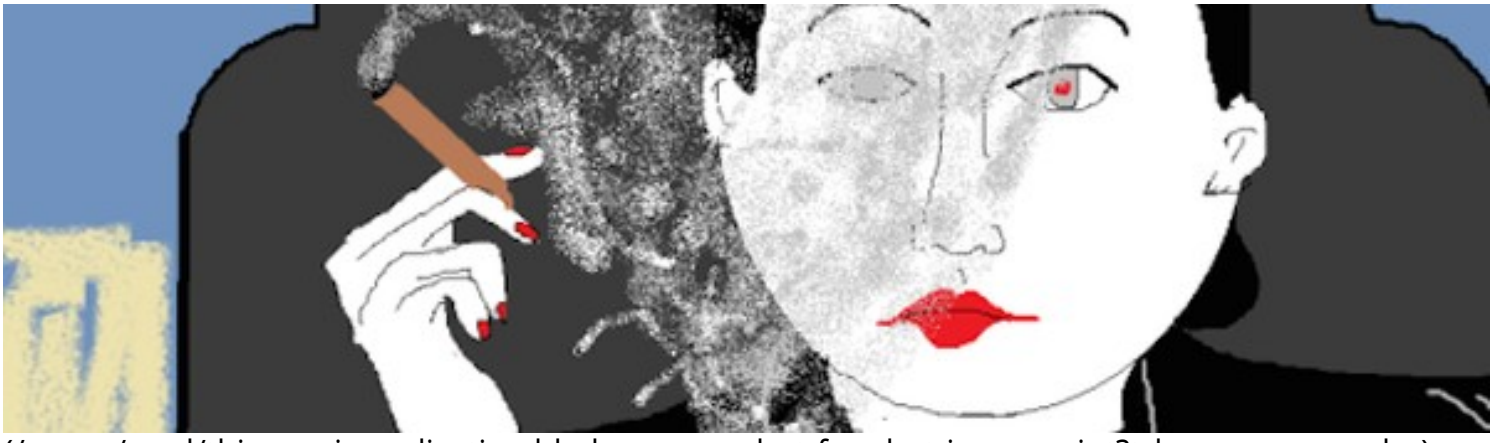

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