Liar Liar, Brain on Fire: The Science of Lying

Welcome to the age of the fabulist. Facts are more accessible than ever, yet charlatans are thriving. Are humans getting more shameless? Or is brain science showing us that we just need something to believe in?

BY PAUL TULLIS PUBLISHED: APR 30, 2023

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In the late 1990s Christopher Rockefeller was married to a former Playboy Playmate, driving a Ferrari, and living in Los Angeles, where he had booked himself an entire floor at the Beverly Wilshire. After growing bored of having his picture taken beside blondes with sculpted abs by D-list paparazzi, the French-born heir to an oil fortune moved back east, and in 2000 he lived on Further Lane in East Hampton, where he enjoyed telling people about the Pissarro and the Chagall in his art collection and taking calls from President Bill Clinton on his cell phone.

Except that he didn't live on Further Lane, he had no art collection to speak of, and he had probably never met Bill Clinton. He lodged in only one room at the Beverly Wilshire, not an entire floor, as he would tell *60 Minutes* in 2002, and he stiffed the hotel for $60,000. The marriage to the Playmate—that might have been real.

And his name wasn't Christopher Rockefeller. It was Christophe Rocancourt, and in 2003 he would be sentenced by a United States federal judge to 46 months imprisonment for wire fraud and scheming to defraud, and he was ordered to pay $1.2 million to people he had fleeced.

Original Mockefeller Christophe Rocancourt at home in France, 2015.
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Rocancourt sustained his grift with a dizzying array of lies. One victim told *60 Minutes* he had promised to help her financially—he was a Rockefeller, after all—but first he just needed a little bit of cash upfront. Then he disappeared.

“I'm sorry, you see a French guy, and I'm telling you I'm a Rockefeller,” the remorseless Rocancourt would tell the producers of the limited series *Inside the Mind of a Con Artist* decades later. “All because you're greedy, you just don't want to see. Blame yourself.”

Lying is both very common and very rare. Nearly everyone does it, but very few do it as frequently as Rocancourt. Timothy Levine, chair of communications studies at the University of Alabama at Birmingham, has been asking people for decades how often they lie. Most people claim zero or one lie in the past 24 hours. (The surveys are anonymous, so there's no incentive to lie about how often one lies.) “But there are a few who lie a whole lot,” Levine says. “If you have a big enough data set, they'll show up, and they account for the vast majority of lies.” As in crime, many sales-driven businesses, and pitching magazine articles, the Pareto principle seems to apply: 20 percent of the actions drive 80 percent of the consequences.

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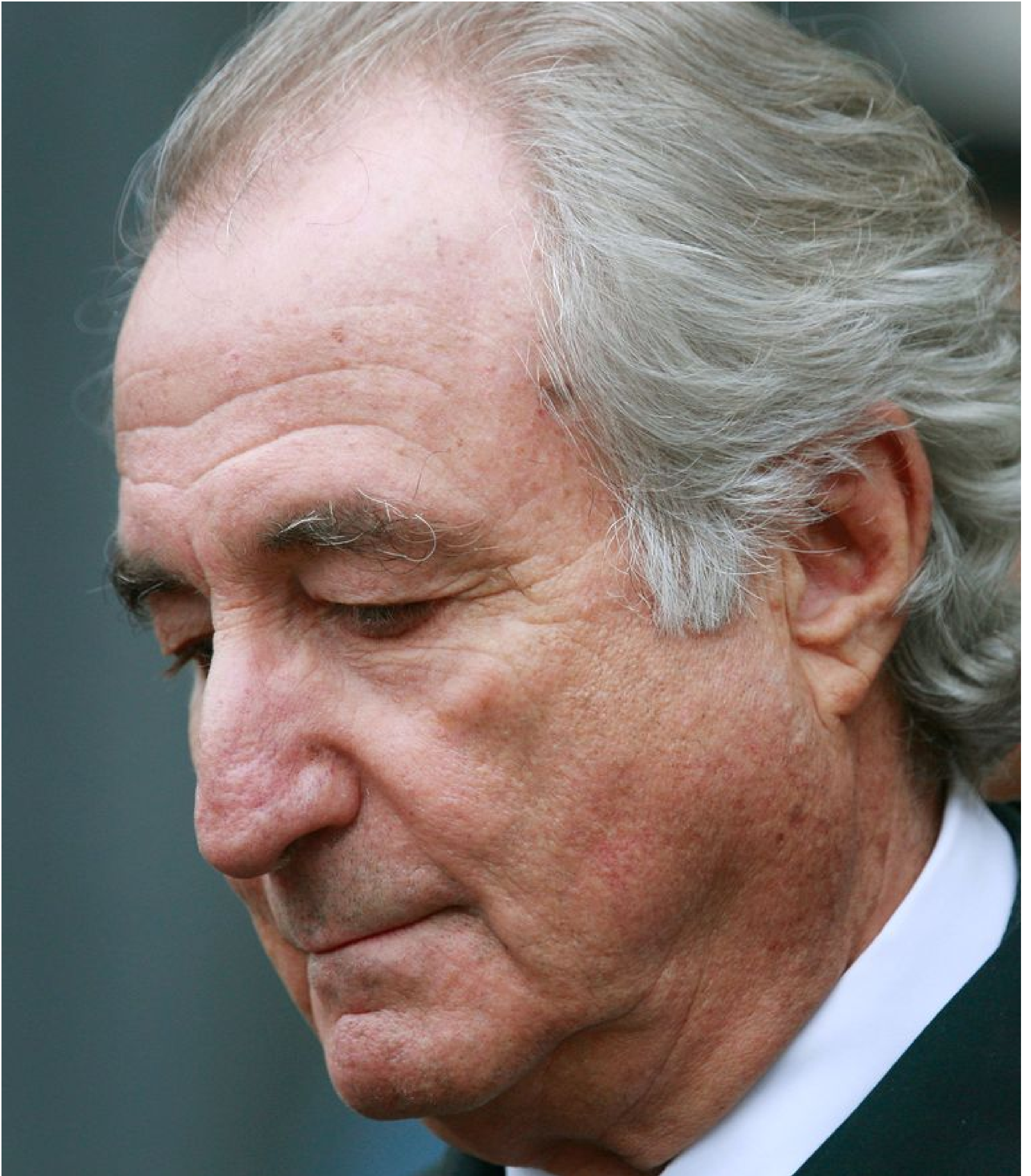
themselves.

Rocancourt began his fabulizing in his native France, and he was suspected of being involved with a jewel theft in Switzerland, but he executed his most outlandish cons in the United States. Since before the country's founding, America has been a place people come to invent and reinvent themselves. Typically this has stemmed from a desire to free themselves of the constrictions of class or religion prevailing in their native countries; many people arriving on Ellis Island (who would go on to lead honest lives) needed to lie about their age, financial station, or relatives to enter the country. It's almost a corollary to American individualism, that distinctive characteristic noted as far back as Tocqueville, that helped forge the settling and mythmaking of the West. To be bound to no one and accountable only to oneself is fertile ground in which to plant myths of one's own making.

New York seems to attract a disproportionate share of the prevaricators, scammers, fraudsters, cheats, and fabulists who have garnered headlines (which is ironic considering how much New Yorkers enjoy deriding California as full of phonies). In the 1980s David Hampton, claiming to be the son of Sidney Poitier, charmed his way into free lodging in the homes of Manhattan socialites, a story that was transformed into *Six Degrees of Separation*, a Pulitzer-finalist play and then a film that starred Stockard Channing and launched the taken-seriously middle portion of Will Smith's career. More recently fake German heiress Anna Sorokin told fashionistas and art world types in Manhattan in the 2010s that she was coming into a trust fund soon and passed off forged wire transfer receipts to run up bills at fancy downtown hotels and book a private jet to Warren Buffett's investment conference, according to reporting by *New York* magazine.

Also in the past decade, and also in New York, "Pharma Bro" Martin Shkreli "essentially ran his company like a Ponzi scheme where he used each subsequent company to pay off defrauded investors from the prior company," a state prosecutor said at a press conference announcing Shkreli's arrest for securities fraud. He was sentenced to seven years and served four. And—trigger warning—let's not forget Bernie Madoff.



Let's not forget Bernie Madoff.
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Though it might not be true that we are living in an era of Peak Lie (Levine's surveys from 2021 indicate that people aren't lying any more than they did in 2009), habitual liars like Rocancourt seem to be getting even more extravagant. The fabricators mentioned so far may have skimmed hundreds of millions of

dollars off various individuals and businesses, having built their thefts on foundations of lies, but in sheer audacity none of them approaches George Santos (also a New Yorker).

The Republican congressman now representing some of Long Island's toniest old money suburbs, including Glen Cove, Sands Point, and Oyster Bay, lied during last year's campaign about where he went to high school, where he graduated from college (as well as that he *had* graduated from college), where he worked, how he made money at a Florida investment firm (one that the SEC would later accuse of being a Ponzi scheme like Madoff's), and his charitable activities (which—and this will not surprise Christophe Rocancourt—appear to have been nonexistent). In brazen insults to victims and survivors of the greatest cataclysm of the 20th century and the most heinous terrorist attack in U.S. history, Santos lied about how his mother had died (from illness related to the 9/11 attacks), and said that his grandparents were Holocaust survivors. The New York State Democratic Party apparently never thought to check any of these claims, which were revealed as false only through reporting by the *New York Times* after the election.

Lying is a slippery slope, and also a cautionary tale. The more you do it, the easier it becomes.

Although lying at such rates is exceptional, it's a slippery slope, and also a cautionary tale. Because the more you do it, the easier it becomes.

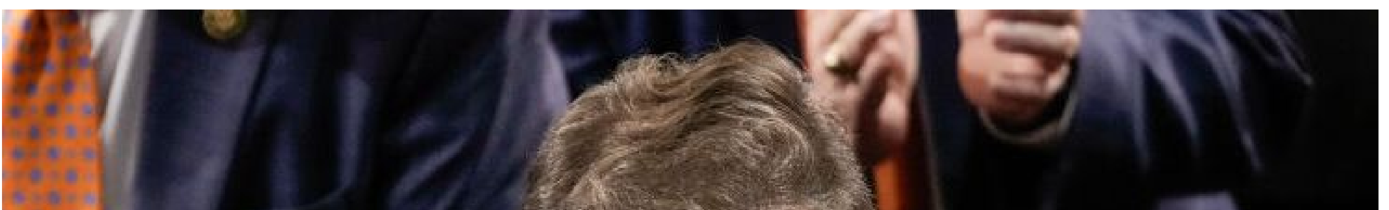
We are not alone in lying. Animals use deception to manipulate the behavior of peers, and not just the smart ones like chimps, who have been observed directing more dominant chimps to inferior food in order to keep tastier morsels hidden. Among male green tree frogs, smaller specimens lower their voices to sound bigger, and shrikes, a type of songbird that uses false alarms to divert rivals from food or potential mates, lie as a matter of habit. How often a primate species lies is

correlated with the size of its neocortex, the part of the brain where higher order functions like spatial reasoning occur. (This is true only at the population level; it is not evidence that Donald Trump is a genius.)

Human primates lie for all kinds of reasons: to conceal faults or transgressions, to avoid doing things we'd rather not do, for financial gain. We lie to help—and to harm—others. We are socialized to believe lying is wrong, so we justify it: We deserve this. *They* deserve this. We'll get away with it. It doesn't matter anyway. Whether to lie is a rational decision—literally, because it's based on ratios. Do we have more to gain by telling the truth or by lying? And what is the risk-reward calculation if we are caught? Is the potential reward sufficient to justify a high risk? Conversely, if the reward is low, the risk also needs to be low.

> "Lies are successful because there is no reliable system or machine for detecting them."

Mostly, says Robert Feldman, who has studied lying for years at the College of Social and Behavioral Sciences at the University of Massachusetts Amherst, "we lie because it works." Lies are overwhelmingly successful, because there is no reliable system or machine for detecting them. Sometimes people want to be lied to; Feldman offers the example of when people come up to him after he gives a presentation and tell him how fascinating it was. He has no idea if it's true or not, but he accepts it because he would rather believe his audience was rapt. More fundamentally, lying works because of something called "truth bias": We are inclined to assume that when someone communicates with us, they are telling us how they really feel.



George Santos, the current title holder among public liars.
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It’s part of the social contract. Civilization would cease to function if everybody went around bullshitting everyone all the time. “We have to work together to do all the things we do in modern society,” Levine says. So we need a functioning communications system. If we were constantly assessing the veracity of information presented to us, it would impede our ability not only to get anything done, because it would consume time and other valuable resources, but also to cooperate in anything, whether it be as basic as gathering food (see: chimps, above) or as complex as designing a large language model like ChatGPT. Honesty also helps maintain the trust that is essential to relationships that are effective on a social or professional level and rewarding on a personal level.

The truth bias relies on a truism, and yet it lies. Because while society needs truth, individuals need falsity. Feldman published a study indicating that people with better social skills are better liars, suggesting that the ability is a key survival trait. “You learn to tell people what they want to hear, and that makes you a more

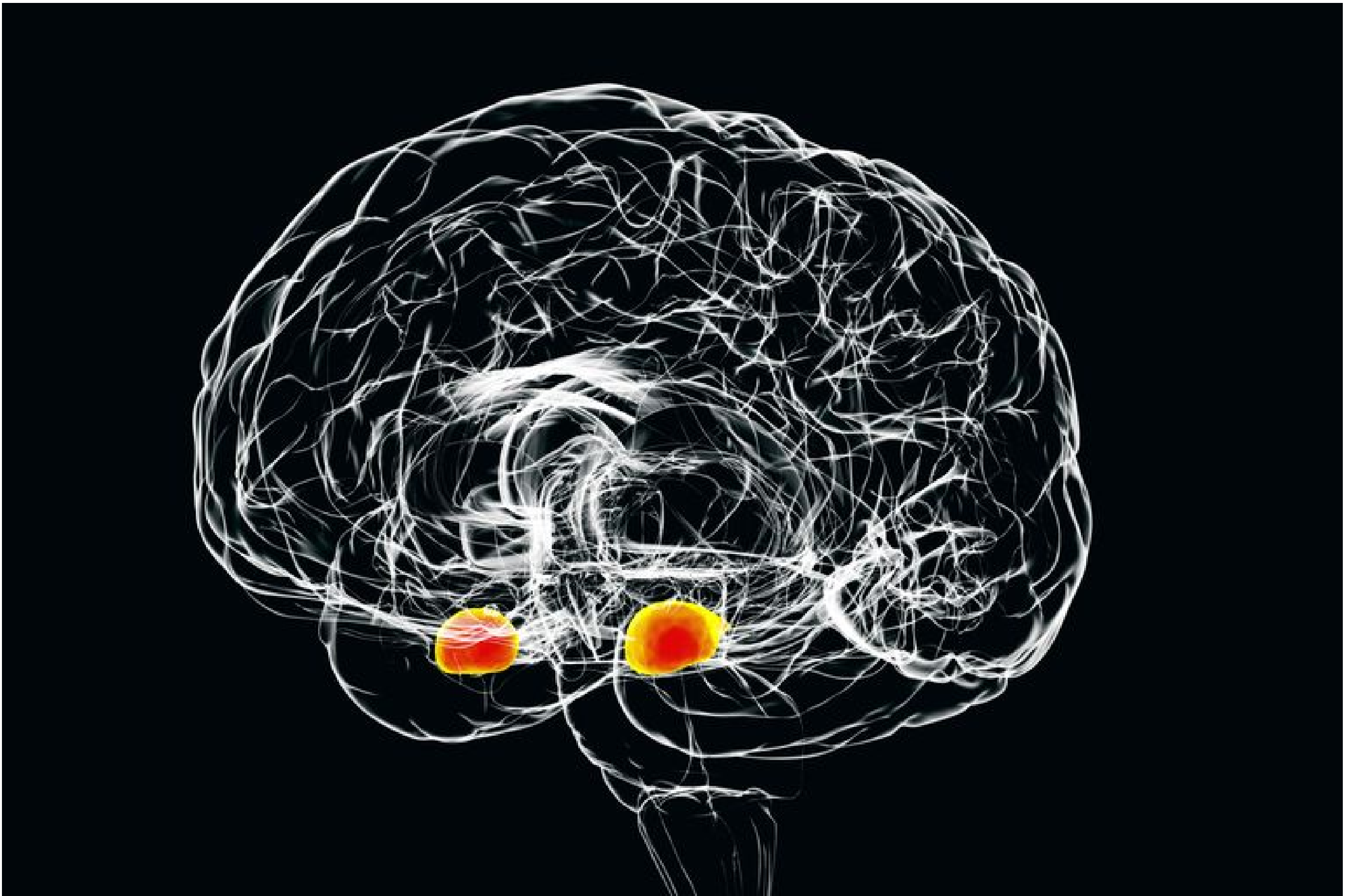
popular person," Feldman says. The rewards reinforce the propensity to lie.

It takes time to develop this skill. Children don't lie until they develop "theory of mind," the understanding that other entities have thoughts different from their own, and the ability to reason as to what those thoughts, feelings, or beliefs might be. (This is why people on the autism spectrum are often unusually truthful and blunt: Many have underdeveloped theory of mind.) So kids start lying (badly) at around three or four. The ability to conceive and maintain plausible lies doesn't develop until the preteen years; teenagers and people in their twenties are most adept. After age 45, for reasons that aren't clear, the skill diminishes.

Lying takes practice, and it becomes less taxing with repetition. In a 2016 paper in *Nature Neuroscience* (the gold standard journal in the field) Tali Sharot and colleagues at University College London used functional magnetic resonance imaging to observe changes in blood flow to the brain's emotional centers as people fibbed. Sharot found that with repetition the response in the brain's emotional system diminished. That decrease was associated with an increase in people's tendency to lie more and more for their own benefit. Indeed, they lied more as the experiment continued. "Because the emotional response goes down, there's really not much to curb their dishonesty, so dishonesty goes up," she says.

Not only does the act of lying, as demonstrated in Sharot's study, change how your brain behaves, there is some evidence that habitual liars have different brains. A small study at the University of Southern California showed that people with a history of repeated lying—we would call them pathological liars if that were actually a clinical term—have more white matter in the brain, the part consisting of sheathed axons, which connect neurons by sending electrical impulses between them. In other words, it's the part involved with communication between different areas of the brain and between the brain and the rest of the body. Looking more closely, the researchers found that the areas of the brain with more white matter were associated with executive functions such as decision making, moral reasoning, and adherence to rules. That's not paradoxical; the greater amount of white matter doesn't mean habitual liars are more inclined to stick to rules and morals. Rather, it indicates that they can communicate more quickly about these

things, whether that means adhering to or ignoring them.



What happens when we lie? Our amygdala, a part of the brain associated with emotion, produces a physical response connected to negative feelings. As lying becomes chronic, the brain adapts and the amygdala response dulls—making it easier to tell even more outlandish lies.

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The finding might mean that regular liars are predisposed to mendacity due to their unusual brain structure (nature, egg) or that the structure developed through practice (nurture, chicken). Either way, it supports other research showing that lying is actually quite hard work; it produces a high cognitive load, in the terminology of neuroscience. Lying is mentally taxing. Imagine you run into someone you find stultifyingly dull, and he asks you to lunch sometime. You must consider whether it's worth it to lie to him, how to appear as if you're telling the truth, what would be a plausible lie you could offer so you can get out of it, what would be a lie requiring the fewest subsequent lies to maintain the original lie, and more—in just a couple of seconds before the delay itself gives away your reluctance.

Researchers have demonstrated this in the lab. Anna Förster and colleagues at the

University of Würzburg in Germany last year showed that when subjects who were paid when they lied on a test were also asked to recall a random string of letters, they lied less frequently.

If lying is such hard work, why do it? Because the brain gives itself a cookie when it lies. A brain imaging study in 2020 showed that the reward systems in subjects' brains were activated as they were deciding to be dishonest and again when they evaluated the outcome of this decision. This confirmed earlier results. A separate study showed that lies we tell to benefit our group as opposed to just ourselves give us a little hit of oxytocin, a hormone that is released during breastfeeding and sexual arousal.

> "Because the emotional response goes down, there's not much to curb dishonesty, so it goes up."

But there is a limit. Research by Dan Ariely, a professor of psychology and behavioral economics at Duke University, shows that while most people lie, only a few lie a whole lot. Experimenters gave subjects the opportunity to steal, but large thefts were rare. Perhaps we want to view ourselves as decent people who conform to social norms; we'll overlook the bartender forgetting to add that second drink to our tab, but we're not about to reach into an untended cash register. And Sharot found in one study that most people actually feel pretty bad about lying when it's at the expense of another person. "The only time we see escalation in emotional response is when you're harming someone else and you're gaining by telling a lie," she says. Even outliers seem constrained by these feelings. Though Madoff only came clean when he was no longer able to meet clients' withdrawals from his fund, Rocancourt would sometimes collapse into fits, weeping uncontrollably, telling his second wife he was a terrible person.

Yet we don't lie nearly as much as we believe the lies of others. The truth bias

leans toward acceptance, and we are really bad at detection even when suspicious. Though Hollywood lies about our ability to detect lies, psychologists and experienced police interrogators can catch mendacity only slightly better than chance would predict, and hardly better than the rest of us. Even when a lie is easily fact-checked, like so many of Santos's, we rarely bother. Because who would have thought he would have the audacity? Clearly such fictions as Santos's would have been revealed, so the eventual humiliation surely wouldn't pass the risk/reward ratio test. (Yes to the first part; the second remains TBD as Santos was still in Congress as this issue went to print.) More than that, perhaps, his story was one voters wanted to believe, one they hoped might reflect well on them if they supported him and if he were to represent them: From immigrant son to Horace Mann to Goldman Sachs—who wouldn't want to believe?

Santos lied mostly about his biography, but political lies are even harder to see through, since they derive power from two sources. One, according to a review of literature by Norbert Schwarz, co-director of the USC Dornsife Mind & Society Center, and colleagues, is that "simple and memorable claims have an advantage over considerations of a more complicated notion or reality." People are idiots, in other words. It's far easier to believe that climate change is a hoax than to grapple with the prospects of reorganizing our entire mobility infrastructure, buying less disposable crap, eating less meat, and the guilt that comes with knowing that our standard of living causes people in poor countries to suffer. But Stephanie Craft of the University of Illinois found in a survey of nearly 400 American adults that the more the respondents knew about the news media, the less likely they were to believe conspiracy theories, even those that aligned with their political ideologies.

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The second source of political lies' power is a simple notion that Sharot elucidated in a paper last year: "The utility of a belief is derived from the potential outcomes

associated with holding it." This also explains the gullibility of Rocancourt's victims; it was obviously alluring to believe that a Rockefeller could turn $100,000 he got from the woman he conned in L.A. into a $4.2 million loan so she could buy the business she had started.

On the other side of the transaction, some habitual liars seem driven to their misrepresentations by a need to rewrite their personal histories. Rocancourt had lived in an orphanage. "You're with 250 children, you wake up in the morning, you get a meal, you go to school, everybody talks about his parents, and you go back—you go back to what?" he said in his *60 Minutes* interview. "You go back to misery." He and other con artists may have lied out of a compulsion to manipulate people toward meeting needs that their parents did not, controlling how people saw them to gain their attention and affection. Perhaps, then, they deserve some measure of sympathy.

Not Madoff, though. That guy had no excuse.

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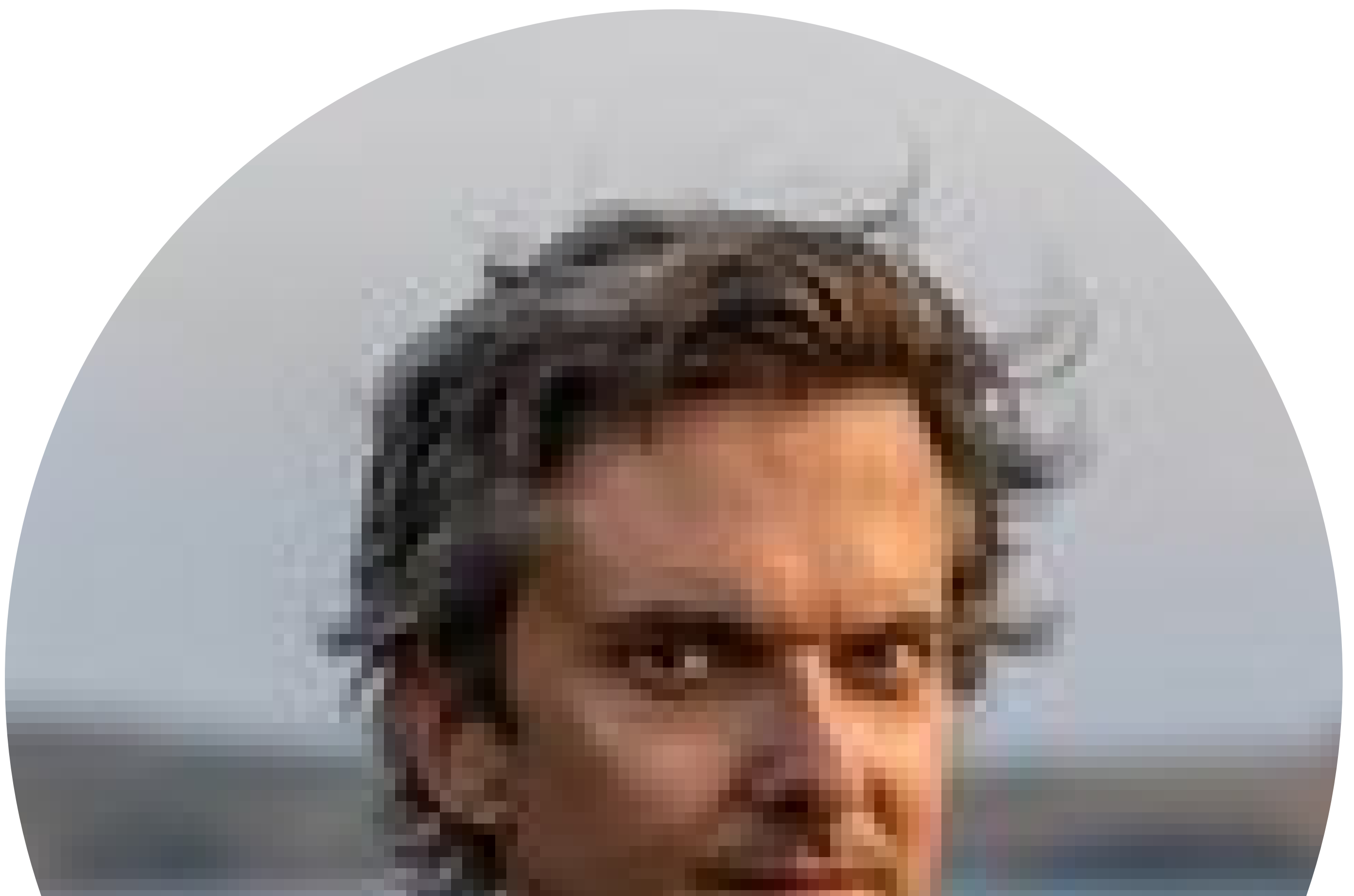

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Paul Tullis has covered science, technology, and other topics for *The New York Times Magazine*, *Scientific American*, *Nature*, *Bloomberg Businessweek*, *Slate*, and many others. His work has won awards from the Society of Professional Journalists, Society of Environmental Journalists, Association of Food Journalists, and others. Born in Chicago, he now lives in Amsterdam with his wife and two daughters.

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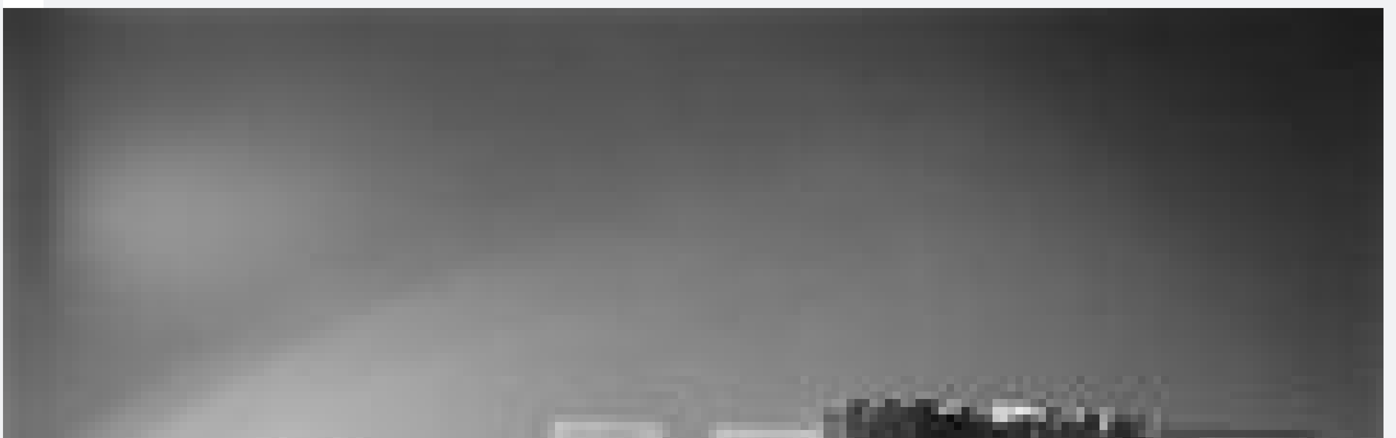

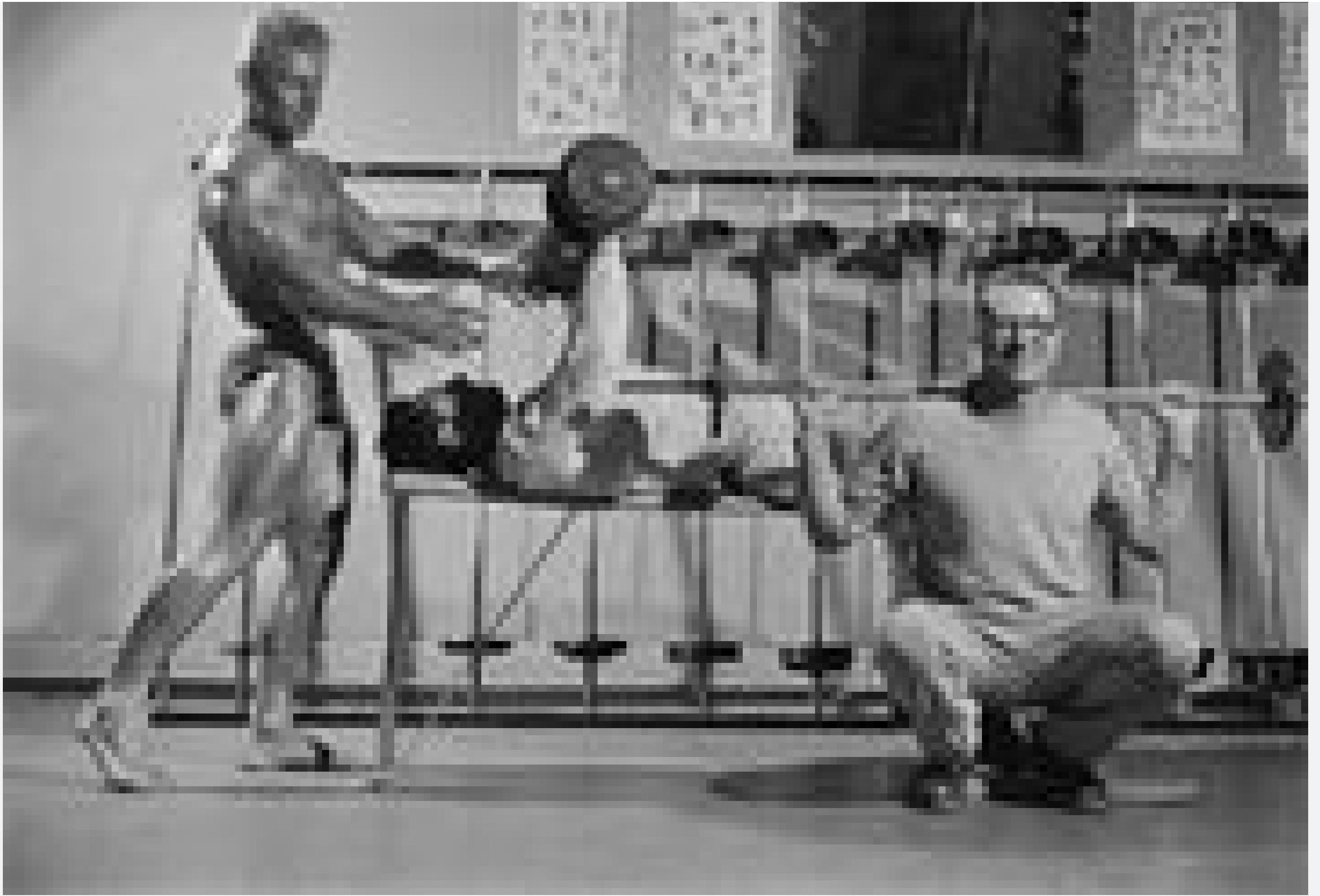

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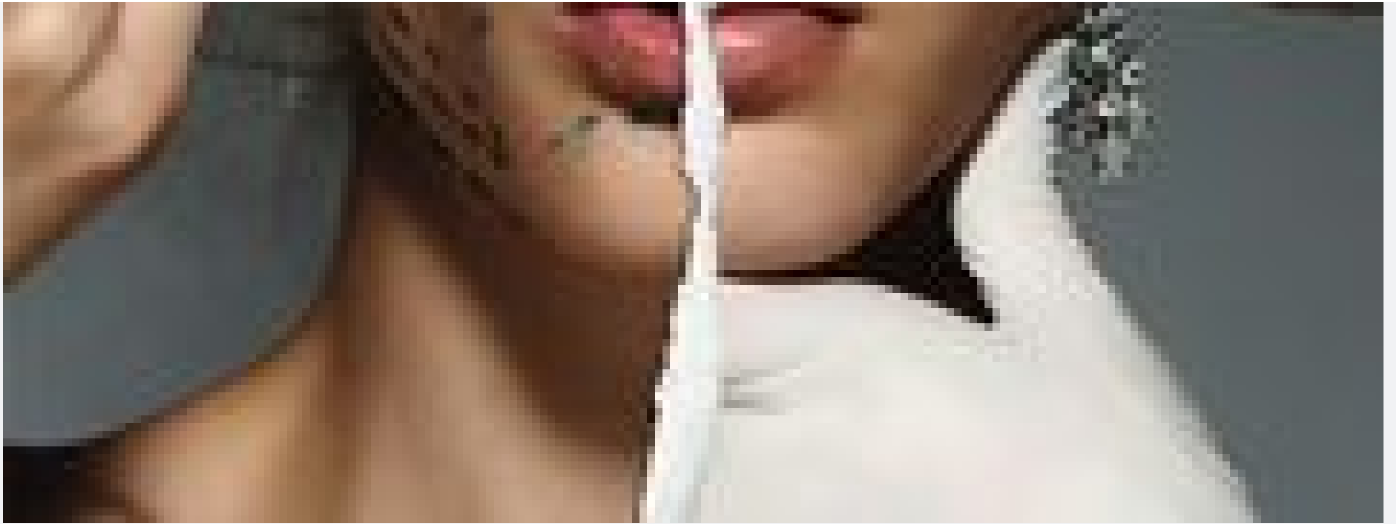

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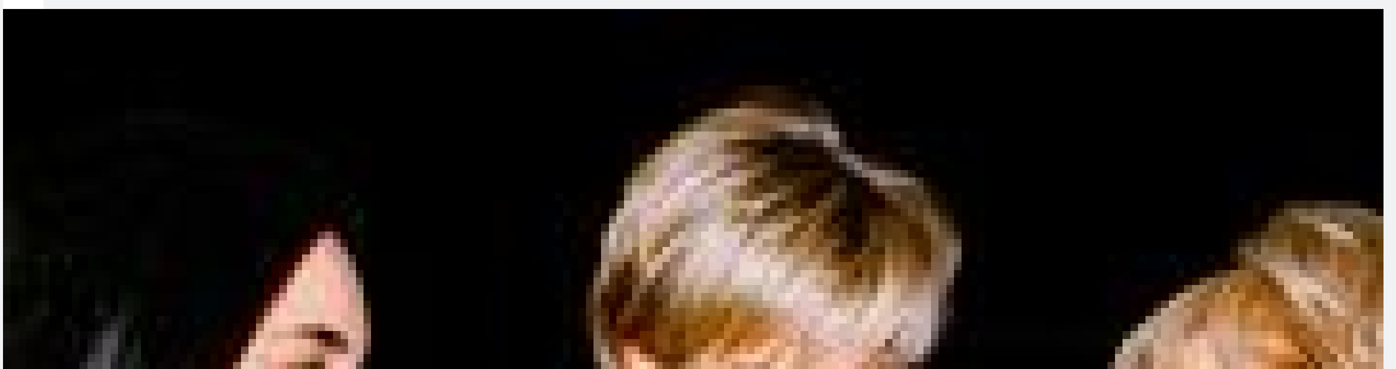

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