The San Diego Union-Tribune

The truth about lying: we live in a golden age of lies — and lie-detecting

Aaron Elkins, a San Diego State University professor, with his creation: Automated Virtual Agent for Truth Assessments in Real Time (AVATAR) (Nancee E. Lewis)

By Peter Rowe

MAY 28, 2018, 8:15 PM

About 20 years ago, UC San Diego's Michael Kalichman began studying the ethics of scientific researchers. A scientist himself — his Ph.D is in pharmacology — Kalichman had no illusions.

He thought.

"I had this loose idea that most scientists were good people," he said, "and a very small percentage were deceptive, lying, cheating, horrible people."

Long pause. "I was pretty naive. Everybody lies."

That's the truth. We lie about how we feel ("Great!"), the chances we'll deliver that project on time ("No problem!"), how a sweetheart looks in parakeet-green golfing pants ("Nice!"). We lie about the overcooked meatloaf, about whether we cruised through that 55 mph zone at 80, about the sweater your favorite aunt knit for you.

Some studies show the average American lies 15 to 20 times a day.

"And we don't think of ourselves as bad people," said Kalichman, who founded UC San Diego's Research Ethics Program in 1997. "To some degree, I'm just going to say this is the human condition."

While fibbing is as old as Cain, we live in a golden age of lying — and lie-detecting. Our "post-truth" society with its alternative facts is also creating new ways to uncover deceit. New high-tech tools measure everything from tell-tale eye movements to revealing patterns in the brain.

Recent developments are so intriguing, some foresee a future in which computers can detect our lies, even our unspoken emotions.

"This is something of a holy grail," said Lawrence Hinman, a University of San Diego philosophy professor emeritus, "to find a way for machines to immediately tell whether someone is lying or telling the truth."

Honesty credits

The spirit behind the Ninth Commandment, "Thou shalt not bear false witness against they neighbor," is one of civilization's building blocks.

"The fabric of our society depends on people more or less telling the truth," Hinman said, "most of the time."

There's the rub. We want the truth, but we also want wiggle room. We tell white lies and rationalize in ways that bend or break the truth.

UC San Diego's Kalichman cited a Harvard study involving students taking timed exams of simple math problems. When the time was up, they were given the answers and told to turn in the paper and receive $1 for each right answer.

After several repetitions, the experiment changed. This time, test-takers were instructed to shred their papers and report the results, again collecting $1 for each right answer.

"The idea was to see whether people would inflate the number they got right," Kalichman said. "Almost everyone did."

The padding, though, was slight. "People probably went through a rationalization: even though I didn't get that last one right, if I had time I *would have* gotten it right, so this is my right score," Kalichman said.

He's found a similar pattern of deception among scientists. A minority of researchers would fudge their findings by small but significant amounts. "They'd think, it I had that one data point," Kalichman said, "it would be so much better."

But the scientific method contains a self-correcting mechanism. Experiments must be reproduceable by independent parties, and results are reported in peer-reviewed journals. This gives Kalichman confidence in the scientific consensus — which could blind him to the occasional report that, while outside the mainstream, may be true.

"All of us have a tendency to discount things that are inconsistent with our world view," he said.

You see this in politics, where strong positions can prove impervious to factual evidence. In 2016, for instance, presidential candidate Donald Trump repeatedly claimed that the United States was the world's most heavily taxed industrial nation.

At the time, personal and corporate tax rates in the U.S. fell below Norway, Sweden, New Zealand, France, Belgium, Denmark and other nations.

Was he lying? "People think there's a larger truth that overrides any falsity in details," Hinman said.

Instances of personal dishonesty — from cheating on our taxes ("everyone else does it") to cheating on our spouses ("I'm neglected") — can also be framed in ways to deflect blame. Often, though, self-deception exacts a cost.

"You use up your, if you will, your honesty credits with other people," Hinman said. "The more you lie, the less credibility you have."

Big Proctor is watching

Are some lies so heinous that the liar must be exposed and punished?

On Wednesday, six families of victims of the 2012 Sandy Hook Elementary School massacre sued Alex Jones for using his "InfoWars" radio show to argue that the bloody Newtown, Conn., incident may have been a hoax.

The commentator and his associates "persistently perpetuated a monstrous, unspeakable lie: that the Sandy Hook shooting was staged," the lawsuit alleges, "and that the families who lost loved ones that day are actors who faked their relatives' deaths."

Jones' initial defense: his comments have been taken out of context, and he has a First Amendment right to free speech.

This new case relies on an old proposition — competing ideas or "truths" should be weighed in an open forum.

"That's one of the theories of deliberative democracy," said Hinman, the USD philosopher, "that by having an open and transparent discussion, we can keep ourselves honest."

Since 1921, though, technology has promised faster paths to the truth. By measuring blood pressure and respiration, the polygraph machine could tell when a subject was lying.

That was the theory, at least, but the lie-detector machine is still so suspect its findings are not admissable in court. Still, the search for an infallible truth-hunting device continues.

Proctortrack, for instance, is meant to halt cheating by students taking online classes. To date this computer program has proctored 1.7 million exams and flagged a staggering 5.5 million violations.

After the software is downloaded, it scans the user's face and knuckles, comparing them against a stored biometric profile to ensure the exam is being taken by the registered student. The program continues to monitor the student until the completed test is emailed to the professor — along with screenshots of any suspicious activities.

This program tracks external signs of lies. These "tells" are familiar to poker players, FBI agents, psychologists and others who study human behavior: a smile that doesn't reach the eyes, a voice pitch that tightens, someone who avoids eye contact or, conversely, is too intent on catching your eye.

Pupil dilation; blushing; a stilted, informal tone — the stress of lying manifests itself in numerous ways.

"You look at all these things in tandem," said SDSU's Aaron Elkins, a researcher who is developing a promising new lie detector. "There's no one thing that is a silver bullet."

Truthful Brain

For years, Elkins has been tinkering with the Automated Virtual Agent for Truth Assessments in Real Time. Meant for airports and border crossings, AVATAR is a kiosk whose computer screen shows a "virtual agent" who quizzes travelers.

Do you have anything to declare?

Are there any fruits or vegetables in your bag?

Are you carrying any weapons?

Your reactions — changes in heart and respiratory rates, pupil dilation, eye movement — are more revealing than your answers, and AVATAR instantly registers these.

"The target we are trying for with AVATAR is 30 seconds, 40 seconds, that's the goal," Elkins said. "It's still a work in progress."

AVATAR relies in part on research by John Kircher, a University of Utah psychologist and a scientist at Converus, maker of EyeDetect. With an infrared camera, this system tracks a subject's eye blink rate, pupil dilation, and other movements.

"When you tell a lie," said Converus spokesman Jeff Pizzino, "you have to think harder and it changes your eye behavior."

While AVATAR is still in development, EyeDetect is on the market, selling for about $4,000. In April a superior court judge in New Mexico agreed to accept EyeDetect test results in evidence during a trial, a first for the technology.

Truthful Brain Corp. has yet to clear that legal hurdle, despite CEO Joel Huizenga insistance that his system is "completely infallible."

Truthful Brain uses a functional Magentic Resonance Imaging machine (fMRI) to photograph the brain while a subject answers questions by pushing "yes" or "no" buttons.

"Intentional lies require more work by the brain," said Huizenga, whose office is in La Jolla. "Blood rushes to part of the brain."

In fMRI scans supplied by Huizenga, the brain of someone telling the truth appears in shades of black and white. Lies show up as red and yellow flares.

As sophisticated as these approaches are, some predict lie-detecting computers that have programmed themselves to sniff out truths we can't imagine.

"The computer's reasoning may no longer be transparent enough for humans to understand how it reached that conclusion," Hinman said. "We will not know why the computer thinks we are not telling the truth."

Better save up those honesty credits.