

That's Funny — but Why? Alan Alda on the Science of Humor

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Alan Alda has starred in more than three dozen movies, at least a dozen Broadway plays, and several prominent television shows beyond his 11 years on *M*A*S*H**. But it's Alda's run as host of the show *Scientific American Frontiers*, from 1993 to 2005, that's most relevant to his off-stage passion: science. Broadcast on PBS, the show brought cutting-edge science and technology to both aficionados and young learners. Alda's hosting role turned him into one of the nation's most prominent advocates for the importance of scientific inquiry, and making it accessible.

The actor found his next platform in 2009, creating a new program at the State University of New York at Stony Brook that helps train science students and professionals on connecting with audiences to better convey their ideas. Called the **Alan Alda Center for Communicating Science**, the venture in 2012 launched an annual competition that pits scientists against one another to best

explain a particular concept to 11-year-olds. **Kids judge.** Winners have used humor and animation to explain fire (**2012**), defined time as “forward movement” (**2013**) and choreographed color (**2014**). Scientists have until Feb. 13 to answer this year’s question, "**What is sleep?**"

The possible pool of such questions is endless. And in a wide-ranging conversation with Bloomberg at the end of December, Alda agreed to field one relevant to much of his career: What is funny?

In short, he says, funny situations confound our expectations. They are “both inevitable and surprising” at the same time. “You have to shuttle back and forth between those two things,” Alda says, “and that somehow causes laughter.”

The key word is “somehow.” From ancient philosophers to modern scientists, thinkers have for centuries tried to figure out what “funny” is — and the answer is serious business.

Beyond movies, TV shows and books, comedy sells news, computers, cereal, and car insurance. Politicians, executives, and teachers try to tap our funny bones, with varying degrees of success. There’s a health factor too, with research showing that humor benefits the heart, lungs, immune system, and even assists with pain management. Funny business can also be an important source of criticism in a free society — kings had their court jesters, today’s

U.S. president has John Oliver. Comedy "can actually give the person in power another perspective" without posing a challenge, Alda says. "That's the thing about humor. It's not overtly antagonistic."

In 1989, Alda took a memorable comedic role in the otherwise dark movie *Crimes and Misdemeanors*, as "Lester," a narcissistic television producer who reduces humor to an equation: "Comedy is tragedy plus time."

Twenty-five years later, some fans are more likely to remember those lines than just about any other Alda moment. "People come up to me on the street and say that," Alda says. And though there's something to the statement, it's insufficient to explain why things are funny, he adds. "Some things are funny when no time has passed, otherwise we wouldn't laugh at funerals," he says. "Some of the biggest laughs you get at a memorial service are at the expense of the dead guy. I never go to a memorial — at least ones put on by actors — that isn't funny."

At Nora Ephron's memorial service, Alda said, Meryl Streep performed an impersonation of the way the late writer and director used her hands when she spoke. At Peter Jennings's, co-workers gave the ABC News anchor a hard time, posthumously, over what a hard time he'd sometimes given them.

So much for finding an arithmetic of humor. Then again, many other glib explanations would probably fail an experimental test, too. Lorne Michaels, creator of *Saturday Night Live*, has reportedly said that “comedy is complaining done with charm.” In Neil Simon’s play *The Sunshine Boys*, the character Willie argues that, “Words with a ‘K’ in it are funny.”

“Chicken”: funny. “Fracking”: funny. “Chicken fracking”: according to that rule, also funny.

From a scientific perspective, these rules of thumb become testable hypotheses about what makes people laugh.

Start with "comedy is tragedy plus time," which if nothing else is a hypothesis. At least **Peter McGraw** thinks so. McGraw is a professor of marketing and psychology at the University of Colorado at Boulder, who has spent the last several years in the laboratory and around the world seeking the keys to comedy.

To test the comedy hypothesis, he needed two things: a tragedy and time. "We were sort of just waiting for a tragedy," McGraw says. He pauses and adds: "It’s really terrible to say it like that."

In October 2012, McGraw was reading news of a powerful

hurricane moving up the East Coast. He popped into a colleague's office and said the hurricane looked serious, heading straight for New York. Should they run a study?

The result, **published** in December 2013 in the peer-reviewed journal *Social Psychological and Personality Science*, examines “how humorous responses to a tragedy change over time by measuring reactions to jokes about Hurricane Sandy,” McGraw and two co-authors write.

The researchers found a Twitter handle, @AHurricaneSandy, which was active at that time, and recruited 10 groups of 100 or so online volunteers through Amazon.com’s Mechanical Turk professional database. They showed various jokes from the account to the participants (“JUS BLEW DA ROOF OFF A OLIVE GARDEN FREE BREADSTICKS 4 EVERYONE”), and asked them to evaluate how funny they thought three quips were at different points in time: the day before the storm hit, the day of (October 29, 2012), five times in November, and then monthly through February.

Respondents in the first group thought the jokes were pretty funny the day before the storm hit. The laughter died down after landfall, reaching its nadir a week afterwards, on Nov. 7, when many in the region were still without power or basic goods. From there, the jokes were thought to be funnier as weeks went by, peaking five weeks after landfall. Then, apathy took over.

Despite “strong intuition” that time makes things funnier, the authors write, “we find that temporal distance creates a comedic sweet spot.” In plain speak, a joke’s timing can be too early, too late, or just right.

Time is just one of four kinds of distance identified that enable humor, according to researchers.

There’s physical distance. *The Interview*, to cite a recent example, seemed funny in Hollywood in a way it didn’t in Pyongyang.

There’s social distance, exemplified by Mel Brooks’s line: Tragedy is when I cut my finger. Comedy is when you walk into an open sewer and die.

And there’s the “distance” between something real and imagined, which McGraw and Warren call the hypothetical and John Morreall, a professor at the College of William and Mary who writes about humor, calls the “distance of fiction.” For example, this joke, told by the late Robin Williams in 2005’s *The Aristocrats*: A rabbi walks into a bar with a frog on his shoulder. Bartender says, Where’d you get that? The frog says, Brooklyn, there’s hundreds of them.

The prevailing theory of humor in academia is “incongruity

theory.” It suggests things that are funny somehow violate an expectation about how the world works, and that this aberration, or incongruity, is laugh-inducing.

That theory is the foundation from which McGraw, along with Caleb Warren of Texas A&M's Mays Business School, developed the “**benign violation theory**.” They say it covers everything from tickling — a physical invasion that’s, in many contexts, okay — to jokes about, say, the assassination of Abraham Lincoln (“Other than that, Mrs. Lincoln, how did you like the play?”). Humor emerges when: a) a situation violates some kind of norm; b) the violation is benign; and c) these two things occur to the observer simultaneously.

Asked how he would explain benign-violation theory to an 11-year-old, McGraw said: “People laugh at things that are wrong yet okay.”

Comedy doesn’t have a monopoly on violations or incongruity. There are plenty of things that are incongruous and not funny. Alda points out that much of tragedy conforms to the pattern of joke. In the same movie, *Crimes and Misdemeanors*, he ad-libbed a line on this theme, he recalls. “Look at Oedipus,” Alda says. ““Who has done this terrible thing to Thebes?’ ‘Oh my god, it’s me!’ I was making fun of that idea when I said it, but I also believe it’s

true.”

It’s a trait shared not only with tragedy. Scientific discovery is “very similar to the moment where we find something funny,” Alda said. “When you find something humorous, and when we find an anomaly we want to explore scientifically, there’s a moment when we say, ‘That’s different from what I expected.’”

So has science had an a-ha moment about ha-ha moments? McGraw, Warren and others are certainly onto something. But “there’s going to be an awful lot more studying our brains, and our social interactions, before we really understand what’s funny,” Alda says. “Because things are funny for a lot of different reasons.”

And sometimes, they’re not. Towards the end of the interview, Alda gracefully brushes away a particularly silly question: As one of the foremost experts on comedies that take place in Korea — “Not quite,” said the former M*A*S*H* star — what does he think about the recent brouhaha over *The Interview*? Alda hadn’t made the connection and doesn’t appear particularly intent on exploring it. And he laughs, but not necessarily in the way people do when they think something’s funny.