Why do we laugh? New study considers possible evolutionary reasons behind this very human behavior
23 September 2022, by Carlo Valerio Bellieni

A woman in labor is having a terrible time and suddenly shouts out: "Shouldn't! Wouldn't! Couldn't! Didn't! Can't!"

"Don't worry," says the doctor. "These are just contractions."

Until now, several theories have sought to explain what makes something funny enough to make us laugh. These include transgression (something forbidden), puncturing a sense of arrogance or superiority (mockery), and incongruity—the presence of two incompatible meanings in the same situation.

I decided to review all the available literature on laughter and humor published in English over the last ten years to find out if any other conclusions could be drawn. After looking through more than one hundred papers, my study produced one new possible explanation: laughter is a tool nature may have provided us with to help us survive.

I looked at research papers on theories of humor that provided significant information on three areas: the physical features of laughter, the brain centers related to producing laughter, and the health benefits of laughter. This amounted to more than 150 papers that provided evidence for important features of the conditions that make humans laugh.

By organizing all the theories into specific areas, I was able to condense the process of laughter into three main steps: bewilderment, resolution and a potential all-clear signal, as I will explain.

This raises the possibility that laughter may have been preserved by natural selection throughout the past millennia to help humans survive. It could also explain why we are drawn to people who make us laugh.

The evolution of laughter

The incongruity theory is good at explaining humor-driven laughter, but it is not enough. In this case, laughing is not about an all-pervasive sense of things being out of step or incompatible. It's about finding ourselves in a specific situation that subverts our expectations of normality.

For example, if we see a tiger strolling along a city street, it may appear incongruous, but it is not comic—on the contrary, it would be terrifying. But if the tiger rolls itself along like a ball then it becomes comical.

Animated anti-hero Homer Simpson makes us laugh when he falls from the roof of his house and bounces like a ball, or when he attempts to "strangle" his son Bart, eyes boggling and tongue flapping as if he were made of rubber. These are examples of the human experience shifting into an exaggerated, cartoon version of the world where
anything—especially the ridiculous—can happen.

But to be funny, the event must also be perceived as harmless. We laugh because we acknowledge that the tiger or Homer never effectively hurt others, nor are hurt themselves, because essentially their worlds are not real.

So we can strip back laughter to a three-step process. First, it needs a situation that seems odd and induces a sense of incongruity (bewilderment or panic). Second, the worry or stress the incongruous situation has provoked must be worked out and overcome (resolution). Third, the actual release of laughter acts as an all-clear siren to alert bystanders (relief) that they are safe.

Laughter could well be a signal people have used for millennia to show others that a fight or flight response is not required and that the perceived threat has passed. That's why laughing is often contagious: it unites us, makes us more sociable, signals the end of fear or worry. Laughter is life affirming.

We can translate this directly to the 1936 film Modern Times, where Charlie Chaplin's comic tramp character obsessively fixes bolts in a factory like a robot instead of a man. It makes us laugh because we unconsciously want to show others that the disturbing spectacle of a man reduced to a robot is a fiction. He is a human being, not a machine. There is no cause for alarm.

**How humor can be effective**

Similarly, the joke at the beginning of this article starts with a scene from normal life, then turns into something a little strange and baffling (the woman behaving incongruously), but which we ultimately realize is not serious and actually very comical (the double meaning of the doctor's response induces relief), triggering laughter.

As I showed in a previous study about the human behavior of weeping, laughter has a strong importance for the physiology of our body. Like weeping—and chewing, breathing or walking—laughter is a rhythmic behavior which is a releasing mechanism for the body.

The brain centers that regulate laughter are those which control emotions, fears and anxiety. The release of laughter breaks the stress or tension of a situation and floods the body with relief.

Humor is often used in a hospital setting to help patients in their healing, as clown therapy studies have shown. Humor can also improve blood pressure and immune defenses, and help overcome anxiety and depression.

Research examined in my review has also shown that humor is important in teaching, and is used to emphasize concepts and thoughts. Humor relating to course material sustains attention and produces a more relaxed and productive learning environment. In a teaching setting, humor also reduces anxiety, enhances participation and increases motivation.

**Love and laughter**

Reviewing this data on laughter also permits a hypothesis about why people fall in love with someone because “they make me laugh.” It is not just a matter of being funny. It could be something more complex. If someone else’s laughter provokes ours, then that person is signaling that we can relax, we are safe—and this creates trust.

If our laughter is triggered by their jokes, it has the effect of making us overcome fears caused by a strange or unfamiliar situation. And if someone’s ability to be funny inspires us to override our fears, we are more drawn to them. That could explain why we adore those who make us laugh.

In contemporary times of course, we don't think twice about laughing. We just enjoy it as an uplifting experience and for the sense of well-being it brings. From an evolutionary point of view, this very human behavior has perhaps fulfilled an important function in terms of danger awareness and self-preservation. Even now, if we have a brush with danger, afterwards we often react with laughter due to a feeling of sheer relief.

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