

Ever wondered why we laugh?



Babies first laugh when they are between two and six months old. This is triggered by surprise in an environment in which they feel safe: think peek-a-boo. Even congenitally deaf and blind children laugh, suggesting that the ability to laugh is something we are born with rather than learn from the behaviour of those around us.

In fact, rudimentary forms of laughter is thought to have evolved at least 6.5 million years ago. During social play great apes make a sound that has been likened to a laugh, which is thought to act as a safety signal to the opponent ape that this is not ‘real’ fighting. Even rats have been observed to produce characteristic ultrasound chirps when tickled.

Humans can produce a greater range of sounds than other primates, and therefore human laughter has much more acoustic variation. However, although everyone laughs differently, there are still characteristics of laughter that make it instantly recognisable – whatever culture you live in or language you speak.

The universality of laughter provides more evidence that laughter has an evolutionary foundation. It has even been suggested that there is universality in the stimuli that prompt laughter across cultures and species. Comparing laughter in human babies with laughter in great apes, both are in response to surprise while in a safe environment. Even the rat’s response to tickling could be argued to fulfil this criterion.

This resemblance does not stop when we grow older. Darwin described humour as “tickling of the mind”, and in 1979 McGhee suggested that humour was the “logical result of an extension of playful forms of behaviour to the more abstract intellectual sphere of ideas.”

“Laughter can help signal to listeners that they are in a safe situation”

Despite this evolutionary basis for humour, what we consider humorous is obviously heavily influenced by culture. Perhaps more surprising is studies that have found the relatively small role played by humour in making us laugh. One study that recorded the stimuli for 1200 instances of laughter in a shopping mall, found that only 10 to 20 per cent of laughter was triggered by someone making a joke. Another study found that in conversation, the speaker laughed on average 46 per cent

more than the listeners.

Evidence such as this has led to the distinction being made between types of laughter. Firstly, there is Duchenne laughter. This is the evolved form of laughter that bears resemblance to 'laughter' in other species. It is stimulus-driven, emotional and often uncontrollable. It is associated with the dopamine reward circuit in the brain, making us feel happier and safer.

Secondly, there is non-Duchenne laughter. This is self-generated (though not necessarily consciously), and lacks emotion. It has been connected to a different neural pathway than Duchenne laughter, and is thought to be learnt rather than innate.

Non-Duchenne laughter is hugely important in social situations. In a similar way to Duchenne laughter, it can help signal to listeners that they are in a safe situation – relaxing them, promoting friendliness and diffusing tension. It can help integrate new individuals into a group. It is as if humans have taken laughter, a sound that we innately associate via its connection to the dopamine pathway with happiness and safety, and learnt to use this more widely to promote positive social interactions with those around us.

Why are we creative?

Considering this, it is unsurprising that we laugh more when we are around other people. A study in which people were observed watching a funny television programme found that people laugh more if watching in a group than watching alone. Hearing laughter has been found to activate the amygdala, a key area of the brain associated with emotion. It also activates the premotor cortex, which is associated with facial muscle movement. Therefore upon hearing laughter, our brain prepares to mirror this. This contagiousness is of evolutionary benefit, as it helps to promote cohesiveness and co-operation within a group.

So despite its evolutionary foundation, laughter is hugely impacted by culture and learning. It makes us feel safer, helps us to feel part of a group and eases tension when talking to strangers. It therefore plays an important role in our ability to function as a society: a far from laughable feat

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