



A Serious Look at Laughter

By Tua Chaudhuri

Think of a funny joke. Any one will do. Smile. Let the corners of your mouth turn up. Giggle. Chortle. Chuckle. And slowly build up into a loud guffaw. How do you feel? Refreshed? Exhilarated? According to recent studies done by neuroscientists and psychologists, as well as the newest fads in holistic medicine, laughter is the greatest panacea yet discovered. It has been credited with everything from lowering blood pressure and reducing chances of heart attacks and strokes to increasing your intelligence and capabilities to retain and process information. But what exactly is laughter in biological terms, why does it produce such effects on the way the human body functions, and why are these positive effects surfacing only now? I decided to join the laugh track and find out just what was so funny.

The Encyclopedia Britannica defines laughter as "rhythmic, vocalized expiratory and involuntary actions." According to Derk's test, where subjects were hooked up to an electroencephalograph, and then exposed to humorous material, laughter resulted when a negatively charged electrical impulse traveled through the cerebral cortex (2). There are three basic brain functions that contribute to our ability to laugh: cognition, emotion, and motion. The interesting thing about laughter is that, unlike most of the other emotions, it is created by the functions from several parts of the brain. Although most of the activity is in the frontal lobe, the center of emotional activity, there are also many electrical impulses in the occipital lobe or the motion center of the brain (2). The limbic system of the brain is where most of the functions essential to a living organism are simulated. Also, when laughing people tend to gesture with their limbs and shake in abdominal regions. Unlike anything else in human behavior, laughter is produced by the active participation of almost the entire body. This could possibly be a reason why it is attributed with so many effects on the health of the body.

Laughter is difficult to study because it does not easily occur in a laboratory setting. This kind of psychological and physiological study of laughter is called Gelatology (1). Robert Provine, a pioneer in studying laughter as a neurological phenomenon, reports that it is an extremely social response which dies out if it is isolated and captured (3). So, while laughter is a very individual response it can be induced or inhibited by one's environment. This makes sense because we are more likely to laugh out loud when in a group than when alone. There are three basic theories on why we laugh. The relief theory proposes that laughter works as a release valve to relieve tension. The superiority theory says that we laugh because we feel in a higher position, detached from an unfortunate situation. This apparently is why we laugh at others. The final one is the incongruity theory, which suggests that we laugh when that which actually happens contradicts our sense of what should have happened (2). While all of these theories are interesting and viable, they do not account for many of the other reasons that people might laugh. We laugh when we're nervous or frightened, for instance. This laughter is not so much a release of tension as an expression of it. There are times as well when we laugh uncontrollably for no reason at all or laugh when what we really want to do is cry. There is also the fact that laughter can

be forced. Provine argues in his book that laughter is a natural function of the body (4). Why then, are we able to force laughter? The theories seem to suggest that laughter is always the product of a happy situation, but this might just be a social construct and not really a scientific fact. It would be interesting to have gelotologists look into such questions as these.

They say "laughter is the best medicine." But the question remains is it really, and can you prescribe it to everyone? One major way that laughter effects the body is through the immune system. The act of laughing reduces the production of certain hormones associated with stress which disrupt the balance of the immune system. When one laughs, the body produces more gamma-interferon t-cells, or disease fighting cells (2). Don't like to go to the gym? Just laugh the pounds away. Because of the natural shaking and gestures we make when we laugh, it can be an aerobic workout that lowers blood pressure and increases oxygen intake (2). While all of this is fine and good, there are other actions such as prayer, meditation, listening to music etc which provide the same health benefits in terms of increasing endorphins and decreasing blood pressure to clearing the mind reducing stress (5). Professor Diana L. Mahony of Brigham Young University in Hawaii says that laughter can best be described as a "learned automatic response" (5). Apparently, the body can not tell the difference between laughter that is forced and laughter that comes naturally (5). She suggests that laughter has become a social construct that we've learned to use to our own advantage.

People have begun to capitalize on these two facts and create things called laughter clubs. Initiated in India, these clubs have now spread over most of the world (7). There are people, doctors, who call themselves laughter coaches and who can teach you to laugh "effectively" so you can tee-hee your way to health (9). These groups get together, preferably in the morning, for this is when laughter is most potent, and laugh away twenty minutes. This boosts the immune system, clears the mind, lightens the pockets, and keeps a person in good spirits all day long.

The key is that the laughter must be in a group or it does not quite work as well. Laughter is a social phenomenon; that is why it is so contagious. When one hears laughter, it releases this neurotransmitter into the brain that then releases certain chemicals into the body (4). Provine talks of the Tanganan laughter epidemic of 1962 that started with just a few chuckles and then spread throughout the countryside lasting for six months (3). It is no laughing matter. Laughter is highly infectious. But I suppose there are much worse things one could catch.

The thing that most people do not realize is that laughter has a dark side too. Gelotologists have been so involved with the benefits of laughter that they have not put as much time and research into the cons of laughing too much. There is a type of epilepsy, which causes gelastic seizures, fits of shaking in which you laugh hysterically (1). Imagine laughing, not being able to stop, and no one being able to tell that anything was wrong because you seem so happy. Frightening isn't it?

If laughter is in many ways a social construct, society and science does not yet account for the fact that laughter can be the product of a number of emotions other than happiness. People laugh when they are bitter, when they are angry, sometimes even when they are down right unhappy. Also, in this laughter clubs, people are told to take an optimistic outlook on life. "To laugh at things that are not a laughing matter (9)." In this way we can convince the body that we have no troubles, but what about the mind. Are the other emotions lurking inside so easily distracted? The question becomes, if our body can not tell the difference between forced laughter, and laughter is a learned response, will we soon not be able to differentiate between a true guffaw, and a early morning work out? I fear we will forget to laugh for the sake of laughing; to enjoy that ache in the sides of the stomach and the tears streaming down the face, not because it is a release of tension or lowers the blood pressure but because we are enjoying the conversation and company of good friends.

So go ahead laugh out loud. Chuckle, teehee, snicker, guffaw and chortle your way to good health and the semblance of happiness. And remember as Bert from Mary Poppins so eloquently phrased it,

"We love to laugh (HA HA HA HA HA) loud and long and clear
We love to laugh (HA HA HA HA) so everybody can hear
The more we laugh, the more we fill with glee
And the more the glee, the more we're a merrier we."

Internet Sources

- 1) <http://faculty.washington.edu/chudler/laugh.html>
- 2) <http://www.howstuffworks.com/laughter.html>
- 3) <http://www.sigmaxi.org/amsci/articles/96articles/proviner.html>
- 4) Laughter, Robert Provine (a book, not a website)
- 5) http://www.psichi.org/content/publications/eye/volume/vol_4/4_3/mahony.asp
- 6) http://exploration.vanderbilt.edu/news/news_laughter.htm
- 7) <http://www.indiabuzz.com/laughter>
- 8) <http://www.aip.org/isns/reports/2001/030.html>
- 9) <http://www.teehee.com/>
- 10) http://www.holisticonline.com/Humor_Therapy/humor_therapy_benefits.htm