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Laughter Tears Down Walls

Vince Ebert

German science humor goes international. Vince Ebert is one of the few German cabaret artists with a scientific education and the only one so far to perform in English abroad, for example in Scotland at the Edinburgh Fringe and the USA. This here is his both serious and entertaining plea for intellectual and scientific freedom – realized through humor. Because the best way to peoples minds is via a laughing belly.

Many people think that physics is a very abstract subject. Those who do science must have a special eye for complicated formulas and dry laws. In reality, the core idea of science is very simple. Basically, scientific thinking is nothing more than a method of testing conjectures. For example, if I

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guess, “There might be some beer left in the refrigerator,” and I go check, I am basically already engaging in a preliminary form of science. That’s quite different in theology. There, conjectures are not usually checked. For example, if I just assert, “There’s beer in the fridge!” then I’m a theologian. If I check, I’m a scientist. If I look, find nothing, and still claim, “There’s beer in it,” then I’m an esotericist.

But what do I do when the refrigerator is locked? Then I must try to find out the truth in some other way. I can shake it, I can weigh it, I can X-ray it. I can even torch the darn thing and then test the products of combustion for beer. All this, of course, makes the thing extremely costly and tedious. That’s why an esotericist can claim more nonsense in five minutes than a scientist can disprove in a lifetime.

But even when I’ve done all sorts of experiments, I never have full certainty that there’s actually beer in that stupid fridge. A residual doubt always remains. That is the reason why there is no absolutely certain knowledge in science.

It’s the same in normal life. A farmer comes to feed the geese every morning. The geese think to themselves: Man, our farmer is a super buddy ... Shortly before Christmas, however, the geese suddenly realize: Something is rotten in our theory ...

In technical jargon, this is called “falsifiability”. Each theory is considered correct until it is replaced by a better one. And thereby we err upwards, so to speak!

Congratulations! You’ve just understood 2500 years of scientific history ... With the help of two or three little gags.

Joke Logic

I’ve told that refrigerator example a couple hundred times on stage by now, and afterwards people have often come up to me and said, “I’m not into physics and science at all, I

never understood it in school, but that example opened a door for me.”

Humor breaks down the entrenched way of thinking. It changes the perspective and, in a sense, forces our brain to set up different connections. Technically, the essence of humor is that our expectations are misdirected in unexpected ways. Basically, a joke is a logical contradiction, a flaw in the system. And our brain then resolves that error into laughter. Two coliform bacteria walk into a bar. Says the bartender, “Sorry, we don’t serve E. coli.” “Why serve?” the two reply. “We’ve been working in your kitchen for weeks.”

Nevertheless, in our culture – in contrast to the Anglo-American area – the idea that knowledge transfer and humor are mutually exclusive is still very widespread. But the exact opposite is the case, which is now known from brain research. The psychiatrist Manfred Spitzer wrote the beautiful sentence: “A happy brain is an eager learner.”

Create Curiosity

- What was the main industry of the Afghans? Dogs and drugs.
- What do you call a person who dies for his faith? Dead.
- Name five animals that live in Africa! Three lions and two giraffes.

These very funny answers to exam questions are all from students who have a real sense of humor. And they are also extremely creative. Unfortunately, however, they are also extremely rare. That’s because school tends to reward conformity, not whimsical rule-breaking. Our current education system dates back to the eighteenth and nineteenth centuries and is designed much like a steam engine: you stuff

something in at the top and something comes out at the bottom. It was created to serve economic interests during the Industrial Revolution. Our curriculum today still comes from that era. A standardized one-size-fits-all menu of reading, arithmetic, and writing. Dates, vocabulary, binomial formulas. Unusual angles and rule-breaking are not in the curriculum. "Vince is very curious and often asks weird questions," my homeroom teacher told my mother at parent-teacher conferences. I think that worried her a lot at the time.

A few years ago, creativity researchers George Land and Beth Jarman had five-year-olds take a test originally developed by NASA to spot particularly innovative engineers and developers. The test was, "Find as many uses for bricks as possible."

This simple question measures divergent thinking, that is, the ability to find as many answers as possible. And this can only be done if the answers become ever more oblique, unorthodox and original. Divergent thinking undermines the rules of logical linear thinking that is mainly taught in our education system.

The five-year-olds did great across the board. 98% made it into the "highly creative" category and would get a job at NASA right away if their parents didn't think they should finish school first. For ten-year-olds, the rate was down to 30%. Adults over twenty-five were at 2%.

A good education system, in my opinion, should teach students not so much *what* to think, but *how* to think. A good education system asks questions and does not give pre-formulated answers. In my school days, there were assessments in categories such as order, diligence, cooperation and conduct. Now (and back then) other categories would be more important: creativity, originality, curiosity. And very important: a sense of humor.

Break the Rules

If you take a look at the really great natural scientists in history, you will notice that many of them conveyed their content with quasi-cabaret interludes. Nobel Prize winner Richard Feynman, for example, once said, “Anyone who does physics all his life and doesn’t go crazy over it has understood nothing at all.” Albert Einstein is reputed to have said, “The horizon of many people is a circle with radius zero. And they call that their point of view.”

Geniuses like Erwin Schrödinger, Niels Bohr or Wolfgang Pauli all had a wit. And I will stick to it: they were so brilliant not in spite of their wit, but precisely because of it.

Because: humor breaks rules, humor is anarchistic. You, dear reader, will not receive a Nobel Prize if you think along the usual lines, only if you throw the usual rules overboard. You see something that countless colleagues have seen before you, but you think something that no one has thought before you.

How exactly comedy works in our brain is still being intensely researched to this day. At the London Institute of Neurology, test subjects were put into a brain scanner and told more or less funny jokes. When a punch line hit, it lit up particularly strongly in the so-called frontal lobe. An area in the brain responsible for reward. Interestingly, people who have suffered an injury to this same forebrain lobe due to an accident completely lose their sense of humor. These people may get the joke, but they can’t laugh about it. Conversely, of course, not every humorless person automatically has brain damage. Otherwise half of East Westphalia would have to undergo neurological treatment.

All neuroscientists agree on one point: humor is an enormous intellectual ability. Because by linking things that

don't actually go together, cognition magically emerges. Humor uncovers the structures beneath the surface, so to speak. Or metaphorically speaking: Laughter turns walls into windows.

Convince with Humor

A few years ago, I was invited to a gig where I was supposed to deliver a cabaret performance on a technology topic in front of Greenpeace employees. In front of me sat three hundred sceptical environmental activists with a slightly aggressive attitude towards a technophile like me. I began my show with a fictional story in which I asked a Greenpeace activist, "Why do you only ever demonstrate against fur coats, but never against leather jackets?" To which he replied: "Because its less risky to harass older ladies than the Hells Angels." To my great astonishment the gag actually worked and my audience could laugh at themselves and further on also at me and my gags. So with humor you can set a lot of things in motion.

As we all know, it is insanely difficult – if not impossible – to get scientific facts across to a person who adheres to an erroneous belief, a conspiracy theory or a pseudoscience. Which is largely due to the fact that our brains are very adept at lying through our teeth. We all like to cobble together our own truths. It's almost impossible to avoid. After all, it is easiest to deceive oneself. And we know from our own experience that you can rarely convince someone who wants to believe in something with rational arguments. If you throw in some humor your chances tend to become slightly better.

Laughter Kills Fear

Take homeopathy, for example. As is well known, this is based on the principle of high dilution. In Belladonna D30, the original substance is diluted 30 times in succession by a solvent. From the 24th dilution stage onwards there is no Belladonna molecule in the solution at all, but it is still supposed to work. This is similar to throwing a car key into the river Main in Würzburg and then trying to start the car with the Main water in Frankfurt.

When I tell this joke in my shows, I always realize to my great pleasure that even diehard homeopathy fans have to smile against their will. Of course, I realize that people who believe in inedia, horoscopes, or Bach flower remedies don't walk out of my programs saying, "My goodness, what nonsense did I believe in..." But if I can get people to laugh at their own beliefs, then maybe next time they won't be able to take them quite so seriously anymore.

In the motion picture "The Name of the Rose", the librarian Jorge de Burgos says: "Laughter kills fear, and without fear there can be no faith." That's why he killed all the monks who wanted to read the forbidden satirical "Second Book of Poetics" by Aristotle.

Satire Disenchants Taboos

It is no coincidence that the hallmark of all totalitarian rulers and regimes is their leaden humorlessness. For when the people begin to laugh at the tyrant, the tyrant loses power and the negative becomes more clearly visible. Dictatorships have always fought satire, caricatures and jokes because they elegantly expose the true circumstances. In the Third Reich, the cabaret artist Werner Finck asked an eager SS man

during a performance: “Am I going too fast? Can you follow? Or do I have to follow you?”

The dividing line between a society open to the world and the future and a totalitarian one has always run along the line of humor. Churchill, after all, reportedly once said, “I collect jokes that people make about me.” And Stalin is supposed to have replied, “I collect people who make jokes about me.”

Humor breaks rules, is anarchistic and thus shows us unorthodox perspectives and views – and sometimes even solutions. Satire sets the record straight, exposes taboos and unspoken problems. And all this with a confident, serene smile.

I think science communicators have a duty not only to inform an already convinced specialist audience, but also to reach out to those who have nothing to do with science. Those who often don't even understand what exactly science is in the first place. Because when large parts of society adhere to pseudo-scientific mumbo-jumbo, this is not harmless fun, but it destroys everything that the fathers of the Enlightenment fought for 250 years ago.

Be Sceptical

Every few years, the magazine “Cicero” compiles a ranking list of the 500 most important intellectuals in Germany. This list is made up of those who have had a high presence in German print media over the last ten years, who have been frequently quoted on the internet and who have had many Google hits. According to the 2018 ranking, there are just two natural scientists among the top 100 intellectuals. The public discussion about energy supply, risk assessment, genetic engineering, climate change or digitalization is

largely determined by humanities scholars, theologians, writers, lawyers, theatre people. But why is it taken for granted that a Catholic abbot can make a more profound contribution to stem cell research than a molecular biologist? Because monks reproduce by cell division?

A few years ago, Dietrich Schwanitz, now deceased, a professor of literature, wrote in his best-selling book “Bildung”: “Knowledge of the natural sciences is taught in school; it also contributes some to the understanding of nature, but little to the understanding of culture. Scientific knowledge need not be hidden, but it does not belong to education.”

A – in my opinion – very arrogant attitude. Because anyone who does natural science not only learns about formulas and numbers, but also learns how the world works, where the limits of knowledge are, and above all learns what science means: to be sceptical, to ask critical questions, not to trust authorities blindly.

Emotionalize Facts

Richard Feynman once said, “Natural science is a long story of how we learned not to kid ourselves anymore.” Just 400 years ago, every storm and disease, everything that was somehow out of the ordinary, was attributed to witchcraft. Today, molecular biology and meteorology provide an explanation for what was enough to burn women just a few centuries ago. The greatest gift of science is that it teaches us something about the use of mental freedom.

And that is why we all have the duty to bring this freedom of mind to the people with all the means at our disposal. Humor is certainly not the only means. But it is a very effective one.

For almost 20 years, as a science cabaret artist, I have tried to explain scientific relationships with the laws of humor in my stage shows, TV programs, books and lectures. Because I am convinced that humor is a very powerful tool for conveying knowledge. If we want to get people excited about science, we must first succeed in emotionalizing scientific facts. Because the only way to get into people's heads is through their gut. Humor awakens these emotions. Because humor touches the emotional level.

Computers with a Sense of Humor?

Incidentally, that's also why computers don't have a sense of humor. Because they have no feelings. And because they don't make mistakes. That's why they have no sense of absurdity. In stark contrast to us humans. Our brains find anything exciting that doesn't fit the pattern. Anything that doesn't add up. Then it wakes up from its stand-by mode. We are probably way worse in doing math than a Pentium 4 processor, but we do have a sense of humor. Spotting a good friend from 60 yards behind is easy for us. A computer can't do that. It doesn't have a good friend. But it can multiply 73 by 26 in a flash. A person who can do that usually doesn't have a good friend either ...

The Author

Vince Ebert (Fig. 3.1) was born in Amorbach in the Odenwald in 1968 and studied physics at the Julius Maximilian University in Würzburg. After graduating, he first worked in a management consultancy and in market research before starting his career as a cabaret artist in 1998.



Fig. 3.1 Science cabaret artist Vince Ebert rocked New York with Fine German Humor. (Photo: Frank Eidel)

His stage programs made him known as a science cabaret artist who inspires both laymen and scientific audiences with wordplay and comedy. His current show is titled “Make Science Great Again!” His books have sold over half a million copies, and some have been on bestseller lists for months. His latest book “Broadway statt Jakobsweg” (Broadway instead of St. James Way) was published by dtv in September 2020.

Vince Ebert is a regular presenter of the ARD TV programme “Wissen vor acht – Werkstatt”. (Knowledge before eight – Workshop). Whether as a cabaret artist, author or speaker: Vince Ebert’s concern is to present scientific contexts with the laws of humor. As a science comedian, he has also earned great acclaim abroad, at the Edinburgh Fringe Festival and in the USA.