Albert Einstein: Behind The Scenes With Science's Superstar

The Einstein name is known around the world, but few know some of the more interesting facts about the man and his work. Get to know science s only superstar. Find the home site of author Bill Allin at http: billallin.com

Without doubt, Albert Einstein stands as the only true superstar of science. Most educated people admire Socrates, Plato, Copernicus, Isaac Newton and others, but no one can dim the glare of fame that has developed around the name Einstein. It's known in every culture of the modern world.

Mild mannered, shy and, like many highly intelligent people, socially fairly inept, Einstein was more at home with his equations in his study than with people.

Mention the name Einstein and the first thing that pops into everyone's mind is his most famous equation $e = mc^2$

Yet Albert wasn't the first to publish the equation. That dubious honour goes to Austrian physicist Friedrich Hasenöhrl.http://billallin.com

So why isn't Hasenöhrl a household name, like Einstein? Hasenöhrl failed to connect the equation with relativity. In other words, in Hasenöhrl's hands the equation went nowhere.

Speaking of relativity, Einstein didn't. He disliked the word. In his 1905 paper *On the Electrodynamics of Moving Bodies* he never used the word "relativity," instead preferring to call it "invariance theory" because it looks the same to all observers, no matter where they may be. Nothing relative there.

Einstein had his own ideas about relativity. In his words: "Put your hand on a hot stove for a minute and it seems like an hour. Sit with a pretty girl for an hour and it seems like a minute. That's relativity."

Albert was photogenic from his earliest photographs. Even in his elder years girls were attracted to his pictures. He described himself as a young man to his cousin, Elizabeth Ney, as having a "pale face, long hair, and a tiny start of a paunch, In addition an awkward gait, and a cigar in the mouth..But crooked legs and warts he does not have and so is quite handsome."

His first paper about special relativity, published in 1905, may have had undisclosed help from his first wife, Mileva. He wrote "I need my wife, she solves all the mathematical problems for me." Some believe Mileva even did the heavy lifting for the theory. She was known for her brilliant mind as well as for her beauty.

By 1914 his feelings toward her had changed. He ordered her to "renounce all personal relations with me, as far as maintaining them is not absolutely required for social reasons." Albert and his second wife, Elsa, didn't have children, but they stayed together until parted by death. His offspring, all with wife Mileva, all had problems with social or emotional adjustment.

Another term associated with Einstein is space-time continuum. That's not his either. The concept of time as the fourth dimension began with Hermann Minkowski, one of Albert's professors, who once called him a "lazy dog." That may have been because he skipped so many classes, borrowing notes from his friend Marcel Grossman so he could pass the tests.

Einstein scribbled many of his notes for his 1905 paper while working in the Swiss patent office as a clerk. He wasn't exactly a lazy clerk because his mind never stopped. He crammed his notes into his desk whenever his supervisor came by.

Though Einstein was a lifetime teetotaler, when he completed his 1905 paper he and wife Mileva drank themselves into a stupor, at least enough to mess with their own concepts of space and time.

Albert was unhappy with the consequences resulting from his theories. Though he believed them to be true, he didn't like what they forecast. He said that nothing could go faster than the speed of light, yet immediately after the Big Bang whatever was expanding must have gone faster than light for at least a short period of time in order that the universe be as big as it is today.

He also didn't care for what came of his work with quantum mechanics. Nothing, he thought, should be able to be in more than one place at a time, then choose to be in another place when someone wants to look at it. "God doesn't place dice with the universe." However, quantum mechanics predicts some pretty strange stuff that would have Newton rolling over in his grave. Black holes, an expanding universe and entangled particles among them.

Speaking of graves, Einstein didn't have one. The pathologist who autopsied Albert Einstein's body removed the brain and the eyes. The rest was cremated and the ashes spread in an "undisclosed location," at Einstein's request. Thomas Harvey kept Einstein's brain for years, taking it with him on his travels in Tupperware so he could show special friends.

In recent years Harvey sliced off and distributed more than a thousand portions of Einstein's brain for scientists to study. The results? He had a thinner than normal cerebral cortex, a greater density of neurons than normal, decreased "interneuronal conduction time," which might have allowed him to think faster. Within each parietal lobe he seemed to be missing the parietal operculium, which may have accounted for his having more interconnections in the inferior parietal region.

The inferior parietal lobes--the areas related to visual imagery and mathematical thinking--were about 15 percent wider than a control group. In the part of the brain that managed language and mathematical skills he had 73 percent more glial cells per neuron than average.

However, Einstein's total brain weight tipped the scales at a mere 2.7 pounds, notably less than the normal weight of 3.1 pounds, indicating "that a large brain is not a necessary condition for exceptional intellect," according to neuroscientist Sandra Witelson, of McMaster University, who did a major study of her portion of the brain.

Einstein's eyes had features that may have allowed him to see and understand things quicker than average.

Special relativity, the central theme of Einstein's 1905 paper, deals with objects moving at a constant speed. General relativity, the focus of his paper a decade later, deals with accelerating objects and it explains how gravity works.

At the time of Einstein's death in 1955, science had little evidence to support his theories, at least general relativity. However, so much evidence has accumulated in the past 50 years that it's now used to calculate the mass of galaxies and to locate distant planets by the way they bend light passing around them.

Finally, that famous picture of Albert with his tongue stretching down over his chin was taken on his 72nd birthday. A photographer asked him for a "birthday pose." That picture along with the rest of the Einstein iconography earn his estate an estimated US$18 million per year, making him the fifth highest paid dead celebrity in the world in 2007.

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