[Episode 23 - Alicia Boole Stott & Mary Everest Boole Transcript]

Hi, my name's Rachel White, and I'm going to be giving a little bio about two women. They're actually a mother and daughter pair. The daughter is Alicia Boole Stott, and the mother is Mary Everest Boole. And I'm going to talk about the daughter first, because the mother is actually incredibly interesting, so I'll save her for last. So Alicia was born in 1860, and she died in 1940. She was 80 years old, and she was born the third of five sisters. She never went to any university, but she did attend a school that was attached to Queen's College in London, and she never held an academic position, but she did receive an honorary doctorate. She's most known for coining the term polytope, as well as her contributions to four-dimensional geometry. So a few of her accomplishments. Disclaimer: I know little to nothing about polytopes, but in laymen's terms, a polytope is an object with flat sides and exists in any number of dimensions. A tesseract is an example of a four-dimensional polytope. On her own she was able to create the six regular four polytopes, and she did this using only Euclidean construction and pure geometry. So she had no formulas. It was just measuring and drawing and creating cardboard models. And she called those cardboard models polytopes. And of course, there was Ludwig Schläfli. He was the Swiss mathematician who helped develop multidimensionality. And he'd already known and published about polytopes, but he also had the benefit of being a male and also having a university education. She was persuaded to publish two papers by another mathematician who worked on the same material, and she was also able to present a joint paper at Cambridge University, and that had two more important discoveries regarding polyhedral construction. Recently in 2001, a university in the Netherlands found a roll of paper with all of her colored drawings, and that actually lead to published research in 2007.

So that leads us to Mary Everest Boole, her mother. And I'm going to talk about her accomplishments and her life, but the most important part are her hobbies. She had some incredible hobbies which we'll unpack in a little bit. So she's most known for her teaching and tutoring with children. She taught using curved stitching with sewing cards which she learned to use as a child. And it's cardstock basically that has pins, and you'd use string to make the stars or other sort of patterns, and she believed that children needed cooperative learning and they needed physical tools to strengthen their unconscious learning of math. And she also believed that arithmetic was less abstract and more familiar and human. She wrote a ton of children's math books, of course, but she also wrote a psychic book for mothers, which we'll get into later. She edited her husband's book and all of her work. And she also attended his lectures and at the time that was unheard of. She seemed super liberal; she wrote against imperialism,

organized religion, the financial world and tokenism of the English parliament, and she's actually used as an example of a woman making a career in academia which is hostile to females. But she's not considered a feminist because for whatever reason she opposed suffrage. So a little bit about her life. She was born in 1832 and died in 1916 at the age of 84. She was born in England. Her father was a reverend. And Mount Everest was named after her uncle. She was private tutored until she was 11 years old, and after that she as self-taught. She married a mathematician, George Boole, and moved to Ireland. George was her tutor, and they married after her father died. She was 23, and he was 40. They ended up having five daughters, one of which was Alicia. And she became a widow after her husband walked two miles in the rain and lectured in his wet clothing. And at the time it was a popular thought that like cures like. So since he walked in the rain, she figured pouring buckets of water on him would cure him, and obviously he died from fever-related complications. So afterwards she moved to England with her daughters, and she became a librarian at the Queen's College in London. And there she became interested in Darwinian Theory, Tolstoian pacifism, politics, philosophy, and psychology, and she held unapproved student discussions with James Hinton who was an advocate for polygamy. Eventually she had a mental breakdown, and that's when she started to write against all of those liberal topics.

And that brings us to her hobbies, the most interesting part. She was super interested in the paranormal, the occultish, she was a convinced spiritualist, which is the idea that dead spirits can communicate, and she practiced homeopathic medicine. So that last book that she wrote was the message of psychic science for mothers and nurses, and subsequently that got her fired from Queen's College, but she did become the first woman to be inducted into the Society for Physical Research, and of course, the Society for Physical Research is the study of paranormal and the psychic. She resigned after six months because she was the only woman. Some final thoughts about Mary. Her life was full of conflict and contradiction and maybe misplaced passion, but Newton had his alchemy so maybe she really wasn't all that strange.