

Transcending the genders!

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Voltaire wrote of the Frenchwoman Gabrielle Emilie Le Tonnelier (de Breteuil) that she was a great man, with only one fault, namely that she was a woman! Gabrielle was born in 1706 and died in 1749 at the age of 42, in childbirth after becoming pregnant during a love affair. Besides being a Bon-vivant, she was above all a great mathematician who took essential errors from Newton's *Principia Mathematica* and proved that the energy of a moving object increases quadratically with its speed and therefore not linearly, as Newton claimed. It took over a hundred years after her death for this to be accepted: $E = \frac{1}{2}mv^2$. Einstein could derive his $E = mc^2$ from this!

Although everyone knows who Voltaire was, Gabrielle Emilie appears to have been of much greater importance to the development of modern science! In addition, many other women have made essential contributions to science, such as Sophie Germain (1776-1830), who is still considered a founder of elasticity and (imaginary) number theory, Ada Lovelace (Augusta Byron, Countess of Lovelace) (1815-1852), inventor of software and co-inventor of the computer.

Behind every great man there is a great woman. The number is large, I will mention two: Marie Anne Paulze Lavoisier (1758-1836) and Maleva Maric Einstein (1875-1945). To start with the latter, Maleva was a mathematical genius, known to do (much of) the maths behind Einstein's theory of relativity. Einstein talked to her about "our" theory. Marie Anne Lavoisier was essential to chemistry because she developed a standardized scientific method based on logbooks, with which she and her famous husband Antoine were able to prove that when burned, material always reacts with oxygen: fast, like fire, or slow, like rusting or digestion.

Even today there are many great women, genius people, with invaluable contributions to science, art, policy, (pop) culture, etc. Sometimes they are even famous women nowadays, the emancipation has brought with it that a woman can also score a hit, sit on an important committee, or hold an important position. But then it ends here!

Yes, on the one hand we (rightly) condemn women's oppression in the Middle East, while feeling liberated. But let me name a few names, so that you know that "sexism" has not yet left us, "modern" people: Jess Philips, or in the Netherlands Marion Koopmans and Sigrid Kaag. Professor Marion Koopmans has made a vital contribution to the containment of Ebola and is now known to the general public in connection with COVID-19. Sigrid Kaag also has an excellent track record. In addition, in the last elections she made "her" political party (D66) considerably bigger than expected. Both women were publicly "attacked" on their femininity - gender - right after their achievements/fame, or even compared to witches. A low point was a cartoon placed on 9-11 (in the Dutch quality newspaper *NRC*) in which Sigrid flies as a witch on a broomstick towards the Twin Towers, depicting Dutch PM Mark Rutte. Until the mid-18th century, women with an opinion or vision could be condemned as witches by the Roman Catholic Inquisition; many were burned at the stake.

Here I am ashamed that I am a man! What's even worse is that sometimes women also seem to feel compelled to slander big women, inadvertently confirming the view that strong women are second-rate - not real women. The accusing woman would then be the very female exception... Fortunately, my family, students, colleagues and friends are increasingly disgusted by these tasteless practices. Not only in the *NRC* cartoon, but also on Twitter, people like Koopmans and Kaag are rejected by mainly involving their gender; women still have to face online hatred, sexism and harassment. For example, when a male politician is criticized, it is almost never about his gender. This is truly a global problem that we must solve together! Being human is one, being female or male is just one quality, just like hair colour, body size or amount of pigment. Let's transcend genders!