



Why Did Hertha Ayrton Not Become the First Female Fellow of the Royal Society?

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Francis Galton posed questions about mental imagery to men, women, and children, but he evaluated only the men's responses. Now Jemma Lorenat, in her Years Ago column "I Can See the Ellipsoid from the Inside: Girtonian Responses to Francis Galton's Survey on Mental Imagery" in the *Mathematical Intelligencer* [1], has augmented Galton's evaluation and done the work for three Girton College students in what is a long overdue and fascinating analysis. Lorenat also included some information about the lives of the three beyond Girton. For Hertha Ayrton (née Marks), she mentions that "she was the first woman to be nominated for a fellowship in the Royal Society, although *she was rejected because she was married*" [1, p. 159 (my emphasis)]. The case was actually more complex and serves as an example of the inferior situation of women at the time.

As I explain in my forthcoming book *Meeting the Challenge: Top Women in Science* [2], Ayrton's nomination, the first ever of a woman, was denied based on very curious reasoning: the committee observed that she was married and that her husband was already a Fellow. Since under British law at the time, husband and wife were considered one person, Hertha Ayrton could not independently become a Fellow. Although thus shut out of the Royal Society's fellowship, she did become the first woman to be awarded a Royal Society prize. She received the Hughes Medal in 1906 for her achievements in studying the electric arc and the motion of ripples in sand and water. A commemorative blue plaque was installed in Ayrton's honor in 2007 by the English Heritage Trust (Figure 1).



Figure 1. Blue plaque erected in 2007 in Paddington, 41 Norfolk Square, London W2 (photograph by the author).

The Royal Society finally elected its first two female Fellows in 1945: the crystallographer Kathleen Lonsdale and the biochemist Marjory Stephenson. In 2010, a panel of experts of the Royal Society named Hertha Ayrton one of the ten most influential women scientists in British history, alongside Caroline Herschel (astronomer), Mary Somerville (physicist), Mary Anning (paleontologist), Elizabeth Garrett Anderson (physician), Kathleen Lonsdale (crystallographer), Elsie Widdowson (nutritionist), Dorothy Hodgkin (crystallographer), Rosalind Franklin (biophysicist), and Anne McLaren (geneticist).

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References

- [1] Jemma Lorenat, I Can See the Ellipsoid from the Inside: Girtonian Responses to Francis Galton's Survey on Mental Imagery. *Mathematical Intelligencer* 44:2 (2022), 153–160, the quote is on p. 159.
- [2] Magdolna Hargittai, *Meeting the Challenge: Top Women in Science*. Oxford University Press, New York, 2023.

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