



Throw off the cloak of invisibility

Improving Wikipedia entries for notable women scientists should be only the start for a higher profile for women in science, says Athene Donald.

Take a look at Wikipedia this week and you will find that something has changed. The online reference tool now includes an entry for Eleanor Maguire, the cognitive neuroscientist at University College London who showed that the brains of London's taxi drivers change as the drivers develop their knowledge of the city's streets. And Louise Johnson, a molecular biophysicist at the University of Oxford, UK, from 1990 until her death last month, now has a longer entry more worthy of her achievements. The changes are welcome, but overdue.

Around this summer's Olympic and Paralympic Games I heard much discussion, some rather surprised, about the excitement and excellence of women's sports. Suddenly, people realized that women could excel at everything from football to cycling, from rowing to boxing — and be thrilling to watch. Despite years of work to address sexism, women in science tend to be the equivalent poor relation. Although we are known to lurk in there somewhere, on occasion women are still seen as add-ons who need to be patted on their pretty little heads, not always taken seriously and disadvantaged in pay and in other resources.

Indeed, a study published last month in the *Proceedings of the National Academy of Sciences* showed that for identical CVs submitted under a male or female name, the women were rated as significantly less competent and hireable than men — irrespective of the sex of the evaluator — and there were notable differences in the salary recommended (C. A. Moss-Racusin *et al. Proc. Natl Acad. Sci. USA* <http://dx.doi.org/10.1073/pnas.1211286109>; 2012). Unconscious bias is still prevalent, even if overt discrimination is rare.

Following on from a successful 'Edit-a-thon' earlier this year in collaboration with the Smithsonian Institute in the United States, last Friday Wikipedia held a similar event in conjunction with the Royal Society in London, to improve poor entries for some notable women scientists.

The Royal Society's library made its extensive resources available, to help to ensure that the new and improved entries are not only comprehensive but also accurate, something not always guaranteed on the Internet. This has to be a step in the right direction. But it is only one small step; there is a great deal of work to be done to ensure that female scientists and their important contributions are recognized appropriately, both on Wikipedia and more generally.

The latest Edit-a-thon was timed to tie in with Ada Lovelace Day. Lovelace is often remembered just as the daughter of the poet Byron,

rather than as a mathematician who made important contributions to the field that would become computer science, including what could be considered the first computer program, to be used in conjunction with Charles Babbage's 'difference engine'. She does, at least, have a comprehensive Wikipedia entry.

By raising the profile of some women scientists and by training editors to be sensitive to the fact that such women are under-represented (in both number and length of entry) on Wikipedia, we can hope for a steady improvement in how women scientists are portrayed. Young aspiring scientists are very likely to use Wikipedia to gather information about past and present scientists. To help them to see what life might be like if they did pursue a career in science, we need realistic entries that provide valuable insight about living as well as dead scientists.

I sincerely hope that this edit-a-thon will encourage more people to overhaul the online portfolio of women scientists' entries. The number of female Fellows of the Royal Society is small, although growing, so it should be a reasonable aspiration for us in the United Kingdom to give each one a decent write-up. I'll put my hand up and admit that as one such female fellow, I do have a rudimentary entry, although it is not particularly informative or inspiring in its current state.

But we fellows are just one tiny band of largely academic scientists. We need entries for more women scientists, and for technologists too, with handsome photographs and some context for their work and lives. I have a long-standing

interest in this issue. I sit on the Royal Society's Equality and Diversity Network and I chair the Athena Forum, a national group dedicated to improve the progression of women in science, technology and medicine. And I blog.

We must continue to raise the profile of women in science, and remind people — as we did with the Olympic sports — that women's contributions are every bit as important as men's.

We need to do this for a variety of reasons. First, to inspire young women currently considering their options at school; second, to provide role models for women already studying science but uncertain whether they should pursue it further; and third, for simple natural justice. Women have, throughout the centuries, made contributions to the scientific endeavour. Historically, their opportunities were dire and their numbers small. Today the situation is very different, but this is still not a problem solved. ■

Athene Donald is a professor of physics at the University of Cambridge, UK.
e-mail: amd3@cam.ac.uk

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