

ACADEMIA

Female Science

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Women are on the rise, their presence increasingly felt in politics and business, in public life and culture. Poland now has a female prime minister (in fact our second); Germany and the UK also have female leaders. The head of the IMF is a woman, and another very nearly became the US president. Polish women demonstrated their strength across the country, in the recent “black protest” against stricter abortion regulations.

Women’s growing strength is spreading to all aspects of life. I remember times when they would never be seen in public wearing trousers. But today? They can wear high- or low-heeled shoes, dye their hair any color, wear a mini or ankle-length skirt, button their shirt up to the neck or unfasten it down to the belly-button. At one time women could not practice certain sports, now they lift weights and play football. I watch enviously at their progress in social life – they are in the majority in concert halls, theaters, museums, but also coffeehouses, restaurants, and dance clubs. We men can at most go watch a game together, meet for beer or to talk business. If we go to a concert or exhibit, it’s because our wives brought us there.

In science, however, the situation is still different. In history, women have been outstanding astronomers, alchemists, doctors. The first female mathematician is considered to have been Hypathia of Alexandria in the fifth century BC. In more recent times, Marie Skłodowska-Curie and her daughter Irene Curie were iconic women-researchers, winning a total of three Nobel Prizes! Marie had a hard time in France as a foreigner, but she still was more fortunate than another outstanding physicist, the Austrian Lise Meitner, who had to enter the Institute of Chemistry by the back door, and was later forced to flee Nazi Germany. I myself have dealt with the outstanding work of the German mathematician Emma Noether. But if we try to sum up the overall achievements of women in the physical sciences to date, it turns out that only two have ever won the Nobel Prize in physics (Marie Curie and Maria Goeppert-Mayer), and four in chemistry. Nobel Prizes are not the only criterion, someone will respond. So let’s put it another way: not quite 5% of the members of the Polish Academy of Sciences are women. A problem does exist.

I once talked in Vienna with the chair of a committee promoting women in the Austrian Physical Society. Women are no worse than men in aptitude for the physical sciences, he argued. Rather, the problem lies more in cultural barriers to choosing science as a profession. It remains a dominant conviction that women are “not fit for” engineering or physical sciences, and unfortunately some girls allow themselves to be swayed. Girls also have lower self-esteem: when a girl gets a C+ in physics, she’ll be sure she has no future in the subject, whereas for a boy a C+ is a good grade indicating that the world of physics is waiting at his feet.

Of course, there is also biology. The exact sciences are developing at a tremendous pace, and so taking even a short maternity break can make it hard for women to catch up. In America, women work in research generally up until their first child is born. I once witnessed a certain macabre situation in this respect, when I worked at an MIT lab with a married PhD student named Margaret. Two years later, it turned out that she was pregnant and would have to give up her job. After coming to work one day, I noticed that my colleagues had delighted faces. I asked why they were so pleased, and the answer was: “Haven’t you heard? Margaret had a miscarriage and is staying on at the lab.” Of course there are women who do manage to combine intensive research with child-rearing, but that takes a strong character and sacrifices.

But the kind of discrimination women once faced in science now seems gone. I have no doubt that they will soon enter science in a big way, just as they have entered other fields. That entrance needs to be supported, although not by means of quotas or “points for gender.” There is a big role to be played by school-teachers, who should work to counteract the preconceptions that women are only made to be housewives and mothers. When I studied physics at the University of Warsaw, my fellow students and I used to go to the main campus to admire the crowds of female students there, because so few were to be found back at our Institute. I dream of a day when male students of philology and law from the main campus make side-trips to the Institute of Physics just to catch a glimpse of all the aspiring young female physicists there. ■