

A portrait in my room and the Matilde effect

Heidelberg Laureate Forum

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Let me first thank Ms Wetzlar and Ms Schirok very warmly for hosting the exhibition at the Laureate Forum in Heidelberg, which is a great honour for us.

The thirteen portraits, with photographs by Noel Matoff that you see here, have some two years of life and travelled many miles since various copies of the exhibition were shown throughout Europe and well beyond, in Australia, South America and Africa. Lately they were on show at an European Women in Mathematics meeting in Graz, thanks to Karin Baur, one of the portrayed women, present today. Today is the 81th venue according to the webpage of the exhibition.

A question I wish to ask you, is whether you would like to have one of the portraits in your room, or maybe in your office. This question arose when Dorcas, a young female mathematician from Ghana, who is arriving today and whom I met in M'bour, Senegal last May, then asked me if she could take a portrait back home. Dorcas didn't formulate the question quite like that, but she did express the wish to travel back to her home country with just one portrait so as to show it in some small event around women in mathematics. I guessed (rightly!) that it might be the portrait of Katrin Wendland, organizer of a workshop in M'bour that Dorcas was taking part in.

With Dorcas' question came to me the metaphorical vision of young female mathematicians taking back home with them one of the portraits, and if so, why and which portrait they might choose. One common feature of these portraits (in great part thanks to the photographer) is a serene and happy look on the faces, which conveys a feeling of satisfaction, confirmed by the interviews you will find in the catalogue, where the portrayed women all without exception, express their joy of doing mathematics. Thinking back at the time when I was a young mathematician starting off in my academic career, very unsure of myself, and uncertain about my professional future, I believe that the sight of such a portrait every morning would have encouraged me. Also, their professional paths do not all feel out of reach; the mix in age, recognition, topic and geographical location makes it possible for young women to pick out one they could relate to.

No way we could have Nobel prize winners amongst the portrayed women, since there is no such prize in mathematics, and very sadly, the first (and only up to this date) woman ever, Maryam Mirzakhani, to have received the equivalent in mathematics, namely a Fields medal (I leave out the Abel prize in spite of the fact that it is more comparable with a Nobel prize, since no woman was yet awarded such a prize), passed away shortly after at the very young age of 40. A great loss, as she was an emblematic figure for us female mathematicians. "The more I spent time on maths, the more excited I got" she wrote on a Facebook post the day before she died, thereby confirming the joy you can get from mathematics.

Women are underrepresented not only in mathematics, but also in various other scientific disciplines, including theoretical physics and we hear from our colleague in computer science present today, that the situation is similar there. To this underrepresentation, to the obstacles women scientists are confronted with, one should add the lack of visibility; the few women scientists who make their way through a male dominated academic world, are often not visible in their full scientific strength as they might stand in the shadow of male colleagues. A lot still needs to be done to counteract what is known under the Matilda effect, a bias against acknowledging the achievements of women scientists, whose work is often attributed to their male colleagues. As much as having a portrait of a woman scientist in one's room can encourage us to embrace scientific research with more self-confidence, it will not help us much in reaching the deserved recognition, as illustrated by the following two cases:

- the decisive role of Marthe Gautier, a French hospital practitioner, now age 93, in the discovery fifty years ago, of the trisomy 21 chromosome in the Down syndrome has not yet been acknowledged. The praise, honours and related professional recognition went to Jérôme Lejeune, then an assistant of their joint boss Prof. Turpin. The polemic is still vivid.
- Rosalyn Franklin, who died of cancer in 1958 at the age of 39, was an English chemist and X-ray crystallographer, who did pioneering research for the understanding of the molecular structures of DNA, on the grounds of which after her death, Francis Crick and Maruice Wilkins shared the Nobel Prize in Physiology or Medicine and her team member Arron Klug who continued her research after her death, won the Nobel Prize in Chemistry in 1982.

Yet this is slowly changing, as exemplified by the aforementioned first Fields medal awarded to a woman in 2014. Let me mention another encouraging example, that of Jocelyn Bell Burnell an Irish astrophysicist, now age 75, who in the late 60's was a PhD student at the University of Cambridge, UK, under astronomer Antony Hewish. She was analysing hundreds of meters of chart paper with data collected by the radio telescope in Cambridge when she noticed some mysterious recurring smudges and was able to characterize these as signs of radio pulses emanating from a spinning star: the pulsar. In 1974, her former PhD adviser Antony Hewish (then aged 50) shared the Nobel Prize in Physics with fellow radio astronomer Martin Ryle, for pioneering research in astrophysics. Hewish was cited for his "decisive role in the discovery of pulsars" — while Bell Burnell, then his student was overlooked. The encouraging piece of news: for this ground breaking discovery, on September 6th, Bell Burnell was awarded the prestigious Breakthrough Prize allotted with a 3 Million Dollar sum.

Let me end with this optimistic note and encourage you not to take back home any of the portraits but rather to buy a catalogue with all the portraits inside! Thank you very much for your attention.