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«WE MUST MAKE WOMEN MORE VISIBLE IN THE SCIENCES»

Susan Gasser headed the Friedrich Miescher Institute for Biomedical Research (FMI) for 15 years, from 2004 to 2019. The Basel-based research institute is celebrating its 50th anniversary this year. In the interview she tells us why as a woman she seldom encountered problems pursuing a career in science, and why after initial scepticism, she changed her views and became a proponent of quotas.

Interview by Astrid Tomczak

Susan Gasser, in November the FMI will honour you with a symposium. What does this mean to you?

It gives me the opportunity to thank everyone who influenced me and supported me, both on the scientific side, but also with respect to leadership. We have made a long journey together, and I want to acknowledge that. The event is in principle to honor my career, but actually, I'm just one among many: What I have achieved, was made possible by others.

What milestones were there in this „wonderful last stage“ of your professional career as Director of the FMI?

Two events stand out as milestones with respect to leading the institute. A few years ago, I overheard someone on a recruitment committee who stated, like a fact, that the FMI was one of the best biomedical institutes in Europe. Somehow, it had not sunk in how strong the scientific reputation of FMI had become. To hear that was fantastic, but at the same time a challenge: you have to work hard to live up to that reputation !

The second milestone is the fact that many of our best scientists have received very generous offers from institutions such as ETH Zurich and the Max Planck Society to lead institutes or departments, which they turned down to stay at the FMI. That showed me how much they appreciate what we created.

You came to the FMI in the spring of 1979 as a 23-year-old doctoral student from the USA to Basel. What do you remember?

I was treated very humanely (laughs). In the USA back then, it was quite different: as students you had to work very hard and barely got paid for it. I was amazed to be paid a decent salary as a doctoral student. It meant that we were taken seriously, and this was an incentive for me to work even harder, and better.

Were you encouraged as a graduate student?

Gottfried (Jeff) Schatz, my thesis advisor, was a fantastic mentor. He had taught and researched in the USA for 15 years and brought its culture of a flat hierarchy to his laboratory in the Biozentrum. On our floor, only English was spoken - not only because English is the language of science. Jeff liked the fact that in English one does not distinguish between 'formal' and 'informal' pronouns, which would vary depending on whom you are talking to. At the same time, he was a highly respected professor, and very impressive. But it wasn't because of his title, it was because of the strength of character.

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Did you have to assert yourself especially as a woman?

It did not occur to me that I was doing something special by pursuing an academic career. It is true that for a long time, I was the only woman in the labs where I was working. There were laboratory assistants and the secretary, but of course I was a research scientist. It

wasn't until I did my post-doctoral work in Geneva that I there were other women active in research. And, even at the University of Geneva there were female postdocs and students, but no professors.

You were a working mother. How did you do it?

In 1986, I applied for a position to run my own laboratory in Lausanne, and I was not yet visibly pregnant. However, when I returned to discuss the layout of the laboratory, my future boss said: I see you have other plans. I answered: "No, the birth date is early May, and the laboratory starts in August." He laughed and there was never another word about it.

How did you juggle the roles of 'Mother' and 'Scientist' at the same time?

After our son was born, my husband and I split the childcare workload equally between us. He was able to do so because he was teaching at the Universities of Lausanne and Neuchâtel and only had 2-3 days a week when he had to be in the classroom. The nursery school we found for our son was excellent, and the first four years went smoothly. However, it got really difficult when our son started kindergarten! In Switzerland, school for young children was basically from 9am to 11am, and at that time there was no option to have your child stay for lunch or the afternoon. So, I did something that seems crazy today: we sent our son to kindergarten with letters to distribute to his classmates which read: „Hello, my name is Marc, both my parents work. Is there a mother who could care for me at lunch and after school, until my parents can pick me up?“. As it happened, one mother came forward: a high school math teacher with six children, the seventh was on the way. She said one plate more or less wouldn't make a difference to her! That family was wonderful. It was as if my son suddenly had four older brothers and smaller siblings, and they really knew what it meant to take care of each other. We worked things out this way for around two years - and then the second miracle happened: I found a woman in the neighbourhood who was giving up her part-time job as a secretary to look after her son, and she was willing to take ours at lunch and after school as well. She was an angel.

So you were lucky too.

Yes, but also professionally, as many men respected and supported my efforts. That's very important: It doesn't matter how many women are on a team, what matters is that your work is valued in a fair way. That's why I also fought against quotas for a long time - I thought quotas would replace respect. But, by leading the institute, I have learned that sometimes opinion leaders can hold a lot of power without rational justification. This can have a negative impact on the working environment, especially for women or other minorities. I believed that scientists could always be convinced by rational arguments. I was wrong - points raised by women are often ignored. Indeed, it's not just what is being said, but who is saying it, and what position they hold, that counts. That is why we have to put women into leadership roles. I don't think men are act in this way with malicious intent, but it has taken me a long time to recognise „unconscious bias“ when I see it.

What role did female role models play for you?

My grandmother had had a professional career, my mother was a teacher, and my older sister was already a university professor by the time I started my thesis. So I never questioned whether I wanted to pursue a career, or whether I should. Of course, I also had scientific role models, such as the biochemist Dorothy Hodgkin, who won



Picture: Zvg. from Susan Gasser

the Nobel Prize in 1964 for chemistry. Also, in my research field - the replication of DNA and telomeres - there were a lot of women internationally. The only Nobel Prize awarded for telomere research went to two women. So there have been many women I've known and admired professionally, making it relatively easy for me to aspire to an academic career. In addition, I was working alongside men who believed I could succeed - Gottfried Schatz, Ulrich Laemmli and Bernhard Hirt, among others. Maybe that made me something of an exception in Switzerland. As a result, it took me a long time to realize the importance of actively promoting women in science. It isn't that women are better or worse scientists, we just have to make them more visible.

Why is it that there are so few women in senior academic positions in Switzerland?

Swiss society is very traditional: women are seen to have an important role in the family and in culture. The education we give our children reinforces this, and the higher academic world is also very conservative. Yet things are changing. At ETHZ and EPFL, the proportion of women among the newly appointed professors is now over 30%. In the smaller universities or institutes, it is more difficult to reverse an imbalance. To be honest: I don't know exactly why we lose so many women after they complete their studies. One step towards changing this is a funding instrument of the Swiss National Science Foundation called PRIMA, which as President of the Equality Commission of the SNF I initiated a few years ago. This fellowship gives young female researchers the opportunity to prepare for a professorship during five years. This is a very good instrument to attract outstanding female scientists especially if, at this crucial time, they have small children.

What tips do you have for young women who want to follow in your footsteps?

Firstly, complete your studies and doctorate as quickly as possible. Secondly, choose your thesis supervisor carefully. It has to be someone who really supports you, as this person is needed for the rest of your career. Thirdly, marry the right person! (laughs). If a woman wants to have a family, she must choose a partner who understands that she is serious about having a career. One has to consider

how hard it is to overcome social or personal hurdles, alongside scientific ones. My husband was a fantastic supporter - and still is. Fourth: Do what you like to do and you will succeed. My goal was not to become a professor or to run an institute. I was not working for a title, rather I pursued my career because I loved laboratory research. And finally: always be learning something new. You reward yourself that way.

You emphasise „gender equality“, which is one of 17 sustainable development goals (SDG) defined by the UN. Which other SDG is most important to you?

I would say goal 9: „Build a resilient infrastructure, promote broad-based and sustainable industrialisation and support innovation.“ On the ETH Board, I'm very pleased to be involved in discussing how we can develop and implement alternative energy sources. There are alternatives to fossil fuels, but it is difficult to store this energy. We need technical solutions. Despite the Corona pandemic, it is illusory to think that our society is going to drive less or take fewer long-haul flights. I would like to create a large-scale program in Switzerland for application-oriented solutions to problems arising from climate change. We have to establish renewable resource management in all fields, including industry.

There are already initiatives in this respect - for example start-ups.

Yes, but not enough. We spend a lot on blue sky research, which is both important and very close to my heart. But I do see the need for application-oriented research that provides us sustainable solutions. Switzerland has many fantastic engineers and researchers, but they are not financed for this purpose. With two of the largest technology centres worldwide and several federally funded institutions, Switzerland could show the world what is possible.

This is a political decision.

Yes. But I'm sure the Swiss people will support it. Generally, the Swiss are very reasonable. I guess that's a good way to close (laughs)!

A networked scientist

Susan Gasser studied biology and biophysics at the University of Chicago and received her doctorate in biochemistry from the University of Basel. From 1986 she was group leader at the Swiss Institute for Experimental Cancer Research (ISREC) in Lausanne until 2001, when she was appointed full professor at the University of Geneva. From November 2004 until March 2019 she was Director of the Friedrich Miescher Institute for Biomedical Research (FMI), where she still heads her research group. Since 2005 she has also been a full professor for molecular biology at the University of Basel. Gasser is a member of the ETH Board, the Swiss Science Council, and sits on the scientific advisory board of the Helmholtz institutes of Germany, the Max Planck Institute for Biophysical chemistry, the Francis Crick Institute in London and the European Molecular Biology Laboratory (EMBL) in Heidelberg. At the Swiss National Science Foundation (SNF) she chaired the Equality Commission from 2014 to the end of 2019.

In June 2020, the FMI planned a symposium in honour of Susan Gasser - due to the Corona pandemic this had to be postponed until November. More information can be found here:

<https://www.fmi.ch/gasser/>

50 years in the service of biomedical research

On 8 April 1970, the Friedrich Miescher Institute for Biomedical Research from Ciba AG and J.R. Geigy AG (two of three founding companies of Novartis). The institute was named after Friedrich Miescher, the Basel biochemist who discovered and characterized nucleic acids (DNA) in 1869. The FMI has dedicated itself to basic research in the fields of biochemistry and medicine and the training of young scientists. Today the Basel-based research institute has more than 340 employees, and plays a leading role world-wide in the fields of neurobiology, epigenetics and quantitative biology.

To mark the 50th anniversary, a symposium had also been planned. Up to date information on whether and in what form it will take place can be found here:

<https://www.fmi.ch/anniversary/>