

'Mathematics ought to be a subject very suited for women'

Professor Ragni Piene (born 1947) is a highly regarded Norwegian mathematician. Her field is algebraic geometry. She took her doctorate at from MIT in 1976, and was appointed professor at the University of Oslo in 1987. She is a member of the Norwegian Academy of Science and Letters, which awards the annual Abel Prize in mathematics and Piene was one of the key persons responsible for instituting the award in 2003. She has recently been made the President of the Abel Prize Committee. She is also one of the present members of the Executive Committee of the International Mathematical Union (2003-10).

She is also well known for her active involvement with women's issues in mathematics. She had been a member of the Standing Committee of European Women in Mathematics (1995-99). She was in India in 2007 as part of the IMU Committee visiting India to consider the proposal by

accessible because you can do it anywhere. I think the reasons for under-representation are historical – women are underrepresented not only in mathematics or in the sciences or in the academia in general but also in politics and in all kinds of professions. In most societies women have a different role. And this takes a long time to change. What is very interesting is in some countries like the country that I come from – Norway – you see that there have been big changes in the representation of women in certain subjects like medicine and law where there are more women students than men students. One thing that is being done in my country and



Women should be made to feel that the system wants them to continue and do well

Prof. Ragni Piene

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stage and particularly at the research level there seems to be a sudden drop in the number of women, say from 30 per cent to about 10 per cent. Is such a trend also seen there?

A: It happens but it is being seen they stop studying mathematics or physics, they tend to choose chemistry and biology or now biochemistry and things like that which are sort of more linked with medicine.

Q: Have you analysed why it is so?

A: I think women are socialized – I can only speak for Norway – women socialize in a way that they

sort of equal country. There hardly are any women who continue in mathematics at that level. There are several now doing their Ph. Ds but very few sort of really want to go into research after that in academia. Some would love to but they don't get the jobs. The job market has also become difficult.

Q: Is there any bias at the recruitment level?

A: In Norway, No. Actually we encourage; sometimes specially make it easy for them, sometimes special positions are created to be filled by women just to get as role models for the students. There have been efforts in doing things like that. So I cannot say there is any bias in hiring women. Of course, what the students see is that the context is almost all male and then you have these two of women and of course it gives the signal effect that if this is something they could imagine...I am wondering how that effect is.

Q: How is the situation in the other countries of Europe considering that you have created a Standing Committee for special issues concerning European Women Mathematicians.

should feel responsible for other people. You hear it a lot that young

been a member of the Standing Committee of European Women in Mathematics (1995-99). She was in India in 2007 as part of the IMU Committee visiting India to consider the proposal by India to host ICM 2010. In an interview she gave then to **R. Ramachandran** she talked extensively about women's issues. Excerpts from the interview which has not so far been published:

Q: You have been involved with the issue of women mathematicians for quite some time now. I wanted to know your perspective on the under-representation of women in mathematics, the reasons thereof and what kind of actions can be taken.

A: What most women mathematicians feel is that there is no reason that there should be an under-representation. From a biological or any other kind of [basis]. On the contrary, mathematics ought to be a subject that is very suited for women. I don't see any reason why it should be less suitable for women and it can be done and it is easy to combine the subject with any kind of course. You don't have to have a lab, you don't need much equipment, you can do anywhere. Mathematics is very accessible even though it has a very high level of being very abstract. That's one side which people think makes it quite inaccessible. But in fact it is quite



well
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in many other countries is to promote mathematics as something which will lead to many positive results. We made a brochure for school pupils sort of explaining thirty different career possibilities, interviewing people, very sort of popular kind of thing and just sort of show them that if you study mathematics you can do something, increases the chances of getting a job etc,

Q: Is there a decline at the entry level or does it taper off at higher levels?

A: I think in many countries in Europe, for example, in elementary school girls are generally better in most subjects than the boys. They are more disciplined, they are more sort of dutiful, they do their homework and they perform more than expected and at some point when it comes to science, when they come to high school, the girls just disappear, they tend to not want to choose mathematics or physics. But this is also I must say the experience with boys; that is there is a general problem about science in many Western countries. I don't know here how it is.

Q: Here also the trends are similar. But the situation is such that once students do enter the science stream, they go on up to a certain

should feel responsible for other people. You hear it a lot that young girls want to do something sort of useful. And not so often that they want to just get into a job and earn money. That is not their aspiration. But this doctor business, medical business is fine because it has both aspects, they can feel that they are doing something very good to humanity and at the same time they get a very good job with high salary. And also quite more women are going into business related studies and naturally sort of quite willing to have good jobs and earn money. So specializing and this are getting to be more or less equal and we may see a difference now in this direction. But still the science thing is really sort of alarming in some sense because we don't see them at senior level. I have been in our department for a long time. When I was a student as research professors there was no one, there were two assistant professors, one of them was still there, the other one has retired and we have gotten two new fairly young assistant professors just recently in the last five years and there is really no tendency that this situation will really change and of the 47 positions there are only four women.

Q: Why is that?

A: Norway is supposed to be a very

Q: How is the situation in the other countries of Europe considering that you have created a Standing Committee for special issues concerning European Women Mathematicians.

A: Yes. It was founded because at the Congress in Berkeley in 1986. I was not there. I have some friends who were there and they noticed that there were hardly any woman speakers at this Congress and so they made a protest and actually managed to get some women speakers into the programme. And after that it became impossible not to think about the fact that there should be some women speakers. Usually at the Congress if there were hardly any women there were any plenary speakers, even among the special sessions there were few, that was it. Now over the years this has increased but it's still small. Then in the United States there has been an organisation called the American Women in Mathematics, which is now a very big organisation. At that time it was not very big. The AWM was then a part of this protest in Berkeley and the Europeans who were there thought it would be a good idea to have similar in Europe. And then I think there was a meeting in Paris right after that with very few people. First time I was there it was a year after -- in Copenhagen where we had a small meeting and then we decided to go ahead and form this organisation...

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