

AN INTERVIEW WITH...

Anne McLaren



**March
of Dimes®**
Saving babies, together®

Last month, the 2007 March of Dimes Prize in Developmental Biology was awarded to Dr Janet Rossant from The Hospital for Sick Children in Toronto, Canada, and Dame Anne McLaren from The Gurdon Institute in Cambridge, UK. In the May issue of *Nature Reviews Genetics*, we published an excerpt from a conversation with Dr Janet Rossant.

This month we talked to Dr Anne McLaren. Magdalena Skipper asked her about her reasons for choosing a career in biology and what prompted her to make some key transitions in her research. Below, Dr McLaren shares her reflections on her life in research so far and her views on some current issues including ethics and women in science.

Wikipedia describes your family as “industrial magnates known for their attention to liberal politics and women’s suffrage”. Were you encouraged to study science?

No I wasn’t. Not at all, it was rather disapproved of. It was not a suitable thing for young women.

Why did you decide to study it despite the discouragement?

I wanted to go to college and I was put down for entrance in English literature because I was quite good at writing essays. But when I read the requirements for the exams I realized that it meant reading a lot of literature that I’d never ever read and I only had 8 months to swat for the scholarship exam, so that was no good, and so I looked at all the papers and biology was easiest — you didn’t have to read so much, you could swat it all up from textbooks, as opposed to reading novels and poems ... you know, Milton’s *Paradise Lost*, every play by Shakespeare...

When I got to Oxford I had to do a year or two of science in general so I did zoology, physics and maths. But I found zoology at the end of it most interesting so that’s what I carried on with.

How do you remember those early days in the laboratory?

It was fascinating because it was very polarized. This was the early 1950s, the Cold War ... and the department was very much split between left wing and right wing politically. [...] Everybody was friendly but there were lively discussions, shall we say...

You have mainly studied fertility and germline development. What was the hardest, most

fascinating or memorable problem you had to grapple with?

That’s an impossible question to answer. But my early career very much followed the focus of March of Dimes — I started my Ph.D. on neurotropic viruses in mice; it was the days when polio was pandemic, like HIV is today, that was before the vaccines. [...] One was very much encouraged to do animal model studies. After that I was concerned with reproductive biology: fetal growth, prematurity, birth weight and also congenital malformations. My first 20 years in research was very much involved with all of that. And then I moved on more towards the culture of embryos and making chimaeras, and later on still I got interested in germ cells, which I am still interested in. And stem cells...

What guided those transitions?

The choice of neurotropic viruses was pragmatic — I needed to get a Ph.D. in 2 years because my first year hadn’t worked out. And viruses breed much quicker than rabbits. At that time, infantile paralysis, as polio was called then, was known to affect young, athletically minded people, and people noticed that it tended to be the limbs that they were using that were affected. I found in mice that if the neurotropic virus was merely circulating in the blood there was no paralysis, but if one lowered the blood–brain barrier by injecting a drug into one of the limbs then that limb would become paralysed because the virus was able to get into the nervous system. And that made the newspapers.

And the switch to cell culture?

Well, with my colleague John Biggers, we were the first to show that embryos cultured for a

day would turn into mice if one transferred them into the uterus. And I guess this was partly because, this was in the Royal Veterinary College in London now, he had a culture system set up in his lab; he was working on cultured chick bones and I was working on embryo transfer. So we got chatting and thought it would be interesting to culture the embryos...

You are a President of the Association of Women in Science and Engineering and are well known for your support of women in science. The fact that men outnumber women in most walks of science has attracted different explanations and comments...

Except in biology! Certainly at the moment there are more women students in biology labs than there are in other sciences.

And in the other disciplines that are more male dominated, how does one encourage female scientists?

It is a difficult issue. But I think that a lot of the postdoctoral fellowships that are given now are much more family-friendly ... there is good maternity leave, there is extra support for childcare while at conferences ... that makes a lot of difference. But in the UK, certainly, there is insufficient affordable, convenient, available childcare. It’s different from one country to another...

There is also a certain amount of ‘old boy’s network’, you know, men tend to think of their men–friends when jobs are going. But there is a growing ‘old women’s network’ now.

You had a role in establishing the UK’s Human Fertilisation and Embryo Authority (HFEA). What do you think about some recent criticisms of HFEA and suggestions that it might be outdated?

HFEA is doing very well and is well thought of. It has coped quite sensibly with recent problems with cytoplasmic hybrids where cow and rabbit eggs have been used to make stem-cell lines for research.

HFEA is being merged now with the Human Tissue Authority, and it will be interesting to see how that works out; it’ll be a much bigger organization but the two have a lot in common.