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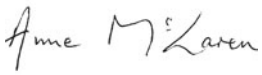
IN MEMORIAM

Anne McLaren (1927-2007)



Anne McLaren was born in London on 26th April, 1927, and died in a car accident en route to London on 7th July, 2007 with her former husband, Donald Michie. Anne was the world's best known and best loved developmental biologist. Her career spanned over 50 years, and included not only outstanding science, but also a major contribution to science policy and to women in science.

She was the 4th child (of 5) of Sir Henry McLaren, 2nd Baron Aberconway and Christabel McNaughten, but these aristocratic origins were something to which she never referred. She chose to study Zoology at Oxford because "it sounded easier to pass the entrance exams than those in English literature" (McLaren, 2007), and graduated with Honours in 1949. She says she needed to get a D.Phil. in 2 years because the first year "hadn't worked out" so she chose neurotropic viruses because they "breed much quicker than rabbits"! This led to her first press interviews, because her studies with mice had implications for polio, which was pandemic in young active people at the time. Anne (and Donald) were paid up members of the Communist party, joining in the early 1950s during the Cold War, a lifelong commitment to socialism that underpinned their interest in science as a means of improving society. Anne listed her interests as "Reproductive biology of mammals, in particular oogenesis, ovulation, implantation, immunology of reproduction. Developmental biology of mammals, in particular sex determination, development of primordial germ cells, and stem cells. Genetics of mammals, in particular gene expression during development and maternal effects". She was, in fact, a world leader in many of these areas. She was passionate about her science, and had an uncanny way of always asking the most pertinent - and most difficult - question. Her lectures and talks were the epitomy of clarity, as was her writing. She never used one word too many, or too few. And all enunciated in her beautiful, clear, English.

After her D.Phil. her next 20 years focused on reproductive biology, fetal growth, prematurity and congenital malformations. At the Royal Veterinary College, London with John Biggers, who became her lifelong friend, and with her husband Donald Michie, she showed that mouse embryos cultured for a day before transfer grew normally. This led to her discoveries of the maternal and environmental effects in early development, work that contributed to the techniques that were developing in Cambridge and elsewhere on human in vitro fertilization.

The next phase of her research was on culture of embryos, and especially chimaeras, as summarized in her book on "Mammalian Chimaeras" in 1976. Working with chimaeras stimulated her interest in sex determination and showed how it was possible to study the fate of stem cells after transfer to a new host. Her interest in the germ cells that became her passion for her remaining research career began after her move to London. In 1981 she wrote another influential little book, "Germ Cells and Soma: a new look at an old problem", which remains a real gem.

Anne was the recipient of numerous honorary degrees, prizes and awards, including the prestigious Japan Prize that she shared with Andrzej Tarkowski in 2002. Her most recent award (and last) was the March of Dimes Prize in Developmental Biology, shared with Janet Rossant in May of this year. She was the first woman to hold office in the 350 year history of the Royal Society when she became its Foreign Secretary in 1991. In 1993 she became a Dame of the British Empire, a title she disliked because it sounded "frumpy" and not as dashing as the men's title of "Sir", so to our group she became known as "Sir Anne"!

She moved from the Royal Veterinary College in London to the Institute of Animal Genetics in Edinburgh in 1959, the same year that she separated from Donald, although their friendship was to last a lifetime. She remained in Edinburgh until 1974, when she returned to London to set up the MRC Mammalian Development Unit. But it was probably those Edinburgh days that set the scene for her. Under the leadership of intellectual giants like CH Waddington, Edinburgh was a hotbed of intellectual ferment, where her growing communist leanings found strong support amongst her academic colleagues. These Socialist beginnings instilled in Anne a deep sense of social justice which was to be the hallmark of her life. She proudly defended her exclusive scientific focus on the mouse, disarmingly apologizing that is was the only species she understood, whilst fearlessly venturing into the intellectual field of Reproductive Ethics. With her incisive mind, her modesty, and the ability to ask the most penetrating questions, she was a force to be reckoned with, and her membership of

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the Warnock Committee gave her the perfect environment to chart a logical future for the emerging field of Human Reproductive Technology. She can be credited with much of the sensible legislation that resulted (Warnock, 2001).

In Edinburgh and in London, she led a really creative group of young scientists, and attracted many bright young graduates into research careers. She led by example, humility was her strength, and simplicity her guiding light. Although a formidable lecturer, curiously she did not enjoy teaching (except to the graduates at Cold Spring Harbor) and never really involved herself in undergraduate matters or University affairs. She loved being in the company of graduate students, and was always willing to go out of her way to listen to their ideas (and correct them when they were wrong). When she retired as Director of the Mammalian Development Unit in 1992, she went to work at the Gurdon Institute in Cambridge, and was still working 7 days a week after her 80th birthday!

Anne always had a sparkle in her eye, and a love of parties. She loved dancing, including the ceilighs that were always a feature of the Fertility Society meetings. She participated to the full in every possible way. When she joined us on field work on Kangaroo Island, she was tireless until dawn, and her stamina was an example to us all. Skiing was another of her passions, and her family skiing holidays were always much anticipated. Anne was the most unpretentious of people. Her children, and subsequently her grandchildren, were very important to her, as were her numerous academic children and their offspring. She was a strong advocate of maternity leave, childcare (including at conferences) and advocated the development of fellowships for young post-docs that were family-friendly, as well as believing that if all else failed, it never hurt to take the children along.

She lived very simply. Her house in London, and in recent times her flat in Cambridge, were always open to visiting colleagues (and their families). She did not enjoy shopping in any form, and when traveling it was always the famous plastic bag containing her papers and the tiniest of shoulder bags or a back pack into which she managed to get everything she needed, even for visits of many weeks.

Our last meeting with Anne was lunch at Kings College with Donald at the end of her 80th birthday symposium in April. Both were in excellent spirits and their company was, as always, an inspiration. Little did we know that this would be our last conversation together. It is difficult to imagine a world without Anne. She was our matchmaker, scientific heroine, mentor, friend and colleague. She will always be remembered, not only for her outstanding work, her clarity of thought and her intellectual humility but also for her kindness and caring for others. She never spoke ill of anybody, and as a result, the whole world was her friend.

Marilyn Renfree and Roger Short
The University of Melbourne, October 2007

(The authors thank Assoc. Prof. Geoff Shaw for assistance with the photograph of Anne taken by one of us at her 80th birthday celebration).

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EDITORS NOTE: In 2001, *The International Journal of Developmental Biology* published a Special Issue, edited by Brigid Hogan, entitled "Mammalian Reproduction & Development". This issue was dedicated to honoring the person and career of Anne McLaren, considered by many to be *"a superb developmental and reproductive biologist with a formidable analytic intellect, a wonderful capacity to inspire and teach others and a deeply-rooted social conscience".* For photos and a variety of personal tributes to the person and scientific life of Anne McLaren, see Biggers (2001), Clarke (2001), Hogan (2001), Papaioannou (2001) and for further information, see:

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