

Preface

For almost 5 decades, Anne McLaren has been a leader in the fields of mammalian reproduction and embryonic development. Her profound impact at the scientific level, and at a more personal level on students, colleagues and policy makers, can be gauged from the wide range of articles gathered together in this volume. With her incisive mind and beautifully designed experiments, Anne opened up many different lines of basic scientific research, and initiated studies that are still very much “hot topics” today. At the same time, she has helped to pioneer the establishment of ethical standards in human reproductive technologies that are held up as models of clarity, reasonableness and vision. However, in spite of her many achievements, and the international recognition they have duly received, Anne remains an extremely modest and private person, although with a wicked sense of humor and a great love of fun. She prefers to get work done at the grass roots level, with quiet determination, the minimum of fanfare and cost, and with the focus always on hard facts, rational ideas, and social justice. So, this Preface will be short and to the point.

To cut to the chase, what have been some of the highlights so far in Anne’s distinguished scientific career? First, in collaboration initially with her partner Donald Mitchie, Anne systematically and rigorously defined important problems in mammalian reproduction related to ovarian function, embryo implantation, and maternal-fetal interactions. In doing so, Anne profoundly influenced the way in which future scientists approached these problems, thereby paving the way to the application of molecular and genetic approaches. Second, she optimized the techniques for superovulation and embryo transfer and, with John Biggers, showed in 1958 that mouse embryos that had been cultured *in vitro* could still give rise to normal offspring after replacement in the uterus. In doing so, Anne was one of the small number of pioneering biologists who, each in their different ways, opened up the whole field of mouse embryo manipulation and genetic modification that has revolutionized so many disciplines. Anne’s early work also greatly facilitated the clinical application of basic research techniques for assisting human reproduction and alleviating infertility. Moreover, she has been tireless in working internationally to ensure that this powerful technology is not abused. Anne was among the first to recognize, and to successfully exploit, the great potential of mouse chimeras for studying many different problems in embryonic development. In particular, her work in this area had a profound impact on our understanding of sex determination and germ cell and gonad development. Last, but not least, Anne pioneered the study of mammalian primordial germ cells, and continues to make important contributions to the elucidation of their fascinating and important biology and to the problem of genomic imprinting. Anne has described herself as an “experimental opportunist”, ferreting out important biological questions and making pivotal discoveries and observations that change the way people think about the problems ever after. As will become abundantly clear from the articles in this Special Issue of the *Int. J. Dev. Biol.*, Anne also has a profound impact on the minds and lives of the students and scientists who are lucky enough to come to know her. As someone whose life she has touched, it has been enormously stimulating and rewarding to have worked with Professor Aréchaga to draw these articles together in such a marvelous commemorative issue of the *International Journal of Developmental Biology*. I sincerely hope that the next generation of developmental biologists will draw inspiration and courage from them, and also follow Anne’s example and find science “fun”!

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