

Matthew Howard Kaufman (1942-2013)

Matthew Kaufman was a professor of anatomy at the University of Edinburgh, in Edinburgh, UK, who specialized in mouse anatomy, development, and embryology during the late twentieth century. According to *The Herald*, he was the first, alongside his colleague Martin Evans, to isolate and culture embryonic stem cells. Researchers initially called those cells Evans-Kaufman cells. In 1992, Kaufman published *The Atlas of Mouse Development*, a book that included photographs of mice and mice organ development. Kaufman also wrote books about UK medical history, phrenology, or the study of craniums as an indicator of character or mental ability, and medical teaching in the eighteenth and nineteenth centuries. Kaufman's anatomical records and experiments in mouse development contributed to genetic engineering, embryology, and anatomy.

Kaufman was born on 29 September 1942 to a poor, orthodox Jewish family in London. Kaufman's parents expected him to become a scribe because he rewrote the Torah, the holy texts of the Jewish religion, in Hebrew on parchment. Kaufman graduated from Westminster City Grammar School, a secondary school, in City of Westminster, London, UK. Then, Kaufman studied medicine at the University of Edinburgh in Edinburgh, Scotland. While studying medicine, Kaufman became the honorary librarian of the Royal Medical Society, headquartered in Edinburgh, Scotland. In 1967, Kaufman received his Bachelor of Medicine, Bachelor of Surgery at the University of Edinburgh. After graduation, he specialized in obstetrics, a branch of medicine concerned with human pregnancy and birth, at the Simpson Memorial Maternity Pavilion in Edinburgh, Scotland. In 1970, Kaufman moved to Cambridge, UK, for his PhD and studied parthenogenesis under the supervision of Colin Austin in the Marshall Laboratory at the Cambridge University Department of Physiology in Cambridge, UK. Parthenogenesis is a form of non-sexual reproduction in which an egg develops into an embryo without fertilization. In 1973, Kaufman received his PhD in physiology.

In 1981, Kaufman and his colleague Martin Evans published an article titled "Establishment in Culture of Pluripotential Cells from Mouse Embryos" which details how they isolated embryonic cells from mice and created cell lines that other researchers could use for future experiments. Cell lines are populations of cells taken from a multicellular organism that researchers isolate in laboratory conditions to allow the population to persist and grow indefinitely. To find pluripotent cells, or cells that have the potential to develop into multiple different cell types, Kaufman dissected developing mice blastocysts, the cellular structures that eventually develop into mice embryos. Kaufman and Evans named the pluripotent cells they found inside the mice blastocysts Evans-Kaufman cells.

In 1983, Kaufman published *Early Mammalian Development: Parthenogenetic Studies*, in which he explains parthenogenetic development in adult female mice. In 1985, Kaufman moved from Cambridge University back to the University of Edinburgh to work as head of the department of anatomy. Kaufman received the Evian Health Award in 1988. In 1992, Kaufman published *The Atlas of Mouse Development*, a collection of 1,500 photos taken with a microscope of sections from all twenty-six stages of mouse embryo development. Jonathan Bard aided Kaufman's work in *The Anatomical Basis of Mouse Development*, which they published in 1999. According to Kaufman's colleague Iain MacIntyre, Kaufman's work helped researchers develop the eMouse Atlas Project, a website displaying 3-D images of mouse developmental stages.

Kaufman was recognized by organizations including Royal Colleges and, in 2000, was made a fellow of the Royal College of Physicians of Edinburgh and the Royal College of Surgeons of Edinburgh, both headquartered in Edinburgh, Scotland. Kaufman received the Jackson Laboratory award in 2006. In 2007, he retired from the University of Edinburgh and became a fellow of the Royal Society of Edinburgh, headquartered in Edinburgh, Scotland.

On 11 August 2013, Kaufman died in St. Margaret's Care Home in Edinburgh, Scotland, and, as of 2018, his wife Claire is still alive, along with their two sons Simon and David and grandchildren Angus and Georgia.

Sources

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