

Obituary

In memoriam: J. Herbert Taylor

Wolfgang Hennig

On 29 December 1998, J. Herbert Taylor died of bone cancer at his home in Florida. He was born in Texas in 1916, received his education in Oklahoma, and earned his Ph.D. in 1944 at the University of Virginia. During the Second World War he served in the South Pacific as a member of the US Army Medical Corps. After the war, he became a Professor at the University of Oklahoma, then at the University of Tennessee and subsequently at Columbia University. In 1964, he became Professor of Biological Sciences at Florida State University in Tallahassee, where he remained until his retirement in 1990.

In the early days of molecular biology, Herb Taylor made fundamental contributions to our understanding of chromosomes. In collaboration with scientists at the Brookhaven National Laboratory, he developed the use of tritiated thymidine as an autoradiographic label for DNA synthesis and demonstrated that chromosomal DNA replicates and segregates semiconservatively as predicted by the Watson-Crick model. This experiment, which preceded the density-shift experiment of Meselson and Stahl by a year, provided the first proof of semi-conservative DNA replication (Taylor et al. 1957). Taylor also used autoradiography to detect exchanges of portions of chromatids during recombination, thereby demonstrating that recombination involves physical exchange of DNA rather than some type of replicative mechanism. These experiments also permitted the conclusion that the structure undergoing recombination must contain two strands of opposite polarities (Taylor 1958).

In addition to confirming the Watson-Crick model of DNA structure, Taylor's experiments also yielded important new information about the replication of DNA in eukaryotic chromosomes. His experiments were the first to show that single chromosomes can be engaged in DNA synthesis simultaneously at many points along their lengths (Taylor 1960) and were among the first to demonstrate that some chromosomal regions replicate in early S phase while others replicate in late S phase (Taylor 1958, 1960). In further autoradiographic experiments, Taylor demonstrated that the second X chromo-



some in female mammals replicates late and that, in cases where cells contain more than two X chromosomes, only one of them replicates early (Morishima et al. 1962). These results were instrumental in developing the generalization that inactive chromatin replicates late in S phase and were consistent with the Lyon hypothesis that all X chromosomes save one are inactivated in female mammals. Taylor made additional important contributions to the fields of DNA replication, DNA methylation and DNA repair in his later work.

Taylor became an Editor of *Chromosoma* in 1966. Starting in 1984, he shared the tasks of managing editor with Wolfgang Beermann and Wolfgang Hennig, until he decided to retire from the Editorial Board as a consequence of retirement from his professorship in Tallahassee. I first met Herb in Beermann's institute in Tübingen and later at various scientific meetings and *Chromosoma* Editorial Board meetings. I was always impressed by his clear judgement, his broad scientific expertise and, in his function as an editor, by his responsible handling of manuscripts – not letting unscientific arguments enter into his decisions on acceptance, revision or rejection.

This was compatible with his kind and modest personality. One of his former associates (Joan Hare) writes in her obituary: “Herb Taylor was a genuine person, gentle and caring, and liked by all who met him. He had a fascination of the natural world around him, enjoying with his wife, Shirley, a canoeing trip, picking wild blueberries or identifying a plant along his hike as much as he had enjoyed his scientific adventures.” (ASCB letters, February 1999)

With his expertise and excellent advice, Herb Taylor guided and contributed to the development of this journal. All of us who benefit from *Chromosoma* today – readers and authors, editors and publisher – are grateful to him.

References

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