

A

Aitken, Martin



Michael Tite
Research Laboratory for Archaeology and the
History of Art, University of Oxford, Oxford, UK

Basic Biographical Information

Following a B.A. in physics and a D.Phil. in high energy physics at the University of Oxford, Martin Aitken (1922–2017) was appointed in 1957 as the Deputy Director of the Oxford Research Laboratory for Archaeology and the History of Art which had been established 2 years earlier through the combined efforts of Lord Cherwell and Professor Christopher Hawkes under the directorship of Edward (Teddy) Hall. Martin Aitken then continued to work at the Oxford Research Laboratory until his retirement in 1989.

Major Accomplishments

In the early days, his two main research interests were magnetic dating and magnetic prospection, of which the former remained an ongoing interest throughout his career. Initially, magnetic dating involved the measurement of the past direction of the Earth's magnetic field using large samples extracted from in situ kilns and hearths, but later, the method was extended to the measurement of the past intensity of the magnetic field, an

approach that did not require in situ samples but could be applied to pottery sherds. Although as a dating method, the technique never realized its initial expectations; the results have helped toward our understanding of the origin of the Earth's magnetic field and are thus an example of the contribution of archaeology to science rather than vice versa.

In 1958, he undertook the first successful magnetic survey on an archaeological site using a proton magnetometer which had been developed and built in the Oxford Research Laboratory. Originally developed to locate kilns for magnetic dating, it was immediately found that the proton magnetometer could also be used to detect filled-in pits and ditches, as well as stone walls surrounded by topsoil. Thus, the very considerable potential of magnetic prospection for the investigation of archaeological sites prior to excavation was established, and as a result, magnetic prospection, using various types of magnetometer, is now extensively used on archaeological sites throughout the world.

One consequence of his involvement in magnetic prospection was the emergence of the International Symposium on Archaeometry. In 1962, he organized a course for archaeologists who had purchased proton gradiometers from the Oxford Research Laboratory. During subsequent years, regular reunions of these gradiometer users were held in Oxford, and gradually the scope of these reunions expanded to include other aspects of archaeometry until eventually they evolved into

the annual (now biennial) International Symposium for Archaeometry, of which the 42nd symposium was held in 2018. From their inception, he was Chairman of the Standing Committee responsible for their organization, subsequently, from 1990 to 2008, taking on the role of president.

In 1960, he initiated the first detailed research into the use of thermoluminescence (TL) phenomena for the dating of archaeological ceramics. Subsequently, luminescence dating was his primary research interest through until his retirement and beyond. Thus, he was actively involved in all the wide-ranging developments that occurred from its beginnings as a method for dating and authenticating ceramics, through TL dating of burnt flint and calcite deposits in caves, to the development of optically stimulated luminescence (OSL) dating of sediments. Again, the first Specialist Seminar on Thermoluminescence Dating that he organized in Oxford in 1978 evolved into the current triennial International Conference on Luminescence and Electron Spin Resonance Dating, of which the 15th conference was held in 2017. As a result, he established the Oxford Research Laboratory as an internationally recognized center of excellence for luminescence dating.

In addition to more than 150 scientific papers, he published the first comprehensive textbook on archaeometry, entitled *Physics and Archaeology* (1961, Interscience Publishers, London). Subsequently, as well as a second edition of *Physics and Archaeology* (1984, Clarendon Press, Oxford), he published books entitled *Thermoluminescence Dating* (1985, Academic Press, London), *Science-Based Dating in Archaeology* (1990, Longman, London), and *An Introduction to Optical Dating* (1998, Oxford University Press, Oxford). In addition, until 1989, together with Professor Edward Hall, he edited the journal *Archaeometry* from its humble beginnings as the *Bulletin of the Oxford Research Laboratory* to its current status as one of the primary international journals for the subject. He has further contributed to the development of archaeometry through his supervision of a

succession of research students, several of whom have continued to work in the field and become authorities in their own right.

Recognition of his contribution to the subject both nationally and internationally came: first, in 1983, with his election as a Fellow of the Royal Society and, second, in 1985, when he was given an ad hominem Chair in Archaeometry by the University of Oxford.

Thus, throughout his career, Martin Aitken has been at the forefront of research in archaeometry and has played a major role in ensuring the subject's national and international recognition within both the archaeological and scientific communities. Therefore, he can be truly seen as one of the "fathers" of archaeometry, even though, having confined his research to scientific dating and prospection methods, he has always regarded himself as being primarily a physicist rather than an archaeological scientist.

Cross-References

- ▶ [Archaeometry: Definition](#)
- ▶ [Hall, Edward T.](#)
- ▶ [Research Laboratory for Archaeology and the History of Art \(University of Oxford\)](#)

References

- Aitken, M. 1961. *Physics and archaeology*. London: Interscience Publishers.
- Aitken, M. 1984. *Physics and archaeology*. 2nd ed. Oxford: Clarendon Press.
- Aitken, M. 1985. *Thermoluminescence dating*. London: Academic.
- Aitken, M. 1990. *Science-based dating in archaeology*. London: Longman.
- Aitken, M. 1998. *An introduction to optical dating*. Oxford: Oxford University Press.
- Aitken, M., and E. Hall, eds. until 1989. *Archaeometry*. Available at: <http://onlinelibrary.wiley.com/journal/10.1111/28ISSN%291475-4754/issues>