Harold Plenderleith
and *The Conservation of Antiquities and Works of Art*

Andrew Oddy

Harold Plenderleith was arguably the most important figure in conservation on the world stage in the middle of the 20th century. He was however not the first in the field. The application of science to the conservation of antiquities and works of art had its origins in the early 19th century. The story of these pioneering days has yet to be written in a coherent form, but the activities of scientists like Sir Humphrey Davy and Michael Faraday in the UK, and no doubt others on mainland Europe, paved the way for the permanent presence of scientists in museums in both Germany and Denmark before the end of the 19th century. In Denmark it was the problem of the treatment of waterlogged organic material found in peat bogs that was of primary concern (Madsen 1987), while in Germany it was inorganic materials from excavations that were of interest.

In the Royal Museums of Berlin, Friedrich Rathgen started work in 1888 and the laboratory that he founded lasted until the Second World War (Gilberg 1987). The importance of the world done by Rathgen and his colleagues cannot be overestimated and although many of his pioneering techniques are no longer used he left a legacy in his little book on the applications of science to conservation (Rathgen 1898). This book was translated into English in 1905 (Rathgen 1905).

If the UK had been in the forefront of using prominent scientists as consultants in the 19th century, it was slow to employ them to develop conservation in museums. In fact it was the First World War that resulted in a laboratory being established at the British Museum in 1920. To protect from bombing by Zeppelins that started in 1915, some of the British museum treasures were packed away in wooden boxes and hidden in the underground railway tunnels. It does not seem to have occurred to the curators that there was any potential danger to the collections from this activity, but when the wooden boxes were retrieved in 1919 considerable deterioration was found to have taken place to some objects. Iron and bronze objects from excavations were found to be actively corroding and moulds were growing on some organic materials and paper had developed foxing. The museum authorities were alarmed and resorted to their usual procedure of calling in a scientific consultant. Dr Alexander Scott, FRS,[1] wrote a report and recommended the setting up of a laboratory

[1] For an obituary of Dr. Alexander Scott, FRS (1853-1947) see Robertson & Plenderleith (1947).

within the museum. The laboratory was established in 1920 with Scott as honorary director and in 1924 he recruited Dr Harold James Plenderleith as his research assistant.

Plenderleith's studies at St Andrews University had been interrupted by war service on the western front where he was wounded and won a Military Cross. He returned to complete his degree at University College, Dundee, and then carried out research for a PhD that was awarded in 1923. The following year he joined the laboratory at the British Museum where he soon became the *de facto* head of the small team, as Scott was already an old man who only attended the laboratory on an occasional basis. He had, however, before Plenderleith was recruited, written three reports that had been published (Scott 1921, 1923, 1926) on scientific methods for the treatment of antiquities. These publications, together with the English translation of Rathgen's book, were the foundations on which Plenderleith had to build.

At first the presence of scientists in the Museum was regarded with suspicion by the curators who saw themselves as the supreme authority on any aspect of the objects in their care. However, Plenderleith gradually gained their confidence, helped by the fact that smoking was allowed in the laboratory but not in the museum! Thus the curators used to visit the scientific department for a cigarette and end up discussing the conservation of objects. They were slowly won over to the new approach to the care of collections.

In the 1920s there was no international forum for conservation but museology journals in individual countries[2] occasionally carried articles about the treatment of objects. There was, however, an international journal for museology called *Mouseion* that was published (in French) in Paris from 1926 by the International Office of Museums of the International Institute for Intellectual Cooperation of the League of Nations. This journal did occasionally publish papers of a technical nature. In 1930 the International Office of Museums held the first of a series of international conferences on conservation in Rome to discuss the 'examination and preservation of works of art'. Plenderleith did not attend but he did anonymously write a short report on the event for *The Museums Journal* (International Conference on the Examination and Preservation of Works of Art 1930). In fact, Harold Plenderleith's first paper on the application of science to the examination and conservation of antiquities appeared in 1926 on a cosmetic found in the tomb of Tut Ankh Amun and from then on he wrote a steady stream of papers for over 50 years through to the end of the 1970s (Oddy & Winsor 1998).

Although the British Museum does not have a collection of easel paintings, Plenderleith's position as the only scientist in the UK working in a museum on conservation in the 1920s meant that he was soon being consulted on the problems of the care of paintings by other institutions. His first paper on this area of expertise was published in *The Museums Journal* (Plenderleith 1932), the same year that the Fogg Art Museum at Harvard University began to publish a (international) journal on conservation entitled *Technical Studies in the Field of Fine Arts*. Plenderleith had a paper in the first number on the examination of panel paintings.

Harold Plenderleith first became involved in the problems of easel paintings in 1929/30 when the Director of the National Gallery in London convened a working party of curators and scientists from various fields of expertise to advise on the problem of the flaking of paint from the surface of panel paintings. As the work of the committee (Oddy 2001) progressed, Harold Plenderleith and J A Macintyre (a Senior Engineer in the Government's Office of Works) emerged as the principal investigators and soon came to the conclusion that eliminating the diurnal and seasonal fluctuations in relative humidity would stabilise the panels. The final report was a booklet (mainly written by Macintyre) entitled *Some Notes on Atmospheric Humidity in Relation to Works of Art* that was published by the Courtauld Institute of London University at the end of 1934 or early in 1935 (Courtauld Institute of Art 1935?).

Meanwhile in 1933 the International Office of Museums organised a meeting in Paris to discuss the conservation of paintings. This had far-reaching consequences and led eventually to the publication in 1939 of the *Manuel de la Conservation et de la Restauration des Peintures* that was edited (anonymously) by Harold Plenderleith, George Stout and Helmut Ruhemann (International Museums Office 1939). An English translation of the monograph was published in 1940 (International Museums Office 1940).

Although the conservation of paintings seems to have been a major preoccupation for Harold Plenderleith in the 1930s, he did not neglect the main core of the British Museum collections and in 1934 he wrote a booklet entitled *The Preservation of Antiquities* that was published by The Museums Association (Plenderleith 1934). This was followed in 1937 by *The Conservation of Prints, Drawings and Manuscripts* (also published by The Museums Association) (Plenderleith 1937) and in 1946 by *The Preservation of Leather Bookbindings* (published by The British Museum) (Plenderleith 1946).

Harold Plenderleith was now a major player in conservation worldwide and this led to numerous international consultancies and involvement in the discussions that led to the setting up of the International Institute for Conservation of Museum Objects (universally known as IIC) in 1950 with himself as the first treasurer. IIC had been founded as a channel for the publication of approved methods

[2] For instance, The Museums Journal in the UK.

of treatment for works of art and antiquities as a way of trying to eliminate the secret approach employed by many commercial restorers. He realised that what the profession needed above all was an authoritative textbook that could be used in museums to guide the emerging profession of conservation through the intricacies of the application of science to restoration. The result was the publication of his *magnum opus*, *The Conservation of Antiquities and Works of Art: Treatment, Repair and Restoration*, by Oxford University Press (OUP) (Plenderleith 1956).

It is not known how the book came to be written – did Plenderleith approach OUP with the idea or did OUP solicit the book from him? In a brief note at the beginning of the book the author indicates that he was "associated with [the Museums Association] once again" in writing the book, so perhaps it was suggested by them. Whatever the origin, it was a great success and led to the conferment of an honorary degree of Doctor of Laws by his *alma mater*, the University of St Andrews, in 1957, and to the award of the gold medal of the Society of Antiquaries of London in 1964. The book was a best seller and was first translated into Russian and published in two parts in 1963 and 1964, and then it was translated into French (1966), Spanish (1967), Bulgarian (1971) and Italian (1986).

So, what was the book and what did it achieve? In the same brief note Harold Plenderleith stated that the book "has been accepted as their [ie the Museums Association] official textbook on the conservation of museum objects". Hence it seems likely that the archives of that organisation may contain clues about the book's origins. In the preface, the author states that the book "is concerned with the broad field relating to the restoration of antiquities and works of art, and with their subsequent conservation. It is intended as a handbook for the collector, the archaeologist, and the museum curator, and as a workshop guide for the technician".

Two points emerge from this; first the author is rather vague about the meaning of 'restoration' and 'conservation', implying that 'restoration' relates to actual intervention while 'conservation' concerns subsequent care. Indeed, he goes on to say that acquisition of an object (by a museum or collector) is usually followed by cleaning, restoration and repair and then by storage or exhibition in a suitable environment. Writing 55 years after the original publication of *The Conservation of Antiquities and Works of Art: Treatment, Repair and Restoration* I am conscious that the use of terminology has changed. Now 'restoration' is seen as one step in the overall process of 'conservation'. The word 'conservation' (in English) has evolved to mean the whole process of investigation, cleaning, stabilising, repairing, restoring and subsequent storage of an object. Indeed, 'conservation' has become the name of the profession, but in 1956 most of those involved in technical work on objects called themselves 'restorers'.

This brings us to the second point because Plenderleith refers to those who will use his book for interventions on objects as 'technicians'. In English this word rather implies someone who follows a set of instructions rather than someone who can evaluate a problem and find a solution. Today, 'technicians' are seen as assistants to 'conservators'.

It is not surprising that nomenclature in 1956 was rather hazy as this was a period before formal qualifications were available in conservation. It is true that the Institute of Archaeology of London University was providing some training in basic conservation for its archaeology students, but it did not start to teach conservation as a main subject until after the book was published. Then a one-year certificate was introduced that soon evolved into a two-year diploma course and eventually into a three-year bachelor's degree (Hodges 1987).

In view of Plenderleith's involvement with the study of the influence of relative humidity on the survival of objects throughout the 1930s, and in particular with his work on the storage of evacuated objects during the Second World War, it is hardly surprising that *The Conservation of Antiquities and Works of Art* starts with an introduction called 'the influence of environment'. This introduction was only fifteen pages long, but to those who discovered conservation through the pages of this book it was a revelation. Plenderleith, who was responsible for the storage conditions of objects evacuated from The British Museum from 1939 to 1945 makes the point that he demanded – and got– storage conditions of 60% relative humidity and 60ºF in the various repositories scattered round the UK and that not a single object was damaged by the environment as a result, unlike their experiences from 1915 to 1918.

The main part of the book is divided into three sections – organic materials (animal products, plant products, paper, textiles, paintings), metals, and siliceous materials (stone, ceramics, glass). These are very uneven in length being 165, 110 and 50 pages respectively. There are 17 pages of appendices.

From the perspective of today's conservator, the inclusion of all these materials in one tome seems extraordinary. Even in 1956 a restorer of paintings would have no interest in the conservation of archaeological metals or ethnographic textiles, and vice versa, but in the modern world specialisation means that the practice of conservation is even narrower. Stone, ceramics, prints and drawings, books and archives, paintings, metals and ethnographia all tend to be conserved by specialists and while some overlap may be found – sculpture conservators may treat wood, stone and metal, and archaeological conservators will treat all finds (but mainly ceramics and metals) – on the whole specialisation is the name of the game.

FIGURE 1. Harold Plenderleith with Gaël de Guichen at the ICOM-CC meeting in Edinburgh in September 1996 when he received a special struck silver medal (Courtesy of National Museum Scotland).

Nota de las editoras

La publicación de la notable contextualización de Andrew Oddy, lo mismo que el prefacio de *The Conservation of Antiquities and Works of Art*, resulta de interés para *Intervención* por varios motivos. Un primer aspecto es el logro que constituyó en su momento este libro, que por primera vez compiló los nacientes conocimientos sobre materiales y técnicas de conservación —hasta entonces dispersos e inéditos— que, así, quedaron al alcance de arqueólogos, restauradores y curadores de museos. Por otra parte, en gran medida por el prestigio del que gozaba el Museo Británico, el texto tuvo un impacto profundo a escala mundial y se convirtió en una fuente bibliográfica obligada en los programas académicos de conservación y restauración que surgieron durante la segunda mitad del siglo XX en diversos países del mundo, incluidos México y el resto de América Latina. Finalmente, si bien hoy en día la formación de conservadores y restauradores demanda, a causa de la notable expansión de los bienes culturales abordados y de la relevancia de la inter y transdisciplina, la incorporación de enfoques filosóficos, antropológicos, sociales —por mencionar sólo algunos—, la investigación científica sobre materiales, deterioros, productos y técnicas de conservación sigue y seguirá siendo un aspecto central del quehacer y el desarrollo profesionales, por lo cual es necesario reconocer el legado de Plenderleith como una obra fundacional.

The 1950s in the world of conservation was the end of the era of the polymath and *The Conservation of Antiquities and Works of Art* was a child of its time, but, more than that, it was really an autobiography of the working life of Harold Plenderleith but without all the personal detail. What is sad is that Plenderleith never sat down to write a conventional autobiography and what we know of his life comes mainly from the memories of those who worked with him and from his publications. He had no children and his diaries were destroyed after his death. There are however transcriptions of three lengthy interviews in existence. One was carried out by Christine Leback for the AIC's oral history programme on 17th and 18th March 1978, the second by Andrew Oddy on 11th June 1987 and the third by James Black (of Archetype Books) in July 1987. Since Harold Plenderleith died in his 100th year on 2nd November 1997 there have been numerous published accounts of aspects of his life and work[3] but nobody has attempted to write a thoroughly researched biography.

Looking now at the main sections of *The Conservation of Antiquities and Works of Art* it is amazing to find, for example, that the conservation of prints, drawings and manuscripts could be dealt with in only 23 pages, and easel paintings in 24. But we have to remember that books on conservation were almost non-existent and Plenderleith was a pioneer, so it is not surprising that the book was translated into at least five other languages. Indeed, it was not until 1978 that the UK publisher Butterworths launched what became known as 'the black series in conservation' because of their distinctive black bindings. The first book in the series was Garry Thomson's *The Museum Environment*.

However, in the late 1960s with the Butterworth series still in the future Plenderleith's book was becoming increasingly dated. Research into processes of decay and methods of conservation of antiquities and works of art were being published in the journal *Studies in Conservation,* which appeared quarterly from the early 1950s, and in 1960 IIC organised its first international congress in Rome. This became a regular event on the international scene and the 24th congress will be held in Vienna in 2012. Meanwhile the eminent picture restorer, Helmut Ruhemann had published his *magnum opus* entitled *The Cleaning of Paintings* in 1969 that effectively negated Plenderleith's chapter on easel paintings (Ruhemann 1969).

Nevertheless, in the face of the obsolescence of some of the meth-

[3] The main published sources for the life of Harold Plenderleith are the following, many of which draw on the same material: Anon. nd., 1997, 1998a, 1998b; Black 1987; Leback 1978; Mowat 1997; Oddy & De Guichen 1988, 1997, 1998: 5-6; Oddy & Winsor 1998; Oddy 1987, 1996-1997, 1997a, 1997b: 1-2, 1998, 2001: 167-179, 2006: 184-186, 2008: 3-18, 2009a: 13-21, 2009b: 14-22; Plenderleith 1998: 129-143; Steven 1997; Tímárné 1997: 54-55; Werner 1971: 169-170. In addition the archives of the Department of Conservation at The British Museum, London, and of ICCROM, Rome, contain much unexplored material.

ods described and the development of new ones not mentioned, Harold Plenderleith, together with his successor at the British Museum, Anthony Werner, revised *The Conservation of Antiquities and Works of Art* and the second edition was published in 1972. Sadly, it was already out of date when published and although it was much used –and still is– it did not have the authority of the first edition. The authors, who were no longer active in the actual treatment of objects, and had not been so for many years, made their revisions from second hand knowledge rather than first hand experience.

The past thirty years have seen the publication of innumerable monographs on particular aspects of the field of museum conservation and it is to these books that the students and practitioners of today turn for instruction. A few of these imitate *The Conservation of Antiquities and Works of Art* in being essentially autobiographical, but most are well thought out and authoritative *exposés* of the subjects covered. Not all fields of expertise have the same depth of coverage and it remains a truism to say that most conservators prefer to practice conservation rather than to write about their experiences.

Most of those who are coming towards the end of their careers at the beginning of this new millennium will owe some sort of debt to Harold Plenderleith and *The Conservation of Antiquities and Works of Art,* but those who are starting out now will probably never have heard of him. Some will come under his lasting influence as a result of contact with ICCROM, of which he was the founding director in 1959, but to most he will become increasingly a shadowy figure who outlived most of his contemporaries but made a lasting impression on those of us who knew him personally.

As a person Harold Plenderleith was an imposing figure with a Scottish accent and an easy-going manner. He inspired loyalty in friends and employees alike and he commanded a respect that was exploited by the British Museum during the Second World War when he played a significant role in the evacuation of the collections away from London and then took charge of Air Raid Precautions in the Museum building itself. If the man himself has gone, his influence remains, even if not always recognised, but his voice lives on in the interviews he recoded.

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Resumen

El libro de Harold Plenderleith, *The Conservation of Antiquities and Works of Arts*, publicado en 1956, fue un suceso central para los conservadores-restauradores, ya que marcó su salida de las sombras de los sótanos de los museos hacia la luz de una nueva profesión. Harold Plenderleith, quien vivió a lo largo de casi todo el siglo XX, fue testigo —e impulsó— ese surgimiento, y su *magnum opus* desempeñó un papel importante en esta metamorfosis. Este artículo sitúa el libro en el contexto de la vida y carrera de Plenderleith en el Museo Británico de 1924 a 1959, y más tarde como el director del ICCROM en Roma.

Palabras clave

Plenderleith, historia, conservación-restauración, bienes culturales.

Abstract

The book by Harold Plenderleith entitled *The Conservation of Antiquities and Works of Art* that was published in 1956 was a seminal event for conservators that marked their emergence from the shadows of museum basements into the light of a new profession. Harold Plenderleith, who lived through almost all of the 20th century, witnessed - and fostered - that emergence and his *magnum opus* played no small part in the metamorphosis. This paper puts the book in the context of Plenderleith's life and career at the British Museum from 1924 until 1959 and then as the director of ICCROM in Rome.

Keywords

Plenderleith, history, conservation, antiquities.

Preface of *The Conservation of Antiquities and Works of Art*[1]

This book is concerned with the broad field relating to the restoration of antiquities and works of art, and with their subsequent conservation. It is intended as a handbook for the collector, the archaeologist, and the museum curator, and as a workshop guide for the technician.

As collectors know only too well, the acquisition of objects is but the fist step towards their incorporation in the collection. In order to be able to appreciate and study the objects, it is usually necessary to clean, restore, and repair them, and always necessary to maintain a suitable environment which will ensure their stability whether in storage or on exhibition. In the following chapters simple instructions are given for cleaning and preservation, and the collector with a practical turn of mind who desires to carry out for himself the methods described can do so without any special technical training.

The archaeologist will find interest in the methods that science has to offer for the restoration of antiquities fresh from excavation and for revealing evidence of value to him in his researches. Many examples are given throughout the work, showing how unsuspected facts are brought to light during the normal course of laboratory investigation and treatment.

The requirements of the museum curator, who is not always in a position to call in the museum scientist, have been particularly considered, and it is hoped that this publication, which deals with the numerous causes of deterioration in museum objects and their treatment, will enable him to detect and arrest decay in its early stages, and also to carry out the simple cleaning operations that so often add interest and value to the material in a collection.

The subject-matter is necessarily very varied, based as it is upon the day-to-day problems that are presented in the Research Laboratory of the British Museum —problems relating to books, prints, drawings, manuscripts, textiles, coins, *objects d'art*, ethnographical specimens, and antiquities of all kinds. From this wide range of material examples have been selected that illustrate common types of deterioration, and an attempt has been made to recommend form among the various methods of treatment available those that have proved most effective and are at the same time relatively easy to apply. In order to preserve the balance, however, detailed descriptions are included of some of the major tasks of restoration that have been carried out. This has been done partly for the sake of interest, and partly to emphasize that it is impossible to prescribe for all contingencies; each specimen that is submitted for treatment presents is own individual problems, and standard methods of treatment may have to be adapted or new methods devised before a satisfactory restoration can be achieved. Whichever methods of treatment is chosen, it should be applied so as to yield results that lie between the extremes of over and under-cleaning, the aim being to realize the golden mean which will satisfy at the same time the requirements of science, art and archaeology.

The special problems of the picture gallery have not been overlooked. In common with the museum, the picture gallery is vitally concerned with the stability of materials and methods of conservation, but the restoration of easel paintings is a highly specialized undertaking, and while instructions are given for carrying out some of the simpler studio processes, it is not the intention of the author to encourage the amateur to attempt intricate operations on valuable material. Such work is for the professional artist technician —one who has practical experience based upon a knowledge of the methods used by the Old Masters in the different schools of painting. It is important nevertheless that the collector or curator of paintings should himself be familiar with all aspects of picture conservation. He will then be able to discuss his problems in a knowledgeable way with the restorer, and take a personal interest in any treatment that may be required.

All the processes described herein have been tested, most of them at first hand, by the author. Many are standard methods that have been handed down through several generations, but some are offered for the first time. While the methods recommended are all based upon scientific investigation, the book is not written for the scientist. On the contrary, a conscious effort has been made to write for the non-specialist who has the responsibility of caring for art treasures. By presenting the material in this way it is hoped that the work will be of service to a wide range of readers not only in the museum world, but also in the home, where, indeed, many of our greatest treasures are still to be found.

I am greatly indebted to the members of my staff who have put their specialized knowledge at my service. In particular, my thanks are due to Dr. A. E. Werner for reading the manuscript and making may valuable suggestions; to Mr. R. M. Organ (metals); to Miss Mavis Bimson (stone, ceramics, and glass); to Miss Sylvia Schweppe for her help in collecting and collating the material; and to Mr. L. H. Bell for his help with photography.

H. J. P.
1956

[1] Tomado del prefacio de H. J. Plenderleith, 1956, *The Conservation of Antiquities and Works of Art: Treatment, Repair, and Restoration*, London, New York, Oxford University Press.