

Some reviews of *Technology in the Country House*, by Marilyn Palmer and Ian West

Country Life, 16th November 2016

The opening sequences of *Downton Abbey* featured a set of sprung servants' bells, filmed at the National Trust's Canons Ashby in Northamptonshire. Would a country house, modernised by American money at the start of the 20th century, really still have employed such an old-fashioned method of summoning staff?

Electric bell boards had arrived in some houses as early as the 1860s, when electric light was installed; by flicking a flag into a little window marked with the name of the room where the bell had been pressed it showed clearly where a servant was needed. No more studying the vibrations of a mechanically pulled bell. On the other hand, one of the handsomest suites of sprung bells is to be found at Manderston Hall in Berwickshire: a double row of 56 – not installed until 1903-5.

Such details are among the arcana of country house basements and service courts to be found in this fascinating volume. Although this is not the first time the subject of domestic technology has been aired, rarely has it been studied with such rigour. Don't expect the suave prose of a Mark Girouard; this is more of an archaeological study of what survives – from model farms to riding schools, early shower baths to water closets and, indeed, sewage works (there are illustrations both of surviving example and a plan).

One can only marvel at the ingenuity of our ancestors and the elaboration of means required to support a highly evolved lifestyle. When ladies change their dresses five times a day and men wear starched shirt fronts with their evening dress, laundries are bound to be Herculean, not only in electrically powered washing machines and spin driers (driven from overhead belts) but heated drying cabinets and stoves to heat the many sizes of flat iron.

Water, such an important consideration in the siting of early houses caused no end of head scratching when a house was located away from a ready supply. Given the expense of lead, elm pipes were used until cast iron was preferred in the mid 19th century. Then there was the problem of distributing the water through the house, solved at Cliveden by a prominent and handsome water tower. In the 1780s, the second floor of Audley End was equipped with a coal gallery to which a supply of coal could be hoisted from the gardens; this provided hot water, although servants still had to carry it to the bedrooms by hand.

'It is alien to the nature of an Englishman of standing to envelope himself in luxury' wrote the turn-of-the-20th-century German architect Hermann Muthesius, and few of the innovations described in this book can have, by themselves, delivered a high level of comfort; only a large staff of well-trained servants could do that.

But a good architect neglected nothing that could make a house run more efficiently – witness the two servants' stairs at Lanhydrock: a stone one for hulking great men carrying trunks to stomp up, and a wooden one for the maids, daintily tripping to bedrooms. The chapters on fire precautions and lifts cover untrodden ground.

Clive Aslet

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Engineering and Technology, 23rd November 2016

see <https://eandt.theiet.org/content/articles/2016/11/book-review-technology-in-the-country-house/>

Chartered Institution of Building Services Engineers' Heritage Group

see <http://www.hevac-heritage.org/TCHreview.pdf>

Society for Protection of Ancient Buildings Magazine, Winter 2016

This book is the result of a collaboration between Historic England and the National Trust that began in 1996 with a survey of the surviving technological elements of National Trust properties by the late Dr Nigel Seeley (to whom the book is dedicated) and became the Country House Technology Project.

The book is set out as a series of chapters starting with the background to technological changes in country houses, largely dealing with changes introduced from the eighteenth century but including examples from the Tudor period onwards. The introduction of technology both improved historic country houses such as Wollaton Hall and Audley End and applied technological innovations from manufacturing into the nineteenth century "new builds" of wealthy industrialists such as Cragside (funded by engineering and armaments) and Stokesay Court (built by Dent's the glovers).

The second chapter covers the application of technology to estate buildings, parks and gardens. The authors point out that the management of water supplies and the harnessing of water power is often the earliest application of technology on estates. Technology was used to process the products of the estate through mills (pumping, sawing and milling) water supplies and brew houses, to enhance the production from gardens and glass houses or simply to indulge the taste for greenhouses, formal gardens and fountains (as at Witley Court with the huge Perseus and Andromeda fountain).

The chapters that follow deal with technology on a subject by subject basis, covering water supply and sanitation, lighting and energy production, heating and ventilation, food preparation and storage and communications: bells and telephones. The chapter on transportation deals with moving many types of item - coal into and within houses, luggage, food, people and even dirt (via a centralised vacuum cleaner system at Eltham Palace). The final chapter on security also includes fire prevention and fire fighting and includes an image of one of the esoteric glass fire extinguishing grenades at Erddig.

The concluding chapter considers current day use of historic technology. Increasingly, technology is included within the visitor route or used as the basis for school education sessions. The ethics of restoration are touched upon as often antiquated services have been partly stripped out. In many country houses, the service yards, stables and gardens are being used for the purpose they were intended for; to maintain the estate. Increasingly, estate buildings are being adapted to use modern green technology to allow estates to once

again become self-sufficient and sustainable entities. Cragside for example, is once again powered by hydroelectricity.

This book is filled with superb photographs and a selection of contemporary illustrations for example pages from sales catalogues for bell cranks and pulls. I was able to identify a number of features that had puzzled me in historic buildings such as less obvious designs of bell pushes and a curious cast metal hand holding a rod – this is in fact the open and close knob for a Tobin tube (a ventilation feature that avoids draughts). Heating systems in many of the SPABMCP churches that have been difficult to interpret may prove to have been Haden warm-air stoves – worth further investigation. The book does not go into great detail on any topic, but notes and an extensive bibliography provide the route to locate this detail. The book however does provide an interesting overview of technological advances in houses and estates, and raises awareness that minimal intervention needs to be considered when dealing with historic services too.

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Cercles – Revue Pluridisciplinaire du Monde Anglophone

<http://www.cercles.com/review/r80/Palmer.html>

The Victorian, March 2017

Even the most knowledgeable country-house enthusiasts tend to think in terms of architects, craftsmen or family history, but know surprisingly little about how families used the houses which the architects and craftsmen built for them', wrote Mark Girouard in *Life in the English Country House*, published in 1978. With the publication of this magisterial volume there will no longer be an excuse for this.

The book sets out to chart the course of technological innovation in the country house and estate from the 18th to the 20th centuries. The research behind it emanates from the Country House Technology project set up by Marilyn Palmer in 2008 at the University of Leicester's School of Archaeology and Ancient History to develop the National Trust's earlier Country House Technology Survey and to broaden the research to include English Heritage properties and houses in private ownership. Both authors are archaeologists and their approach is unashamedly archaeological, driven primarily by the surviving remains of technologies in country houses and estates, documented during visits to about 100 properties in the UK.

There is no space in a review to go into detail about the various technological innovations covered, but readers of the *Victorian* will be glad to know that the majority of the objects or processes featured date from the Victorian and Edwardian periods. The authors pay due tribute to the work of previous researchers in the field, and indeed the book would be worth acquiring for the very comprehensive and up-to-date bibliography alone. They also make the point that the book should be read in conjunction with those that deal more fully with the lives of servants through documentary sources. After an initial introduction to the

background to technological change in country houses, and an overview of technological innovation in estate buildings, parks and gardens (which usually preceded innovation in the house), the book is organised into chapters covering water supply and sanitation; lighting and energy production; heating and ventilation; food preparation and storage; communications: bells and telephones; transportation and security.

There is also an alphabetical list of all the houses cited as examples, with an indication of whether they are in the care of the National Trust or English Heritage or are in private ownership, and, if the latter, are accessible in some way. It might have been helpful if website addresses or other contact details had been provided, but such details are subject to change and are in the main readily accessible elsewhere.

Some technologies, such as communications and heating, are analysed in more detail than those which have already received considerable attention, such as lighting and cooking. There is also discussion about some of the conundrums thrown up by the research – why, for example, certain technologies were widely adopted by country-house owners and others much less so. Sometimes this was for practical reasons, such as, for instance, lack of access to a public supply of gas, but in other cases the reason is less clear.

The research is presented in an engaging way, avoiding the dryness which might be thought to attach to such a subject, and the necessary technical explanations are accessible and intelligible to the technically challenged (such as this reviewer). Each chapter has a short summary of the main points covered at the end. Whilst the emphasis is always on the surviving physical evidence, there are enlivening quotes from a range of sources such as novels and memoirs, and even a Hilaire Belloc ode on the tribulations of electric light, as well as Gilbert and Sullivan's *Iolanthe*. Almost every page is illustrated with one or more photographs, primarily of the surviving evidence of the technologies in situ, and mostly in colour. Indeed, the book is attractively produced altogether. A comprehensive index renders it possible for it to be used for quick reference on a particular subject as well as for more detailed perusal.

The authors end with a plea for the importance of recognising and preserving the surviving evidence of technology, not just in the service areas but also in the state and family rooms, where the emphasis has tended to be exclusively on the furniture, paintings and décor. They also sound a note of warning, to be aware that surviving remains of technology may have been adapted at a later date and also, in the case of buildings no longer in the care of their original owners, that objects may have been introduced from elsewhere and not recorded as such, though modern standards of recording the research behind a display are much higher than in the 1950s and 1960s.

SUSAN PALMER

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ICON – the magazine of ICOHTEC (International Committee for History of Technology), 45.

This exhaustively researched study looks at the technologies that shaped the British country house. Thus the beautifully illustrated volume presents technological innovation in the country house, including estate buildings, parks and gardens, especially after the middle of the eighteenth century. Following an archaeological approach, technologies are classified in seven large chapters under the themes of Estate and Garden Technologies, Water Supply and Sanitation, Lighting and Energy Production, Heating and Ventilation, Food Preparation and Storage, Communications, Transportation and Security. Having visited and studied almost a hundred relevant sites, the authors are keen to emphasize that their approach is based on archaeological and artefactual evidence of the impact that technological innovation had on the country house and the people related to it as residents, workers, suppliers, and so on. Although the authors have also used documentary evidence to support their interpretation of physical remains, they warn against excessive reliance on printed sources because it can result in a distorted view.

The authors view the country house as a combination of the labour of servants with a whole range of machinery such as gasworks, electricity, central heating systems, pumps, cooking systems, refrigeration, laundry and facilities, lighting, communication systems, locks and safes. Although technology transfer in the late seventeenth century was primarily from industry to domestic settings, by the nineteenth century, commercial buildings such as offices, hotels and department stores proved more appropriate for testing technological innovations that were later introduced into the domestic sphere. But that is not all. The authors observe that “much can be learned from those properties that failed to innovate, for whatever reason.” (viii) Resistance to new technologies due to conservatism or financial reasons and the co-existence of old with new technologies contribute to our understanding of the processes of innovation and technical change. A key theme discussed in the book is the role of technology in shaping the idea of domestic comfort. Specific devices such as mechanical and electrical bells, lifts and sometimes even railways for the delivery of fuel, food or luggage enabled the country house to operate efficiently like a welloiled machine and render invisible the armies of servants that made this machine cum institution operate in the first place. Within the country house, elite actors benefited from the labour of the non-elite actors responsible for the running and maintenance of technology, while a range of architectural solutions ensured the separation of masters from servants and the gender separation of servants. The irony is that this very technology of separation led to the rise of a new industrial and commercial oligarchy that would gradually undermine and destabilize the traditional landed gentry. While the availability of servants up to the First World War cushioned the country house against the need for change, the dearth of staff after the war and the parallel emergence of new and more developed technologies had a major

impact on the country house and led to the introduction of many labour-saving devices.

The recent publication of two more volumes on the country house (*The Country House: Material Culture and Consumption*, edited by Stobart and Hann, and *Consumption and the Country House*, edited by Stobart and Rothery, both published in 2016) indicates that this topic continues to attract attention and fascinate for various reasons and from different disciplinary perspectives. Nowadays the country house has acquired a new lease of life as a tourist attraction; visiting sumptuous, well-preserved country houses is fueled by modern lifestyles and consumption fashions. Conservation needs to take into account “sustainable access” but also matters of interpretation: What kind of stories do these houses now tell to increasingly growing and varied groups of visitors? In this context, the volume by Palmer and West is a laudable contribution for understanding technology in the country house and its ramifications.

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IA – the Journal of the Society for Industrial Archaeology, 41/1 and 2

In *Technology in the Country House*, Marilyn Palmer and Ian West trace the adoption of various domestic technologies across three centuries and hundreds of British country houses. The technologies they discuss range from the provision of water, gas and electricity to bell systems and dumb waiters. The houses are those owned by the National Trust and English Heritage, as well as some private ones. The result is an absorbing investigation of the adoption of new technology and a fascinating look at the instruments of domestic life on a grand scale.

The orientation of Palmer and West is toward the artifact, which should appeal to *IA* readers. The authors’ investigation of each technology includes a surviving example, expanded outward to include historical background and relevant documents. They caution that many artifacts have been replicated, mostly for the sake of interpretation to the public, and cannot be accepted at face value. In addition, of course, many have disappeared. But the sheer number of historic artifacts, isolated in country houses with little pressures on the space, is mind-boggling. For example, the authors identified 350 gasworks and 500 generator plants in country houses.

In seeking the motivation for technological adoption, the authors cannot find a consistent explanation. In some cases, new technologies would lessen servants’ labor, at a time of a diminishing pool of labor, but in other cases the new technology would require new skills and perhaps more servants – as in the case of the four electricians employed at Blenheim Palace, Oxfordshire. Some new technologies increased the comfort of the owners, but others decreased it, such as having to walk to a cold bathroom down the hall rather than bathe in front of the fireplace in one’s bedroom. Generally, the likelihood of adopting new technology seems to have depended on the comfort of the owners rather than a need for labor-saving devices. Because of the prioritization of comfort, new technologies were

adopted unevenly, so that some found ready acceptance whilst others caught on much more slowly. In chapters devoted to each technology, the authors trace this history. After an introductory chapter which looks at the basic planning of country houses and the owners who would have instigated change, Chapter 2 argues that the grounds were more important than the house itself. As an estate, country houses were agricultural enterprises and much new technology found its first use outside the house itself, such as water-power and heating systems being first employed for corn mills and greenhouses respectively. The pineapple pit, designed to grow pineapples in a hostile climate, was one of the more remarkable structures.

The meat of the book, Chapters 3-6, examine water supply and sanitation, lighting and energy, heating and ventilation, and food preparation and storage. The authors consider the issues of why and when to adopt each new technology. In the case of water supply, change came slowly, as owners preferred to have water brought to their rooms and chamber pots carried out. In the case of lighting, country-house owners were slow to take gas but seemed to accommodate electricity quite easily, even though it required an employee with expertise to run the generator. Central heating held little appeal for owners who, concerned about ventilation, preferred the open fire, and reliance on open fires for heat persisted into the twentieth century. As for food preparation, the British fondness for roasts prepared on an open hearth led to the development of cast-iron stoves which had both coal- and wood-fueled sections.

While these technologies all had application to the smaller house, three subsequent chapters address convenience more appropriate for large estates and institutions. In Chapter 7 on communications, the discussion of bells and telephones point out that these devices were used for summoning servants, not for conversation. Both horizontal and vertical transportation are considered, including railways for carts bring food from distant kitchens and to deliver fuel from coal yards, as well as dumbwaiters and other lifts for food and luggage. This chapter, which also includes a discussion of the centralized vacuum systems, examines technologies which lessen the work of servants. Finally, in Chapter 9, the authors look at security, including locks, safes and fire resistance, the latter borrowing technology from textile mills. In their discussion of each technology, the authors relate it to the larger currents of technological development and demonstrate a keen understanding of how these devices work.

As warranted by a study that is so orientated to the artifact, the book is generously illustrated, averaging more than one image per page of text. The photographs are of excellent quality and are nearly all in colour. The authors acknowledge a debt to Mark Girouard, whose *Life in the English Country House* (1978) challenged us to look beyond the polished surface of these buildings to understand how people actually lived in them. Palmer and West do us a service in showing how understanding domestic technology is critical to understanding how people lived – both the life of comfort that the owners experienced and the life of toil of their servants.

Alison K Hoagland