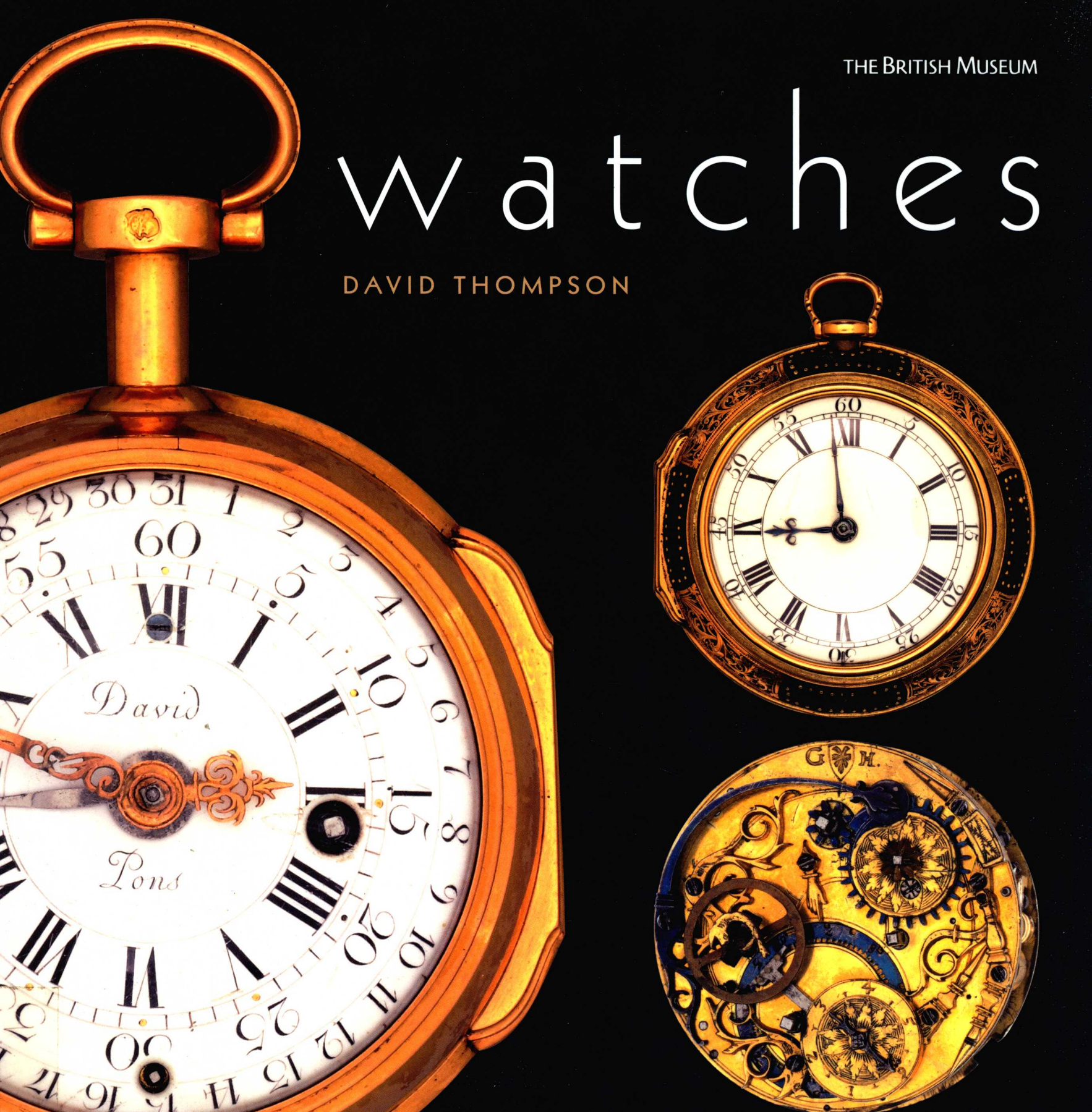
THE BRITISH MUSEUM

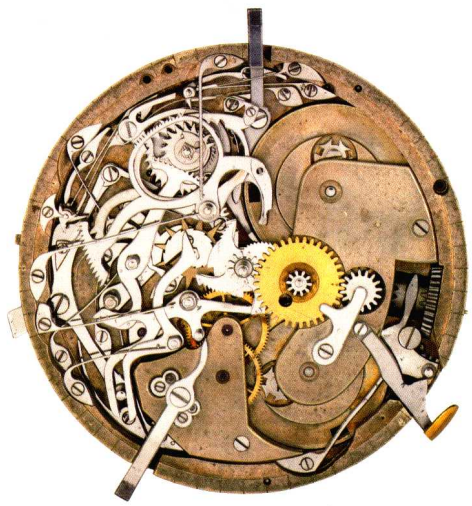
watches

DAVID THOMPSON



THE BRITISH MUSEUM

Watches



DAVID THOMPSON

Photography by Saul Peckham

THE BRITISH MUSEUM PRESS

For Sir Harry and Lady Djanogly

David Thompson has asserted the right to be identified as the author of this work

First published in 2008 by The British Museum Press
A division of The British Museum Company Ltd
38 Russell Square, London WC1B 3QQ

www.britishmuseum.co.uk

A catalogue record for this book is available from the British Library

ISBN 978-0-7141-5055-0

Designed by Janet James
Printed in China by C&C Offset Printing Co., Ltd

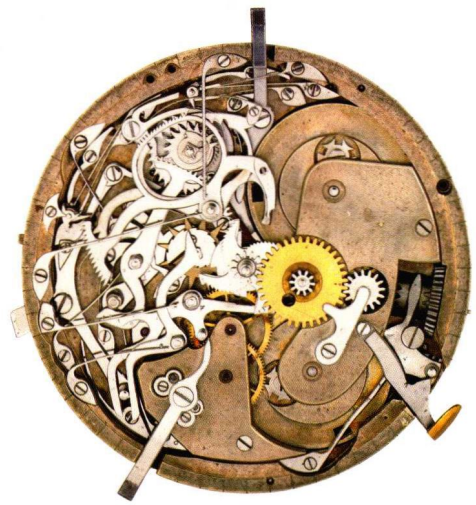
Frontispiece: *Portrait of a man holding a watch*, attributed to Tommaso Manzuoli (Maso da San Friano). Oil on wood, *c.* 1558. Science Museum/SSPL.
Title page: Gold and enamel cased clock-watch, by Sir John Bennett (see pp. 128–9)
Opposite: Gold pair-cased clock-watch, by Daniel Quare (see pp. 56–7)
p. 6: Gold and niello cased cylinder watch, perhaps by Jean F. Bautte & Cie (see pp. 116–17)
p. 8: Gilt-brass cased clock-watch, by Jan Janssen Bolkelts (see pp. 22–3)
p. 13: Clock-watch, by Jean Vallier (see pp. 34–5)

Contents

Watches

THE BRITISH MUSEUM

Watches



DAVID THOMPSON

Photography by Saul Peckham

THE BRITISH MUSEUM PRESS

For Sir Harry and Lady Djanogly

David Thompson has asserted the right to be identified as the author of this work

First published in 2008 by The British Museum Press
A division of The British Museum Company Ltd
38 Russell Square, London WC1B 3QQ

www.britishmuseum.co.uk

A catalogue record for this book is available from the British Library

ISBN 978-0-7141-5055-0

Designed by Janet James
Printed in China by C&C Offset Printing Co., Ltd

Frontispiece: *Portrait of a man holding a watch*, attributed to Tommaso Manzuoli (Maso da San Friano). Oil on wood, *c.* 1558. Science Museum/SSPL.
Title page: Gold and enamel cased clock-watch, by Sir John Bennett (see pp. 128–9)
Opposite: Gold pair-cased clock-watch, by Daniel Quare (see pp. 56–7)
p. 6: Gold and niello cased cylinder watch, perhaps by Jean F. Bautte & Cie (see pp. 116–17)
p. 8: Gilt-brass cased clock-watch, by Jan Janssen Bolkelts (see pp. 22–3)
p. 13: Clock-watch, by Jean Vallier (see pp. 34–5)

Contents

Acknowledgements

When writing any book, there is always a need for support in both expected and unexpected ways. It is therefore with great pleasure that I offer my sincere thanks to all those whose hard work and support have made this book a reality. First, the person who has contributed most is my friend and colleague Paul Buck, whose tireless efforts in preparing the watches for photography and in arranging the views of each watch have resulted in the amazing visual array you will see in this book. He has also been a huge help in checking my texts and suggesting useful improvements.

Together with Paul, thanks and congratulations go to another friend and colleague, Saul Peckham. This book relies as much on the images as it does on the text and there is no doubt that Saul is one of the best when it comes to photographing difficult objects. At first sight, this may look easy, and people often think that digital cameras now do all the work. Nothing could be further from the truth and I think that in this book Saul shows just what can be achieved in bringing wonderful objects to life. Saul is also a pleasure to work with and both he and Paul were the best that one could ask for in colleagues who really involved themselves in the project.

I am also indebted to my friend Andrew James, who has gone to great lengths to read my text and make suggestions for correction and improvement. It is vital that someone reads the final text to ensure there are no major blunders. I should add, of course, that if there are, then they are mine entirely.

Another essential person in the process is the editor and I extend my grateful thanks to Felicity Maunder for her attention to detail and for her bright and optimistic attitude to some of my more demanding pieces of tortured text. Additional thanks go to Janet James for her elegant design.

Many others have helped with advice and suggestions and I am grateful to them all, but my special thanks go to Richard Edgcumbe at the Victoria and Albert Museum, and Roger Smith for their particular insights into aspects of the watchmaking trade.

I dedicated my book on clocks to my wife, Pam, who I said 'always finds time'. I owe her the debt of gratitude for this book too. It is far easier to face the mountain when you know you have the support and backing of the person closest to you. For that I thank Pam unreservedly – without her support this book would not exist.

Introduction

What is a watch? The simple answer is that it is a machine designed to measure and mark the passing of time, made to be carried or worn for that purpose. At another level it can be seen as a piece of highly sophisticated technology, as a status symbol, a love token, a gift, or an old and precious item to be collected and treasured. It is the creation of a group of skilled craftsmen working together to produce an instrument which can be plain, unadorned and functional, or an object of great beauty and elegance.

The seventy-seven watches illustrated and discussed in this book are drawn from the holdings of the British Museum, home to one of the most important collections of watches to be found anywhere in the world. With more than 4,500 pieces, the collection provides a fascinating insight into the history of the watch from the sixteenth century to the modern era of radio-controlled, quartz timekeeping. Famous makers are often represented in the collection by multiple examples of their work; for instance, the Museum holds over fifty genuine examples of watches from the workshops of the great Parisian watchmaker Abraham Louis Breguet. The most celebrated English maker was undoubtedly Thomas Tompion, whose name is synonymous with quality: the Museum has forty-three watches bearing his name, including a small group of fakes.

That the Museum's holdings are so rich is due largely to three men, whose collections were either bequeathed to or purchased for the nation. When Lady Harriet Fellows died in 1874, the collection of watches put together by her late husband, Sir Charles Fellows (1799–1860), was bequeathed to the British Museum. At that time the curator of British and Medieval Antiquities, Augustus Wollaston Franks, invited his friend Octavius Morgan to make an assessment of the Fellows watches. The resulting paper, 'Observations on the Classification and Arrangement of a Collection of Watches', was published in the *Archaeological Journal* of 1875. It dealt, to a large extent, with the way in which Morgan viewed his own collection, allowing a deeper insight to be gained from looking at the wider selection of material provided by the Fellows bequest. In the paper Morgan wrote, 'I am not aware of anyone besides myself who has made a regular collection of watches, except the late Sir Charles Fellows, and his collection, his widow, on her decease last year, munificently bequeathed to the British Museum where they may be seen, and much information on the subject gained from them'. Upon his death in 1888, Morgan's own magnificent collection of clocks, watches and scientific instruments also entered the Museum.

Courtenay Adrian Ilbert was born in 1888, the year that Morgan died. A civil engineer by profession, during his lifetime Ilbert amassed the most important collection of watches ever to be brought together by one individual, containing more than 2,300 watches and watch movements, as well as a variety of components. In 1958, with the aid of a generous donation from Gilbert Edgar CBE and money raised by a public subscription and a government grant, the unsurpassed collection was secured for the nation, to be held in the British Museum as a unique body of reference for the future.

The story of the watch is rich and varied, spanning a period of about five centuries. In that time it has been transformed from an unreliable and erratic innovation to a precision instrument that now takes its time from atomic clocks of spectacular accuracy. From its obscure beginnings at the turn of the sixteenth century it has always been a very personal item, to some extent reflecting the character and taste of its owner.

This portable means of telling the time has taken many forms. Those unfamiliar with its history may find examples that astound and amaze with their exquisite decoration or their ingenious and incredible complication. It is perhaps a common misconception that watches are produced by individual craftsmen labouring in trying conditions to create masterpieces in base and precious metals, in enamel and rock-crystal, or more recently in modern plastics. From the earliest period the completed watch was, with few exceptions, the result of the combined efforts of skilled and ingenious craftsmen who excelled in the arts of miniature clockmaking, gold- and silversmithing, springmaking, gilding, engraving and many other techniques. The high level of skill practised by these craftsmen is evident in the work they produced.

Exactly when, where and by whom the watch was invented is not known. There is written evidence to suggest that it may have been in northern Italy towards the end of the fifteenth century, but that relies on how one interprets words such as *horologio* and *orloietto*, which may equally refer to small spring-driven table clocks, undoubtedly in existence in that part of the world at the time. So far no example of such a watch from northern Italy has been identified. There is also written evidence for the existence of watches in South Germany at the beginning of the sixteenth century. The most commonly quoted piece of text is from Johannes Cocleus's *Cosmographia Pomponii Melae* of 1512. Cocleus refers to a young man named Peter Hele, who made objects that astonished the most learned mathematicians; out of very little iron he assembled

timepieces with many wheels, which, without any weights and in any position, indicated and ran for forty hours, even if contained within a purse or pouch. In the past this reference to Peter Hele (Henlein) has been taken to identify him as the inventor of the watch, but in fact it only tells us that Hele was making very small portable timekeepers. Whether these machines were small table clocks or watches as we know them has to remain an open question. Another early piece of evidence exists in a published document of 1546, in which Johann Neudorfer gives an account of the artists and craftsmen of Nuremberg. Here one Andreas Henlein is described as being one of the first to make timepieces contained in musk balls (*Bisam-Kopf*). Unfortunately no clearly identifiable watch exists from the first quarter of the sixteenth century. One of the earliest watches that survives today is in the Walters Art Gallery, Baltimore, a spherical cased watch bearing the inscription 'PHIL .MELA .GOTT .ALEIN .DIE .EHR .1530'. This piece, first owned by the religious reformer Philipp Melanchthon, would seem to be a rare survivor with few parallels, except for an unsigned small spherical watch now in the Ashmolean Museum, Oxford. Such spherical watches were rare, and it seems clear that the main trend in watches in the middle years of the sixteenth century was for small drum-shaped cases, numerous examples of which survive to this day.

During the sixteenth century Germanic watchmakers were centred largely in cities such as Augsburg, Nuremberg and Munich, and benefited from aristocratic patronage. Clock- and watchmaker guilds were established in Augsburg in 1564 and Nuremberg in 1565. While there were watchmakers in the northern cities, it seems that their output was far less prolific. By the third quarter of the sixteenth century watch-making had begun in France, Flanders and the Southern Netherlands, but no examples from this period have survived; we can only reliably date and accept as authentic pieces dating from about 1580.

In the last quarter of the sixteenth century religion played a big part in spreading the art of watchmaking to England. Following the Spanish occupation of the Netherlands and the beginning of the Eighty Years' War in 1568, a number of watchmakers fled their homelands to settle in London. Makers such as Nicholas Vallin, Ghyllis van Gheele, Michael Nowen and Francis Nawe, living and working in Austin Friars in London, almost certainly brought the art of watchmaking to that city. In general their work was more refined than that of their German counterparts. In France a similar story unfolded following the St Bartholomew's Day massacre in 1572. In the ensuing years and into the first decades of the seventeenth century Huguenot watchmakers, engravers and silversmiths established themselves in the Blackfriars area, and they too made an important contribution to the development and refinement of the art in London. They came from centres such as Paris, Blois and Rouen, all of which had well-developed skills and traditions in the field. The religious wars in France and the decline of trade in the Holy Roman Empire brought about by the Thirty Years' War allowed London to grow rapidly in the first half of the seventeenth century as a major centre for watchmaking. At the same time there was an exodus of skilled craftsmen from Lyon and other centres of watchmaking in eastern France to Calvinist Geneva, where they founded a flourishing and accomplished watchmaking community.

The middle years of the seventeenth century can be seen as an age of fabulous and flamboyant decoration. Watches, particularly those made in Paris, Blois and Geneva, were housed in beautiful enamel, rock-crystal and engraved precious-metal cases. Perhaps unexpectedly there seems to have been little use of gold in this period, except as a base for enamel work. However, this may be because, as items of fashion, such watches were broken up when they ceased to be in vogue, and the gold reused for other purposes. In contrast to these overt demonstrations of wealth were the so-called Puritan watches, a style that appeared primarily in London. These were simple pieces with no exterior decoration; even the dials had only an engraved chapter ring, their sole function being to tell the time. In the third quarter of the seventeenth century the integral pocket in clothing developed, and it is perhaps unsurprising to find that the appearance of watches changed to fit this new location. A watch that is worn to be seen is more impressive when highly ornate; a watch worn in a pocket and used primarily to tell the time need not be. It comes as no surprise, therefore, to see the emergence of a form of plain watch with a protective outer case. A new era had arrived in which the watch's primary function was as a time-measuring instrument. That is not to say, however, that the decorative watch ceased to exist: such watches continue to be made to this day.

In 1657 Christiaan Huygens introduced the pendulum as a revolutionary timekeeping element for static clocks, transforming them into machines capable of marking time to within a minute per day. Then in 1675 in The Hague, Huygens introduced the spiral balance spring, often referred to as the hairspring. That his adversary Robert Hooke in

London claimed to have invented the device some years before and had commissioned Thomas Tompion to make a watch containing his invention is to this day a subject of debate in the horological world. In any event, the new device produced a revolution in timekeeping. Before it the watch had been erratic in performance, with deviations from accuracy of up to a quarter of an hour per day. The problem was that the oscillator that determines the rate at which the watch goes, and also its accuracy – whether a wheel balance as favoured by the German makers or a weighted bar foliot as favoured by the rest of the watchmaking world – had no natural period of oscillation. Consequently, any variations in the power imparted to it by the gear train and escapement would have profound effects on the rate of the watch. The application of the spiral spring to the oscillating balance changed everything and made the watch a considerably more accurate timekeeper. Now minutes and even seconds could be viable as units of measured time on a watch.

From the beginning, watches could be purchased with extra functions to enhance their exclusivity or their practical application. Simple timekeepers were always available, but watches that struck the hours, as a clock does, could also be bought, and watches with alarms were common during the sixteenth and seventeenth centuries. A watch might have a complicated calendar dial showing the day, the date and the age and phase of the moon. All these functions were designed to make the watch more desirable and useful. In 1687 the quarter-repeat mechanism appeared, which allowed the owner to hear the hours and quarters struck on a bell inside the case, when the pendant was pushed in. During the eighteenth century the alarm watch and the striking clock-watch became far less popular, but the watch with quarter-repeat was perhaps the most desirable.

The eighteenth century is best described as a period of consolidation and expansion. London continued its rise to eminence that had begun in the last years of the previous century. Religious intolerance in France, culminating in the Revocation of the Edict of Nantes in 1685, produced another exodus of Huguenots, particularly to England; among the refugees were numerous watchmakers who set up in business in the 1690s, swelling the growing numbers of indigenous craftsmen. The French industry, meanwhile, went into a decline that would last for most of the century. In eighteenth-century Switzerland the industry presents a similar picture. However, in contrast to France, a flourishing industry grew making large quantities of average-quality watches for export around Europe, many of them inscribed with the word 'London' to add to their desirability. In Friedberg in South Germany, not far from Augsburg, a similar story develops of a small group of watch- and clockmakers producing better quality work, but again often using the 'London' name to gain credibility.

The watch moved forward in technical terms during this century. As early as 1704 Nicholas Facio had perfected the art of piercing jewels for watch pivot holes, a technique that he and his partners, Pierre and Jacob Debaufre, established in London and one which appears to have remained virtually a state secret for the next seventy years. Around 1725 the celebrated London maker George Graham introduced the cylinder escapement, a more refined mechanism that allowed watches to be made thinner. As the century progressed, production of watches mushroomed. During this period a supply industry developed in Switzerland, particularly in Geneva, La Chaux de Fonds and Neuchâtel. In London the area of Clerkenwell, just to the north of the City, grew and prospered as the supply area for the London high street watch retailers. Significant too was the development of Toxteth Park and Prescot in Liverpool as a major centre for the manufacture of watch movements.

The eighteenth century also saw the rise of an export market, first to the Ottoman Empire in the Middle East and North Africa, and then to China in the later years of the century. Through the nineteenth century this trade diminished in the former and expanded in the latter, and was to a large extent taken over by Swiss makers, particularly in Fleurier where a whole industry concentrated on the Chinese market.

The last quarter of the eighteenth century saw dramatic changes in technology. In the 1780s the new detached lever, based on Thomas Mudge's design of the 1750s, was developed by other makers and gradually became the preferred escapement for 'ordinary' watches in the nineteenth century. When John Harrison (of 'longitude' fame) commissioned John Jefferys to make a new design of watch, he was setting standards to which others would aspire in the following half-century. In the 1770s John Arnold began work on a simple chronometer for use in timekeeping at sea. His rival Thomas Earnshaw was similarly engaged, and the spring detent escapement was born. It would not be long before pocket watches would contain these new technologies and become phenomenally accurate in comparison with their ordinary verge watch contemporaries. In Paris, Pierre Le Roy had introduced new methods of compensating for the effects of changes in temperature on