Unravelling the myth of the 'Dutch forgery'

The production, trade and dissemination of grey market watches in Europe, 1750-1820

A watch signed *Harry Potter, London*. Circa 1780. British Museum reference 1958,1201.137.

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Abstract

Historically, the term 'Dutch forgery' has referred to watches manufactured in the latter part of the eighteenth century, purporting to have been made in London and yet created with Dutch physical characteristics. It has long been believed that these watches were not made in London, hence the application of 'forgery', with the general assumption amongst antiquarian horologists being that Geneva was their true city of origin.

These 'Dutch forgery' watches were not of a high quality, made no scientific contribution to our understanding of time and accuracy and as such, they have largely been condemned to the dark corners of horological research. They have been dismissed as fakes and forgeries regarded as holding little relevance to the course of horological history, and yet, as this study innovatively claims, they represent the birth of mass production in the watch industry. Over the course of the timeframe covered (1750-1820), they play an integral role in the commercialisation of the watch which shifted from an immensely valuable object of desire to a more attainable accessory. They started the journey towards making portable timekeepers accessible to all in the developed world, and yet their remarkable story has never been the subject of a detailed published study.

At its heart, this thesis contains the most thorough physical examination of surviving examples of these watches conducted to date. Carried out by the author, these examinations benefit from the unique insight of a practising watchmaker in the twenty-first century, studying and interpreting the work of their predecessors. This evidence helps to distinguish these watches from others made during the same period, and, along with documentary evidence, leads to a new understanding of where they were made and also their dissemination and their destination markets.

The opening chapters of this thesis outline the cultural role of forgery in *an age of imitation*, before exploring the political, socio-economic, technological and cultural influences which gave rise to forgery and imitation in the eighteenth-century European watch industry. It will examine the law to question the nature of forgery within the context of historical material culture, and explore the nature of the watches themselves.

As the majority of these 'Dutch forgeries' declare London origin, this thesis concentrates on such work but shows that watches were also claiming to have been made in other parts of Europe as well. Although this thesis, therefore, broadens the definition of a 'Dutch forgery', it focuses on examples claiming to have been made in London.

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I would like to dedicate this thesis to my patient and ever-supportive husband, Craig.

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Glossary

Bottom plate (or back plate)

For the purposes of this research, the term bottom plate will always refer to the side of the movement normally concealed under the dial. While this is the generally accepted definition of the term for watches of this age, it is debated and might vary from text to text.

Balance (mock pendulum)

A form of balance designed in the late seventeenth century to loosely imitate the appearance of a clock pendulum in a watch. This was achieved by cutting a window in the balance bridge or cock and placing a small disk on one arm of the balance wheel. Although the style was popularised between 1690 and 1710, it appears until much later in Continental watchmaking and as late as the end of the eighteenth-century in Dutch forgeries.

Balance bridge

This term is given to the furniture on the top plate of a watch with a verge escapement and is designed to house the top pivot of the balance staff. It consists of a round plate, or table, which is often decorated with piercing and/or engraving. This table is then secured to the top plate by two feet secured by two screws forming the shape of a bridge. Balance bridges were the preferred design of Continental watchmakers and used in various styles across France, Germany and Holland.

Balance cock

As above, only held by a single foot and screw. The balance cock was used almost exclusively by English watchmakers.

Balance staff

The centre bar [C] onto which the balance assembly (consisting of the spring [B], wheel [A]and flags [D]in the verge escapement) is mounted. The staff is pivoted at both ends to allow the wheel to oscillate freely. A pair of flags set at an angle to each other pivot back and forth which in turn allows the release of teeth from the escape wheel [E].

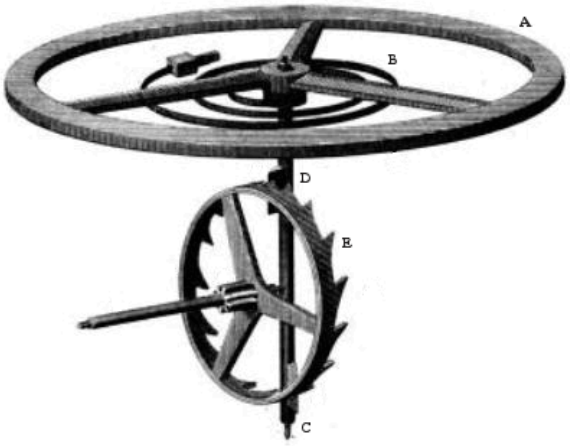

Figure 1: set-up of the verge balance.[1]

Balance wheel

The balance is an oscillating wheel [A] in the movement of a watch responsible for regulating the release of power from the mainspring. The speed at which the balance oscillates controls the rate of the watch and is responsible for timekeeping.

Bush

The name given to the hardened brass bearing into which a pivot sits. These were later replaced by jewels in the nineteenth century, although they are still occasionally used in cheaper mechanical watches.

[1]REES, A. Ed. (1820) *The Cyclopaedia, or Universal Dictionary, Vol. 2*, Longman, Hurst, Rees, Orme, and Brown, London, "Horology", Plate 31 http://books.google.com/books/download/The_cyclop%C3%A6dia.pdf?id=-XxMAAAAMAAJ&pg=156-PA3 [Accessed 09.11.15].

Champlevé

A style of solid silver or gold dial often with engraved and inlaid or applied numerals and typically decorated with ornate engraving, piercing and chasing. Popular in European watches made from the mid-seventeenth century until the third quarter of the eighteenth century in England. The style remained in use on the Continent, particularly in the production of 'Dutch forgeries' until the end of the eighteenth century.

Continental silver

An alloy containing a minimum of 80% silver that was mainly used on the Continent during the period covered by this study.

Coqueret

Serving a similar purpose to the endstone which was popular in English watchmaking from the mid-eighteenth century, and the popular style in France, the coqueret is a polished steel end plate screwed to the balance bridge or cock to protect the oil sink and top pivot.

Dust cover

A brass cover engineered to fit over the movement inside the case to protect it from dust and damage by the owner.

Ébauche

The term given to a standardised movement supplied to order in a complete but unfinished state with the intention that the purchaser can customise and sign it accordingly.

Endstone

The name given to the stone, usually synthetic ruby or diamond used to cover the end of the balance staff pivot and secured to the balance cock or bridge. The endstone serves two functions, to protect the pivot and to hold the oil used to lubricate the pivot in place.

Escapement

The collective name given to the group of components in a watch responsible for controlling the release of power from the mainspring and reducing the speed of the train to that necessary for timekeeping.

Fusee

A device invented in the fifteenth century to achieve uniform torque from the mainspring. When the mainspring is at full wind it exerts a stronger force than at half wind, which in turn reduces as the watch is near unwound. The power is evened out using a gut line (and later chain) which transmits the power to a graduated barrel known as the fusee. When the mainspring is at full wind, the line turns the smallest diameter of the fusee barrel reducing its power. The line works its way down the graduation inverting the mainspring's power against the fusee diameter.

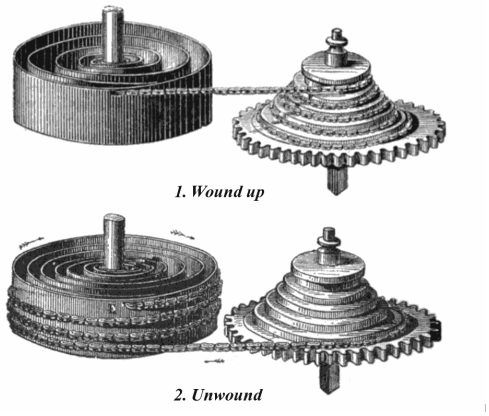

Figure 2: set-up of the fusee and mainspring.[2]

[2] LARDNER, D. *The Museum of Science and Art, Vol.6*, Walton & Maberly, London, 1855, fig.14 & 15, p.24-25. http://books.google.com/books?id=480EAAAAYAAJ&pg=RA1-PA24 [Accessed 09.11.15].

Ligne

A historic unit of measurement used in France prior to the metric system and still used in horology to date. The diameter of a watch movement is measured in lignes, which represent $1/12^{th}$ of a French inch. 1 ligne equates to 2.256mm metric. The abbreviation of a ligne is represented as a triple apostrophe, for example, 10 lignes can be written as 10’’’.

Mainspring

The mainspring is the power source in a mechanical watch. It is the name we give to the spring contained within a toothed barrel (mainspring barrel) which can be wound manually. The wound spring creates a concentric force as it releases, which is transferred down a series of gears to the escapement, where its force is regulated.

Masstige

An amalgamation of the terms ‘mass produced’ and ‘prestige’ used to refer to the commercialisation of luxury objects.

Pair-cased watch

The name given to the design of watch in which the movement is housed in an inner case, which is then protected within a further outer case. The style was popular throughout the eighteenth century and into the nineteenth due to the increased durability and protection from the elements. On occasion, a further third case could be added which is referred to as a triple-cased watch, as was popular in European made watched destined for the Eastern market.

Plate

In the period covered by this study the word plate meant silver, but in the modern world the world is often taken to mean an imitation of silver. In this study, the word is used as it was in the period under discussion.

Potence

The seating for the rear pivot of the escape wheel arbor in a verge escapement. The potence must be adjustable as it allows the depthing of the escape wheel teeth and balance staff flags to be adjusted as the watch wears. The style of adjustment improves over time from a simple friction tight plug to a screw-adjusted steel plate, although there are variations within these types depending on date and location.

Repoussé case

A technique used in silversmithing where a design is punched into the back of a piece of metal to create a relief, before being engraved and chased from the front to refine the detail.

Sheffield Plate or Old Sheffield Plate

A thin layer of silver fused onto usually a sheet of copper, to give the appearance of solid silver at a reduced cost.

Silver plate

A term used in the modern period to refer to silver covering a base metal, which is usually electroplated ware.

Sterling silver

An alloy of at least 92.5% silver which is the standard mainly used in England, and is therefore sometimes referred to as standard silver.

Top plate (or front plate)

For the purposes of this research, the term 'top plate' will always refer to the side of the movement carrying the balance furniture, signature and regulation visible when the watch is open.

Verge

The verge is one of the earliest escapements found in watches. First used in the fifteenth century and phased out at the turn of the nineteenth century, the mechanism consists of a balance staff (D) with two flags positioned at right angles. The staff, secured to the oscillating balance, rotates back and forth so that the pallets release one tooth at a time of an engaging wheel (A), referred to as the escape wheel.

White metal

During the eighteenth century the term white metal referred to an alloy of 210 parts tin, twelve of antimony and four of copper; this metal could have been used for pieces described in this thesis as white metal, but the term is being used in this study as a general term for all white metals which have not been hallmarked or tested.

Introduction

Written in 1967, Terence P. Cuss' definition of a 'Dutch forgery' was as follows:

> **DUTCH FORGERIES**. Following the investigations of Mr J.H. Leopold of Groningen, our ideas regarding so-called 'Dutch forgeries' must be recast. It appears certain that during the second half of the 18th century there was a large export trade organised in Geneva which supplied inferior quality watches, many with spurious English names – and some even with forged English hallmarks – to England, Holland, Germany and other countries.[3] Since many of these watches had dials with an arcaded minute band which had become popular among Dutch makers in the earlier part of the century, such watches have for long been thought to have originated in Holland, thus earning for that country the unenviable reputation which truly belongs to the city of Geneva. The situation is however further confused by the possibility that enamel dials made in Geneva were exported and fitted to movements that are genuinely English. Similarly, *repoussé* cases – some very inferior – were exported and used in the importing country. Further Swiss movements were fitted into hallmarked English cases in Holland. The whole complex, therefore, was one of merchandising rather than watchmaking.
>
> The watches in question are often recognisable by inferior workmanship, a bridge rather than a balance cock, a curious maker's name without a Christian name or initial, and an arcaded minute band to the dial.[4]

[3] While the majority of these watches carry spurious names, others imitate the work of famous watchmakers.
[4] CUSS, T.P. *The Camerer Cuss Book of Antique Watches*, ed. T.A. Camerer Cuss, Suffolk; Baron Publishing, 1976 edition, p. 309.

Prior to this research, this definition was the longest published description of the emergence of a new type of watch trade that would go on to change the course of watchmaking history.[5] Importantly, this quotation specifically links Geneva with watches purporting to have been made in London. It is this quote that formed the starting point for this study, as it outlines some of the key issues faced by the researcher when tackling the nature of watch forgery in eighteenth-century Europe. The description is unreferenced. Not only did Leopold never publish on the subject of 'Dutch forgeries', but an exhaustive search of his hand-written notes which now reside in storage at the British Museum revealed no trace of his "investigation".[6]

As the reader will discover, the little existing published material containing mention of these forgeries is vague, lacks substance and regularly contradicts itself. In the space of this short definition, Cuss shifts from describing "a large export trade organised in Geneva" before going on to claim that these watches "have for long been thought to have originated in Holland, thus earning for that country the unenviable reputation which truly belongs to the city of Geneva."[7] A centre of trade and a city of origin are two different things; just because these watches were being traded through Geneva does not necessarily mean they were being made there. Unfortunately, without a reference, it is impossible to say which of the two versions of this story, if not both, he intended to be taken as evidence to 'recast' our ideas about the 'so-called Dutch forgery'.

The description also highlights the inaccuracies in the application of the term 'Dutch forgery' in that these watches are not believed to be Dutch in origin. Although, while this research will agree that

[5] Since the beginning of English watchmaking dominance, with the development and introduction of the balance-spring, English watches, particularly London watches, have been the watch of choice for many buyers. Quoted in PENNEY, D. 'Faking English Watches' Antiquarian Horological Society, London Lecture Series, Royal Astronomical Society, 17 July 2014, synopsis accessed online .http://ahsoc.contentfiles.net/media/assets/file/2014-07-17_London_Meeting_wm6.pdf [viewed 22/04/2016]
[6] Jan Leopold (known to many as John Leopold, both names appear on his publications) was a Curator of Clocks and Watches at the British Museum and passed away in 2010.
[7] CUSS, T.P. (1976), p. 309.

Holland was not responsible for manufacturing these watches, it will present the most thorough investigation to date to demonstrate beyond doubt that Geneva was not the culprit worthy of this 'unenviable reputation' either. Furthermore, through exploration of trademark and copyright law, this research will also outline why these watches cannot be accurately described as 'forgeries' either. In short, it would appear that not only is the 'Dutch forgery' not Dutch, but it is technically not a forgery either.[8] This study will demonstrate that the term which has almost universally been used to refer to these watches is redundant, and present an alternative interpretation of the watches which should no longer be referred to as *Dutch forgeries*.[9]

The period covered, between 1750 and 1820, has been identified as the emergence through to the peak and later tailing off of the appearance of these watches.[10] Although the forgery of famous makers had been practised for a century earlier, the *Dutch forgery* marks a very different shift in the production techniques and centres of origin for these watches. What were once limited to a small number of comparatively high-quality watches usually made in England, but proclaiming to be the work of a more renowned maker, were being produced in their hundreds of thousands on the Continent by the end of the eighteenth century, often signed by completely fictitious 'makers' of whom there is no record.[11] This continued, until advancements in technology rendered the verge type of escapement used in these watches as obsolete, shifting the global industry towards a more unified machine-led production. While the *Dutch forgery* had monopolised a more central and systematically organised workforce to dramatically increase production, it still relied on the proximity of allied trades and showed inconsistency in the precision required to successfully take mass production to the next level. By 1820, the manufacture of *Dutch forgeries* had all but ground to

[8] In acknowledgement of this inaccuracy, the term *Dutch forgery* will appear in italic quotation when referenced by the author and standard quotation when referenced by another author from herein.
[9] Variations exist such as 'Dutch fakes', as used by D. Penney. Source 'Faking English Watches' Antiquarian Horological Society, London Lecture Series, Royal Astronomical Society, 17 July 2014.
[10] Reference Appendix No. 5 - List of *Dutch forgeries* identified by this research, p. xci.
[11] Previous to this study, it had been assumed that the most likely source of these watches was Geneva, a theory this research will disprove.

a halt. When it came to mastering the art of both precision engineering and mass production, the emerging market in the United States prevailed. By the mid-nineteenth century firms such as Waltham Watch Co. in Massachusetts became the first to master the art of consistent mass manufacturing with such precision that allowed movements made in America to be fitted in cases made in England without error.

Although the rise of the so-called *Dutch forgery* has been credited with playing a fundamental role in the downfall of British watchmaking, prior to this research there has been no detailed and substantiated investigation published exploring the location of origin, distribution and dissemination of these watches.[12] There has been no evidence presented to suggest the possible persons behind their manufacture, and there is no single point of reference for researchers looking to identify these watches. Finally, the inaccurate and misleading title given to these watches demands the forging of a new and accurate definition. Through physical exploration of the watches themselves, sewn into the greater context of the social, cultural and economic roles of luxury in the eighteenth century, this research will provide the first detailed story of the so-called *Dutch forgery*.

[12] While *Dutch forgeries* are almost universally proclaim 'London' manufacture, other cities and nationalities fell victim to the same imitation. While much smaller than the London industry and making a lesser technological and scientific impact, Dutch and Swedish watchmakers were being copied in a similar way. Chapters 6 and 7 of this thesis will explore the extent of the creation and dissemination of these 'forgeries' in detail.

The emergence of mass-production in the eighteenth-century European watch industry

Consumer behaviour and interpretation of luxury varies between nationalities and cultures, so this research will focus on the country being imitated, in this case, Britain. Britain was at the forefront of the Industrial Revolution, not simply because its relevant scientific knowledge base was indisputably larger than anywhere else in the Western world, but because it possessed the greatest number of sites in which the interactions presupposed by the term Industrial Enlightenment could take place.[13] Our increased understanding of metallurgy gave rise to substitute materials, cutting the cost of luxury goods. This, paired with the rise of a 'leisure-rich society' with tastes beyond their financial means provided an ever growing market for more attainable luxury which needed to be supplied.[14] The exact nature of these social and economic changes and the impact they had on the European watch industry will be explored in depth in later chapters, however, prior to this research, the general consensus is that it was Britain that led the field in the consumerisation and democratisation of luxury in the eighteenth century.[15] Watches are undoubtedly objects of luxury: during the first half of the century, even the most basic watch could fetch several times the annual wage of the average worker.[16] Over the next hundred years, prices reduced dramatically and production increased, yet the evidence from the surviving watches from this era tells a very different story about who led the way in the industrialisation of Europe's watch industry. This study will demonstrate that the watch industry was one of the very few trades in which British industrialisation

[13] JONES, P. *Industrial Enlightenment; Science, technology and culture in Birmingham and the West Midlands 1760-1820*. Manchester; Manchester University Press, 2008, p. 14.
[14] VRIES, J. D. *The Industrious Revolution; Consumer behaviour and the household economy, 1650 to the present*. New York; Cambridge University Press, 2008, p. 40.
[15] MCKENDRICK, N; BREWER, J; PLUMB, J. H. *The Birth of a Consumer Society; The Commercialization of Eighteenth-Century England*. Bloomington; Indiana University Press, 1982, p. 2.
[16] Scarisbrick records one diamond watch retailing in 1796 for £404 10s [SCARISBRICK. D. *Jewellery in Britain 1066 – 1837; A Documentary, Social, Literary and Artistic Survey*. Michael Russell (Publishing) Ltd, Norwich, 1994, p.249] compared to an average wage of £100-£600 for the middle-class and from £40 to less than double figures for the working class the working class [MATHIUS, P. 'The Social Structure in the Eighteenth Century: a Calculation by Joseph Massie' *Economic History Review* Second Series, X, 1, (1957) 30-45 (pp.42-43)].

lagged behind Continental competition. At the time covered by this research, British, and particularly London-based watchmakers led the field in fine watchmaking and consequently were in highest demand among the wealthy European elite.[17] London-made watches were the most sought after and fetched a premium, which was met by a market of buyers who aspired towards purchasing London watches they could not necessarily afford.[18]

There are inconsistencies in watches claiming to have been made in England, most commonly London, dating from the mid-eighteenth century to the early nineteenth century which implies that not all of them were made in the cities they claim. Commonly referred to as *Dutch forgeries* by antiquarian horologists they represent a small surviving part of the tangled web of imitation, smuggling and technological change which shaped the market for luxury in that age.[19] The design of these watches signed with English sounding names and bearing English cities, which this research will pinpoint, is quite unlike the style and quality exercised by English craftsmen working during the same period. Despite what the name suggests, it was commonly believed these watches, in fact, originated in Geneva and the identities of the individuals making them, their dissemination routes and destination markets largely remain a mystery.[20] Furthermore, there is no evidence to conclusively demonstrate whether these watches were indeed forgeries, made in Europe and

[17] In the space of just 150 years, English horologists and inventors contributed the balance spring, the planetary orrery, the oil sink which improved cleanliness and service longevity by preventing the spread of oil, the detached lever escapement, a number of compensation methods to counter temperature variation, the caged roller bearing and the marine chronometer which solved the Longitude problem to name just a few. Many of these are still used in more advanced forms today. [Cuss, T.P. *The English Watch 1585-1970; A unique alliance of art, design and inventive genius*. Suffolk; Antique Collectors' Club, 2009]. London watches could fetch several times the price of lower quality work [*Report from the Committee on the Petitions of Watchmakers of Coventry, &c. with the Minutes of Evidence Taken Before the Committee and an Appendix*. Ordered by the House of Commons, 11 July 1817, p.15].

[18] The only other comparable market for the quality of work being produced was Paris, home to celebrated watchmakers such as Abraham Louis Breguet (1747-1823) and Jean Antoine Lépine (1720-1814). This community of exceptionally skilled watchmakers was, however, small and production was far lower than in England.

[19] Mention of this term and its variations is used in many works, including those by researchers G.H. Baille, Britten, B. Loomes, T.P. Cuss, D. Penney and D. Thompson.

[20] Such as Cuss, quoting Leopold [CUSS, T.P. *(*1976) p.309] , Penney [PENNEY, D. 'Faking English Watches' Antiquarian Horological Society, London Lecture Series, Royal Astronomical Society, 17 July 2014] and Thompson [THOMPSON, D. *Watches*. The British Museum Press, London, 2008, p. 80].

marked with a fictitious English name; whether there were European watchmakers working in England but maintaining their Continental style; or whether they were made cheaply on the Continent then purchased by real English jewellers, traders or even watchmakers to sign with their own name and sell at a profit.

The exact origin of the term *Dutch forgery* is unknown. The association between the Dutch Republic, as it was at the start of the period this research covers, and the forging of watches dates back as early as the start of the eighteenth century in an entry to the Clockmakers' Company Minutes for 3rd July 1704, when a number of leading London makers including the Master Thomas Tompion, Daniel Quare and Joseph Windmills express their annoyance of what they refer to as "Amsterdam forgers".[21] They accuse these forgers of "setting those Person's Names on their Worke and selling it for English Worke".[22] What we do know, is that the arcaded style of the minute track often found on the dials of these watches was very much the style applied by Dutch clockmakers which might have resulted in the term being applied as a slang term in reference to their design, rather than a suggestion of the location of origin. Still, this raises the question of why watches feigning to be English were being executed in a classically Dutch style.[23] While the Dutch were certainly making watches in that period, the population of watchmakers was relatively small so they did not have the capacity to manufacture to the sheer scale we see these *forgeries* appearing. Additionally, Dutch work was of notoriously high quality, unlike the inferior standard we see in these watches. This research aims to shed light on the role, if any, the Dutch played in the dissemination of *Dutch forgeries* to establish their origin and whether the unfortunate title is deserved.

[21] Guildhall Library: *Clockmakers' Company Minutes*, 3rd July 1704.
[22] JONES, M. *Fake? The Art of Deception*. London: British Museum Publications, 1990, p. 211.
[23] For further reading and illustrated examples of what is defined as the Dutch style in eighteenth-century watchmaking can be found in the chapter: 3.2 Identifying *Dutch forgeries.*

Research aims and objectives

In less than a century England, and particularly London, would suffer irreversible damage to their trade and reputation as the centre of fine watchmaking. Through war, depression, competition and industrialisation; this research will define for the first time what role these forgeries played in the permanent change of the dynamic of the European watch industry. This research will: clarify the source and significance of Continental forgeries of English watches manufactured in the Dutch style between 1750 and 1820; examine the social, economic and cultural contexts that gave rise to the market for, and manufacture and dissemination of, these forgeries; examine the cross-cultural creative relationship between craftspeople and merchants in the watch industry (a key element of the growing UK luxury sector between 1750 and 1820); explore the factors that influenced the nationality and location of makers and commissioners of forged luxury objects in the mid and late eighteenth century; and cast light on the implications of technological development for trajectories in the manufacture, production and design of English watches (and related forgeries).

The objectives of this research are to determine the meaning of the term *Dutch forgery*; currently used to define Continental forgeries of English watches manufactured in the Dutch style between 1750 and 1820 by exploring notions of the perception of quality and of authenticity within the luxury goods sector during that period; to present an exploration of the demand for inexpensive objects of desire within the context of the Scientific, Industrial, Product and Consumer Revolutions of the eighteenth century, looking at the impact it had on the European watch industry; to design a method to identify the location and makers responsible for the production of forgeries of London watches in the Dutch style between 1750 and 1820 by developing a greater understanding of the stylistic, economic and social influences inspiring the work of European watchmakers and the commissioners of watchmaking during that period; to identify the social role of London-made watches as a symbol of status in Europe between

1750 and 1820 marked against existing research in related luxury products. This approach aims to answer the following primary research questions:

1. who were the individuals and/or manufactories responsible for the creation of these watches;
2. which regions and countries had the capacity, both in terms of access to a skilled workforce and scalable manufacturing approach, to create these watches;
3. what patterns of distribution and dissemination and routes to market are associated with these watches?

Approach to the study

One of the key challenges faced by this study is also an area where it provides a contribution to knowledge. It does this by assembling a new methodological orientation to academic horological research that fuses a traditional inductive, explorative and historical approach to tackling the nature of the environment which gave rise to the *Dutch forgery*, with a detailed technical and scientific analysis of the watches themselves.

After the initial scoping of existing literature to examine the state of knowledge regarding these watches to date, the first stage of the research required the selection of a sample group that could be used to conduct the primary technical analysis. This was offered by the British Museum, which holds the largest public collection of watches in the world comprising of around 4,500 objects. Although the collection is vast, the majority of examples have been donated from the private collections of two individuals, and consequently, could be described as biased towards the preference of the primary collectors rather than being a general overview of the history of watches.

That said, the author has carried out research as a volunteer with the Clock and Watch Department at the British Museum since 2008, which combined with the author's qualifications and extensive practical watchmaking experience allowed this research the unique opportunity to disassemble watches in the collection for a thorough examination.[24] This would not have been possible with another public collection in the timeframe given as it requires the establishment of a long-term relationship of trust, internal training and specialist supervision.

Background to study

If there is one thing horologists have historically excelled at, it is recording their work and the work of the watch and clockmakers who preceded them. Archives of registered tradesmen, apprenticeships and patents, not to mention the extensive physical collections held by museums and galleries are relatively easily accessed, although not always catalogued in detail. Prior to the advancements in mass production made during the Industrial Revolution and Modern Era it took a huge amount of skill, experience and training to make a functioning timepiece, even the poor quality ones. A career spanning decades, an advertised skill and a rented workshop usually carry generate sort of paper trail. In addition, mechanical timekeeping dates back less than eight hundred years, over which period our record keeping has progressively improved. Watch and clock making were, more often than not, the product of an intense apprenticeship and a lifetime of hard work. Despite this thorough record of horological history in England, there are names of prolific 'watchmakers' which have fallen through the gaps of history. Their names appear on physical examples of watches which survive to this day, and yet we know nothing of the individual behind the signature, where they trained or indeed whether they even existed. What is certain is that the design characteristics of these watches indicate that not everything is as it seems.

[24] The author qualified as a watchmaker with the British Horological Institute in 2008 and has been the co-founding director of their own watchmaking studio since 2012.

In the years between the Scientific and Industrial Revolutions, advancements in mass production paired with the social aspirations of a less affluent emerging middle class made the prospect of owning luxury a tangible reality. Formerly an object of desire affordable only to the elite of European society, the watch became a focus for the reduction of production costs in a drive to improve the symbolic social status of the nouveau riche. Over the years, the watch as an instrument of time measurement transferred from being an upper-class novelty to an available commodity, changing the lives of everyday people and contributing to the environment which bore rapid advancement in transport and exploration. Time also improved the accessibility of a developed scientific understanding of our world and the universe to the commoner. We benefit from the effects of the Scientific and Industrial Revolutions to this day, yet the vital role played by the watch and its social downgrading from object of luxury to an affordable accessory has been marginalised in current antiquarian horological research.

The subject of the *Dutch forgery* is worthy of investigation not only for the significant role it played in the forthcoming Industrial Revolution but also as a case study from the Revolution which marked the emergence of forgery on an industrial scale. There is a great deal of current research exploring the modern faking of luxury and designer objects. This research of society's attempts to balance our desires for luxury and the questioning of the legitimate worth of authenticity against our notions of morality will deepen our understanding of our current environment.

The issue of defining British manufacture and British-made products has become particularly relevant to the modern watch industry. At a time when the watch media has declared Britain to be experiencing a "horological Renaissance"[25], the rise in the influence of press and advertising, combined with the ease of access to discussion and debate around the issue of 'made in Britain' provided by the internet has created more controversy than ever. The launch of the government-backed *GREAT Britain* campaign in 2014 has featured British master watchmaker and apprentice to the late George Daniels, Roger Smith.

[25]MCCREDDIE, L. *A history not to be repeated: Horology*, 2011 http://www.retail-jeweller.com/a-history-not-to-be-repeated-horology/5020055.article [viewed 09/03/2015].

Smith remains the only watchmaker handmaking watches in Britain and defended his position with an open letter on the state of so-called British watchmaking in November 2014, denouncing the "horological Renaissance" as fiction and criticising British watch houses for using movements imported from the Continent and signing them "Made in Britain." [26]

In November 2014, Smith writes:

> With new British watch brands I hear, all too often, talk about these manufacturers blazing the trail for a re-birth of British watchmaking and yet, on even cursory inspection, their watches are ostensibly of foreign origin.[27]

In July 1817, watchmaker F.B. Adams claims:

> The [British] trade also suffers materially from unfinished work imported from abroad brought into this country, and then put into English cases, have English dials put to them, and are sold as English watches.[28]

The demise of the British watch industry over the past two centuries has left commercial British watch houses with no alternative than to source Continental ébauches. Smith's handmade British watches costing a minimum of £100,000 and limited to a production of ten a year do not make a commercially viable alternative for the mass-production of watches required by the modern market. In a similar way to the great English watchmakers of the seventeenth and eighteenth centuries, Smith's watches remain

[26] All components are made on the Isle of Man, with the exception of finer specialist components such as hairsprings, mainsprings, jewels and certain screws. SMITH, R. *Series-2 Movement*, 2016 http://www.rwsmithwatches.com/series/movement/ [viewed 12/04.2016].
[27] SMITH, R. *An Open Letter from Roger W. Smith on the Current State of British Watchmaking*, 2014. http://www.hodinkee.com/blog/an-open-letter-from-roger-smith [viewed 09/03/2015].
[28] *Report from the Committee on the Petitions of Watchmakers of Coventry, &c. with the Minutes of Evidence Taken Before the Committee and an Appendix*. Ordered by the House of Commons, 11 July 1817, p. 36.

exclusively accessible to the extremely wealthy. What has changed are the laws designed to protect misleading objects entering the retail market, none of which were in existence during the time of the market for *forged* British or English watches. For the purposes of this research, it is important to maintain the tentative use of *forged* and *forgery* in quotation as while it is the term commonly associated with the eighteenth-century European watches being examined in this research, it will be established that without any law defining its illegality it is technically incorrect.

As of 1968, Section 36 of the Trade Descriptions Act controlling the definition of British-made goods states: 'For the purposes of this Act goods shall be deemed to have been manufactured or produced in the country in which they last underwent a treatment or process resulting in a substantial change'. With all British watch brands meeting this requirement, the problematic situation surrounding misleading branding is a moral rather than legal one in much the same way as European watchmakers, merchants or British retailers signing Continental movements with fictitious English names was in the latter part of the eighteenth century.

By defining the *Dutch forgeries* of the eighteenth century, this research will also explore what the reasonable requirements of a defined country of origin without misleading the consumer. By reviewing the human and moral elements alongside the economic incentives and social expectation of the era in question, this definition will also hold relevance to the current state of British watchmaking. The term *Dutch forgery* has traditionally referred to watches made in Geneva but declaring themselves as made in a British city, which is most commonly London. As this research aims to prove that these watches were made on the Continent (although not in Geneva as previously assumed), and not just outside of London; it is important to discuss the characteristics of London-made watches alongside those made in the rest of England, and indeed Britain as a whole.

Over the course of this research, there will be a degree of interchangeability between London, England and Britain to describe these watches and their aesthetic signatures which give us clues as to their true location of origin. While many are signed as London made, there are examples in the case studies proclaiming to have been produced in Liverpool, consequently, flexibility must be applied so as not to generalise a style as being typically of London origin when it was popular throughout England. Britain is credited as the world centre of watchmaking over the course of the eighteenth century and while it was England that was home to many of the famous watchmakers of the day, the popular design, both technical and aesthetic, was similar across the whole of the British Isles. For the ease of readability and in acknowledgement of shared stylistic influences this research will, on occasion, shift between the use of England and Britain when describing the characteristics of these watches.

This same flexibility will be applied in the interchange between the Dutch Republic as it was until 1795, and subsequently, Holland depending on the date each watch appears to have been made. Finally, the period covered by this study covers the second half of the eighteenth and early nineteenth century, and, includes literary references to the practices described that originate from later in the nineteenth and twentieth centuries. Consequently, the reader will find themselves, at times, moving between these periods depending on the era in which the source being discussed was created.

Structure of the thesis

The first chapter of this study will map out the current state of knowledge, identifying the associated subject fields which will be called upon to fill in the gaps in the literature that directly discusses *Dutch forgeries*.

Chapter 2 will set the scene in which these watches emerged, planting them within the greater context of luxury and imitation in the eighteenth-century. This chapter is set out in a way that

interrogates our contemporary notions of forgery, exploring the motivations to create and purchase imitation goods from tributes to the works of great artists, to providing a solution for making luxury more accessible before delving into criminal forgery. These studies will include accounts of convicted criminals to confront and readdress the twenty-first-century view of the profile of eighteenth-century forgers. They will also include accounts from artists and the consumer market to examine the social role of these objects, and consequently how *Dutch forgeries* would have been interpreted in what this study will define as an *age of imitation*.

Chapters 3 through 5 represent the heart of this study, exploring physical examples of surviving *Dutch forgeries* in technical and aesthetic detail to determine patterns and trends which allow these objects to be read as a visual source. It will, for the first time, allow these watches to be compared both against each other and against genuine and Continental examples in the search for similarities which might give indications as to their location-of-origin, creators and dissemination patterns.

Chapters 6 and 7 address the socio-economic and political environment, and transitions therein, in the period covered by the research, as these will have influenced the market for *Dutch forgeries*. It will incorporate the evidence found within the watches themselves to evidence their dissemination routes around Europe and further afield.

The study concludes in Chapter 8, which draws upon this hybrid of literary and new physical evidence to answer the research questions set out in this introduction. It will present a new definition for these watches in respect of their contribution which, as this research will argue, changed the course of horological history.

Chapter 1 : Identification and Analysis of Existing Literature

> Biographical history, as taught in our public schools, is still largely a history of boneheads: ridiculous kings and queens, paranoid political leaders, compulsive voyagers, ignorant generals – the flotsam and jetsam of historical currents. The men who radically altered history, the great scientists and mathematicians, are seldom mentioned, if at all.[29]

By the start of the nineteenth century, *Dutch forgeries* had been identified by the industry as one of the main causes for the demise of British watchmaking, yet one of the main obstacles facing this research is the lack of epistolary evidence directly discussing forgery within the field of horology.[30] Despite exhibiting the most influential techniques of watchmaking to impact the British industry, ultimately contributing to the commencement of its recession (a state in which it remains to date), antiquarian horologists have chosen to marginalise these artefacts.

At present horological encyclopaedias provide the most frequent references, however, these by their nature are brief, lacking detail and supporting references. Many of these biographical references are based upon secondary referencing and consequently can reveal errors where primary sources have been misdescribed. With many watches in public collections forming a small component of a much larger collection of decorative art objects, they regularly lack specialist curators with the technical horological knowledge required to spot discrepancies such as possible forgeries. The nature of horological research requires a practical ability in watch or clockmaking to

[29] GARDNER, M. Adventures of a Mathematician; The man who invented the H-bomb, *The New York Times*, 9 May 1976, p. 201. Accessed online: http://query.nytimes.com/gst/abstract.html?res=9B05E2DD1F3AE034BC4153DFB366838D669EDE# [viewed 12/04/2016].

[30] *Report from the Committee on the Petitions of Watchmakers of Coventry (*1817) pps. 6-88.

examine an object in its entirety, prohibiting non-practising watch and clockmakers from forming their own judgements and leaving later researchers relying on the correct interpretation of the primary investigator. For watches passing through auction houses, financial reward is the key motivator for detailed cataloguing. As these watches return comparatively little by way of financial value in comparison to watches by famous makers, sale catalogues are frequently brief and offer incomplete information to the extent that they do not include the full details such as serial numbers, and, even on occasion the full name inscribed on the watch. The lack of readily available sources of information on so-called *Dutch forgeries* combined with the vast quantity of information these reference books provide means works, particularly by little known and potentially fictitious makers attract little by way of description. Prolific and well-published antiquarian horologist and researcher G.H. Baillie has nothing more to say on the notorious name of John Wilter, who was heavily associated with *Dutch forgeries*, than "perhaps a fictitious name."[31] On another similar forger signing his watches J. Tarts, the editors of Britten's 9th edition describe the name as a "pseudonym or trademark for the Dutch market", quoting F. J. Britten's work, "I do not think anyone has been able to trace a manfr [sic] named Tarts."[32] Loomes Dictionary of Watchmakers and Clockmakers of the World offers little that is not covered by Baillie, however, it is accepted that Loomes was more interested in clockmaking so eighteenth-century watches and their forgery would have held little interest.[33] This issue pervades throughout horological literature, as researchers are naturally inclined to favour the works of great makers, with lesser works, such as our *Dutch forgery*, apparently failing to pique the interest of authors prior to this research.

F.J. Britten's encyclopaedia is regarded as the first and most reliable biographical reference list as it is believed that unlike some of his predecessors, he personally handled many of the watches he

[31] BAILLIE, G.H. *Watchmakers and Clockmakers of the World*. London; N.A.G. Press Ltd, 1972, p. 345.
[32] *Britten's Old Clocks & Watches and their Makers*, ed. by Cecil Clutton, G.H. Baillie & C.A. Ilbert, 9th edn. London; Bloomsbury Books, 1982, p. 619.
[33] LOOMES, B. *Watchmakers and Clockmakers of the World*. *Complete 21st Century Edition*. London; N.A.G. Press, 2006.

describes. Britten gives a little more detail on the assumed identities of eighteenth-century forgers, however, more significantly his first edition published in 1899 provides the first use of the term "Dutch" to describe forgeries discovered by that date.[34] Interestingly, Britten described these watches as "in the Dutch style" and at no point implies that he believed they were actually of Dutch origin. This early description fails to provide an explanation or author's definition of the term and avoids the use of the word forgery. Perhaps as a consequence of Britten's undefined description, later researchers appear to have misread his original wording and taken the description to be literal, implying not only the style but the believed place of origin of these watches. It is not until much later, in the second half of the twentieth century, we begin to see the term *Dutch forgery* appear.[35]

Historians of antiquarian horology like Cutmore have taken the term to be literal. His *Pocket Watch Handbook* presents a more detailed description of Continental watch forgeries from the second half of the eighteenth century, defining them as watches with "bridge-type balance cock, an arcaded dial with or without a scene and often with a repoussé case" of mediocre quality and suggests "probably made partly in England and partly on the Continent" before describing them as "Dutch watches".[36]

Other antiquarian horologists such as Camerer Cuss not only disagree with this theory but berate the accuracy of the term *Dutch forgery* in a manner which implies they have also taken Britten's earlier reference too literally. To quote, "Following the investigations of Mr J. H. Leopold of Groningen, our ideas regarding the so-called 'Dutch forgeries' must be recast."[37] Cuss proceeds to blame Geneva and discusses parts being made on the Continent then used on genuine English movements, which confuses matters when identifying these watches. While Cuss raises some very interesting points, his description is only a brief paragraph and unfortunately is completely unreferenced. John Leopold, the former Curator of Horology at the British Museum, was a renowned and widely published

[34] BRITTEN, F.J. *Old Clocks & Watches and their Makers*, London; B.T. Batsford Ltd, 1899.
[35] Ibid.
[36] CUTMORE, M. *The Pocket Watch Handbook*, London; David & Charles Ltd, 1985, p. 23.
[37] CUSS, T.P. *(*1976) p. 309.

researcher whose public work is well documented and readily available, so it is known that he never published his work on the subject of forgeries. He and Cuss, were, however, good friends and it would be fair to assume that this explanation arose from personal conversations between Cuss and Leopold, both now deceased. Leopold was an avid researcher of all elements in antiquarian horology whose personal unpublished notes fill the cupboards of a storage room at the British Museum. As a native of Holland, the vast majority of his notes are in Dutch and printed in type or handwritten in pencil on poor quality paper. In consequence, they are literally disappearing over time. The author has scoured systematically the archives containing his research and, in spite of the vast range of horological subjects covered, has been unable to find any reference to eighteenth-century forgeries.

Cuss' description is symbolic of the need for significant published research on *Dutch forgeries* which is accurately referenced and supported by available qualitative research. The available literature suggests that during the past two hundred and fifty years horologists have been relying on no more than rumours, assumption and speculation to solve the mystery of the *Dutch forgery*.

The most recent research on the subject of the *Dutch forgery* is by David Penney who presented his paper at the Antiquarian Horological Society's London Lecture Series in 2014,[38] the synopsis for which was made available online prior to the lecture.[39] While the synopsis is brief by its nature, it demonstrates some of the inconsistencies apparently caused by the unwillingness of past researchers to commit some of their more decisive theories to print. In the synopsis, Penney first states that "the vast majority of these watches are not English made and the literature is full of examples which are nearly always described as Dutch fakes." This would imply that he believed, or

[38] PENNEY, D. (2014)

[39] Lecture forward available online: http://ahsoc.contentfiles.net/media/assets/file/2014-07-17_London_Meeting_wm6.pdf [viewed 03.05.16]. Penney does not set parameters on the research time frame in the forward. His lecture covered the history of all fakes of English watches from lesser-known English watchmakers forging the names of famous English makers in the early seventeenth century, to later types of mechanism and machine-made watches which arrived significantly after the period this study ends, in the late nineteenth century.

had evidence to suggest that some of these watches were being made in England. However, in his lecture, Penney stated that he simply "did not believe" that English watchmakers could have been associated with the illicit trade in these watches. The rechristening and forgery of famous makers was recorded in England, although these watches were executed in the English style and should not be referred to as "Dutch fakes" which could perhaps be the subject of his first written point. His spoken statement, however, directly contradicts material in one of his quoted sources which if read in its entirety provides evidence that English watchmakers were actively involved in supplying parts for the trade in *Dutch forgeries*.[40] The quote in question, which will be detailed in a later chapter, provides the strongest link we have as to the true identity of John Wilter so it is remarkable that this quote was neglected from both the synopsis and talk. As David Penney's background is as an engineering draughtsman and now antique watch dealer, it is also possible that some of the conflicting messages offered by the watches he references are as a result of later repair work rather than original manufacture, and that without a greater understanding of the technical nature of watchmaking these are being misinterpreted. For example, one of his illustrations is captioned as having an "enamel dial with polychrome scene (fired not painted), as often seen on English watches of this period" with no mention made to the discrepancy between the date polychrome scenes on enamel watch dials became popular, and the date the design of the movement suggests which are at least forty years apart. As this research will demonstrate, a high number of the enamel dials on these *Dutch forgeries* are not original, so a genuine English dial in the English style might very well have ended up on a *Dutch forgery*, and this tells us nothing about the original design of that watch.

Penney does begin to tackle some of the issues surrounding the application of the term fake, acknowledging the "problems surrounding the term 'fake' and just what it can mean when the vast majority of watches bear the name of the retailer rather than anyone involved in their

[40] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 55.

manufacture."[41] He did not, however, offer an alternative definition. Nor was there any exploration into the legal standing of intellectual property and the obligations surrounding proclaimed country of manufacture which effectively mean that by eighteenth-century standards, the term 'fake' would not be applicable. Furthermore, he did not offer a single example of a retailer he had managed to identify named on any of these watches to support this statement. Penney describes one of the supporting images on his synopsis as "typical French/Swiss adjustment for the drops, another strong non-English sign."[42] His description of the "drops" as being French/Swiss can be attributed to the design of what is technically referred to as the potence, which will again be discussed in detail in the later chapters of this thesis. While England used one style of mechanism, France and Switzerland shared another popular design with the exception of Paris watchmakers who had a separate style from the rest of France. The "French/Swiss" reference, therefore, can be read as implicit of the national styles rather than geographical origin, this interpretation is supported by his stating that; "the faking of watches did not end in the nineteenth century, and anyone interested in wristwatches will know the problems being faced by present-day Swiss manufacturers - an ironic justice perhaps, as I hope to show."[43] This sentiment was reiterated throughout his lecture, where he firmly landed the blame with Swiss watchmakers and made no mention of activity across the French border. Penney listed few of his references at his lecture, and upon request by email stated that he was planning to publish on the subject in the near future and would reveal his sources then.[44] To date, this publication has not yet been made.

This new research will rely heavily on primary sources; the watches themselves, contemporary literature, letters between the guilds (notably the Worshipful Company of Clockmakers and the Worshipful Company of Goldsmiths), and parliamentary documents. A report commissioned by the

[41] PENNEY, D. (2014) forward available online: http://ahsoc.contentfiles.net/media/assets/file/2014-07-17_London_Meeting_wm6.pdf [viewed 03.05.16].
[42] Ibid.
[43] Ibid.
[44] As outlined in an email conversation. Permission was not granted for its inclusion in the appendix of this research.

House of Commons in 1817, the *Petitions of the Watchmakers of Coventry,* is an example of one such parliamentary document.[45] Consisting of the minutes and evidence of a report ordered by the House of Commons into the state of the declining watch and clock industry, the Petitions provide an invaluable insight into the atmosphere within the industry of watchmaking directly following the Napoleonic Wars; at a time when the industry was experiencing an extreme, near-irreparable low point as a consequence of the war, lack of investment and damage caused by the influx of cheap, forged watches from the Continent over the last half of the previous century. The Petitions comprise a series of interviews, and it is important therefore when reading the text to be vigilant for the personal prejudice of the interviewee. The severity of the Francophobic and anti-Semitic stance which is taken not only by the individuals but by the Members of Parliament themselves often makes uncomfortable reading. Still, it is this extreme prejudice which allows a keen eye to determine with a relative level of ease the fact from fiction. Many of the tales described by the petitioners are far-fetched to the point of impossibility and must be dismissed. The most valuable information this document has to reveal must be taken from between the lines. The detail the English watchmakers have on the practice of forgery implies they themselves might be more involved than they would like to admit. There are multiple examples of watchmakers claiming to know other watchmakers importing cheap movements from the Continent and signing them as London-made with one even referencing a "friend" who had been commissioned to make watches under the pseudonym of our notorious John Wilter.

Moore's publication of the clock and watchmakers apprentice records from between 1710-1810 provides a reproduction of a legal document recording all known apprentices in horology between the dates covered.[46] As a result of an act dating back to Elizabeth I, all apprentices in all trades within Britain had to be registered with the government where copies of their contracts were held, making it a reliable source and solid reference to check the names of forgers against, proving with high

[45] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817)
[46] MOORE, D. *British clockmakers & watchmakers apprentice records: 1710-1810*, London, Mayfield Ltd, 2003.

accuracy whether they were trained in Britain. Watchmaking requires a lengthy apprenticeship and with no schools or universities providing training there would have been no other way to learn the trade. There are however two key faults in this literature; the first is that it does not cover those who completed apprenticeships prior to 1710, or those who trained abroad, with other countries on the Continent using less reliable methods of registering apprentices. The second is that it does not discuss how closely the Statute was adhered to and does not enter into debate over the contemporary accounts by watch and clock makers during the eighteenth century, such as those made in the *Petitions of the Watchmakers of Coventry*, of masters taking on an illegally high number of unregistered apprentices which it is argued contributed to the lowering of the standard of the English craft in an attempt to compete with the scale of Continental competition.

1.1 Sourcing material in related fields

As there is very little literature directly on the subject to be found within a horological context, the answers required lie within texts on associated trade and industry contemporary to the forgeries. For example, a name commonly associated with the manufacture of the repoussé cases, a common style associated with forgeries, is Daniel Cochin who personally signed his work, making him an easy and accurate name to reference. He is mentioned briefly by Patrizzi as a Genevese case maker and metalworker.[47] In research on the industry of medal making, associated for its similar use of metal forming to create the deep and intricate patterns, and for the popularity of the classical style seen on both medals and watch cases of the era, we reference Forrer's *Dictionary of Medallists* which includes an entry on one Daniel Cochin, a Geneva-born medallist who is recorded as working both in Vitry, a French town about 65 miles from the border with the Austrian Netherlands (modern-day

[47] PATRIZZI, O. *Dictionnaire des Horologers Genevois: La <<fabrique>> et les Arts annexes du XVI^e siécle á nos jours*. Antiquorum Editions, Switzerland, 1998.

Belgium), and in Geneva, Switzerland, as a D. Cochin was making watch cases for the market in forgeries.[48]

Historians in associated contemporary fields provide methodological strategies which are applicable to the study of eighteenth-century watch forgeries. Historian Malcolm Crook's apparently unrelated book *Toulon in War and Revolution* addresses the role of the small coastal town of Toulon in the run up to the Napoleonic Wars as a prolific shipbuilding area.[49] During the second half of the eighteenth century, the Netherlands were famed for supplying the best wood for shipbuilding which was bought by the French Navy and transported by land and river to Toulon. This high-volume low-profit cargo would have been taken down the River Rhine to the Swiss border where it would have made its way across land to the River Rhone which leads out into the Mediterranean and Toulon where it was exchanged for low-volume but high-value cargo like alcohol and olive oil. The relevance only becomes apparent when compared to a map of cities with a known established watchmaking community substantial enough to take part in the manufacture of forgeries, taken from Jaquet & Chapuis' *Technique & History of the Swiss Watch*.[50] The junction of the rivers on this heavily used trade route coincides almost perfectly with the locations of almost all of the watchmaking centres outside the United Kingdom. It is important not to get carried away with circumstantial information before conducting significant further research on the subject, however, it is a good example of the importance of addressing research in contemporary fields when studying narrow and sparsely covered subjects like horology. Crook's method of collecting quantitative data is also very interesting, as he tracks the movement of merchant traders by studying the historical records of Masonic Lodges. A great deal of trade was done with fellow masons, and merchants would take the

[48] FORRER, L. 1904. *Biographical Dictionary of Medallists, Coin-, Gen-, and Seal-Engravers, Mint-Masters, &c. Ancient and Modern with Reference to Their Works, B.C. 500 – A.D. 1900*. Reprinted by A.H. Baldwin & Sons Ltd (no date given).

[49] CROOK, M. 1991. *Toulon in War and Revolution From the 'Ancien Regime' to the Restoration, 1750-1820 (War, Armed Forces and Society).* Manchester; Manchester University Press, 1991, p. 18.

[50] CHAPUIS, A. & JAQUET, E. 1953. *Technique and History of the Swiss Watch*. Urs Graf-Verlag. Reprinted by Hamlyn Publishing Group Limited, Middlesex. 1970, pp. 43-68. It is worth noting that this history is written by a Swiss author and demonstrates some biased towards the Swiss industry.

opportunity to catch up and do deals at Masonic Lodges en route. Crook then underpins this with qualitative research on the political and personal relationships of the key players together with the social structure and cultural atmosphere of the relevant countries over the period being analysed. This is a technique which will be vital in this new research to provide a complete and unbiased picture strong enough to withstand examination.

1.2 Continental literature

In 1904, French historian Charles Sandoz published a history on the city of Besançon, located on the French-Swiss border.[51] Sandoz provides an invaluable insight into the relationship between the French and Swiss watch and clockmakers who lived alongside each other. Perhaps it is the age of this text, and the period it was written in that allows Sandoz to play-down the significance of national borders during the eighteenth century. Where current antiquarian horologists such as Cuss are confident in pointing the blame for supplying Europe with forgeries of English watches solely at the Swiss, Sandoz instead describes the French-Swiss border as 'a permeable frontier'.

During the mid-1770s Genevese authorities began to restrict the number of watchmakers allowed to enter the profession which in turn fuelled the emergence of watchmaking centres outside the city walls in the urban centres of Neuchâtel, Le Locle and La Chaux-de-Fonds. Industrialisation of the Jura Mountains commenced in the 1770s when a proto-industrial nebula appeared along the French-Swiss border.

By the eighteenth century, we see the influence of the Scientific Revolution and Newtonian mechanics from the previous century filtering down to practical application on the factory floor.

[51] SANDOZ, C. 1904. *Les Horloges et les Maîtres Horologeurs à Besançon; du XV^e Siècle a la Révolution Française*. J. Millot et C^ie, Besançon.

Sandoz refers to the Swiss process for watch manufacturing as "établissage".[52] Although there is no direct translation to English, the term can be defined as the process of dividing labour between a number of specialised artisans in an increasingly industrialised process. Individuals would be tasked with specific elements of construction such as roughing out, wheel cutting, finishing and so on. The scale of this production line method of working was more efficient significantly increasing the speed of production and contrasted completely to the micro-workshops of the highest skilled watchmakers practising in England and France.

While much of the migration across the border went unchecked, it is known that in 1793 a colony of 80 Swiss watchmakers seeking political refuge from Switzerland as a consequence of their support for the French Revolution arrived in Besançon. These watchmakers dispersed with ease into the French watchmaking population integrating their skills and economical production techniques with that of the local trade. We must move away from the idea that the French-Swiss border was a rigid impermeable structure. Evidence such as this demonstrates the strong relationship with watchmaking on both sides of the border with a regular flow of workers and merchants travelling between the two on a frequent basis.

Further to the secondary evidence provided within Continental literature on the European watch industry from 1750-1820, researcher Jan Kraminer enriches the subject Swiss and possibly French *forgeries* of watches imitating other nationalities, in this case, Sweden.[53] This line of enquiry undoubtedly adds depth to the main debate and is highly relevant, however, it does not hold sufficient weight alone to become an integral part of this story. It will be discussed and examined accordingly, and gives scope for future research.

[52] SANDOZ, C. (1904)
[53] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, p. 330 specifically suggests that 'Swedish forgeries' were being manufactured in the Jura.

1.3 Contextualisation within the Industrial Revolution

There is significant secondary literature researching the political, industrial and cultural atmosphere in eighteenth-century Europe which provides a solid context to surround this research. Berg discusses the "technological and organisational change" brought about in the greater context of the Industrial Revolution referencing Richards on the "euthanasia of the cottage industries" which might have been a "great exercise in Schumpeterian creative destruction".[54] The economic order of watch and clock manufacture in Britain prior to the nineteenth century had consisted entirely of micro industries centralised around London and, to a lesser extent, the cities of Coventry, Liverpool and Birmingham. It was the cottage industry nature of the English horological industry with its limited production managed by respected master craftsmen executing their work to the highest standards of hand-finishing that fuelled the demand for English watches which were considered to be among the ultimate shows of status and wealth among the European elite classes.[55] Ultimately, however, it was this very limited method of production and total adherence to the traditional application of the craft which proved to be the downfall of the English watch.

Jones discusses the role of the consumer and makes the suggestion of a "consumer revolution" and to what extent it played a part in driving forwards the Industrial Revolution. He describes the "enhanced levels of affluence permeating all social strata; in a more hedonistic approach towards material possessions".[56] Economic historians agree that although the numbers of the middle class were increasing and in turn their spending capacity throughout the eighteenth century, the

[54] BERG, M. *The Age of Manufactures 1700 – 1820; Industry, Innovation and Work in Britain*. Routledge, London, 1994 p. 6.
[55] As cited by JONES, P. M. (2008) p. 11.
[56] Ibid.

standards of living remained fairly static. Jan de Vries suggests the increase in spending power was down to individuals reorganising their household expenditure in a more economic manner.[57]

Analysis of the state of European household finances in early modern Europe will provide a strong motive for forgery by exploring demand for low-value luxury goods among the growing middle classes whose spending power had not yet matched their social aspirations for objects of desire. Once demand has been established using the prolific existing research on associated luxury objects and eighteenth-century European economy, it will be possible to venture into the new territory of the role watchmaking played in the Industrial, Consumer and Product Revolutions. It is, however, important to acknowledge that the consumer revolution was not exclusively a British phenomenon. Fairchilds challenges previous assumptions regarding London's supremacy at the forefront of new consumerist behaviour through contemporary accounts of Paris as the influential centre for fashion at the time in Europe.[58] Paris did have a small but influential horological centre which fostered some of the greatest examples of innovation during the late eighteenth and early nineteenth centuries. However, that standard was largely set by one watchmaker by the name of Abraham Louis Breguet who did not, it appears, gain sufficient attention to Paris for watches made across the entire city to be emulated as is seen with the use of fictitious "London" based watchmakers on Dutch forgeries.[59] It is for this reason that the British watch market remains the core focus of this research.

[57] VRIES, J. D. 'Between purchasing power and the world of goods: understanding the household economy in early modern Europe', in Brewer, J. and Porter, R (eds), *Consumption and the World of Goods*. London: Routledge, 1993.
[58] FAIRCHILDS, C. 1993. 'The production and marketing of popluxe goods in eighteenth-century Paris' in Brewer, J. and Porter, R (eds), *Consumption and the World of Goods*. London: Routledge, 1993, pps. 228-248.
[59] Abraham Louis Breguet (b. 1747, d. 1823) was a Genevese master watchmaker who spent much of his working career in Paris. He was responsible for multiple horological innovations used to this day including the tourbillon, automatic winding, retrograde mechanism, overcoil hairspring and early shock settings.

1.4 Watches as a visual source

The methodological approach for this research relies heavily on the examination of surviving physical examples of the watches themselves, to fill in the blanks left by horological literature. The largest public collection of watches in the world is held at the British Museum, London. This 4,500 strong collection includes one of the most thorough collections of eighteenth-century European watches available, making it an excellent base from which to conduct the qualitative aspects of this research.

As a practising watchmaker and volunteer conservator to the clock and watch department at the British Museum, the author was granted permission not only to handle these watches but to strip them down for conservation and cataloguing. Antique watches are riddled with marks from the past, and with technical horological training, these marks can allow a researcher to read a watch in the same way one can read a book. In the eighteenth century, a single watch could take many months to make, and would pass through the hands of a number of journeymen, spring makers, plate makers and finishers each of whom would commonly sign or initial their contribution to the finished article. It could be argued that this allowed their work to be traceable if it needed to be returned to them at any point in the manufacture, however, the presence of these marks hidden inside forgeries suggests there might have been a deeper and more personal connection between craftsman and object.

1.5 Conclusion

This research aims to provide the first specialist reference point for researchers in eighteenth-century watch forgeries. It will answer the question of where they were being made, identify key manufacturers and merchants known to have been involved, explore why forgery became such a

prolific practice in horology and present a theory on the intended use and market these watches were being aimed at. Ultimately, the answers to these questions will allow the study of eighteenth-century antiquarian horology to sit alongside the significant existing research on the supply and demand for luxury products during the Industrial Revolution, and what influence this had on both the physical and perceived quality of the watch as a status symbol.

The outcome of this research will be significant on three levels. It is not hard to find examples of these watches incorrectly catalogued selling through auction houses[60] and wrongly archived in museums.[61] The lack of knowledge is such that even renowned specialists[62] have sold these watches as genuine and the cover of a recent publication by Christopher Barrow features what appears to be a forgery.[63] The fact that these watches are still being illicitly advertised and sold over two hundred years later demonstrates the value of research in this field. Secondly, the lack of accurate references has left the subject without firm definitions. This has resulted in a general lack of certainty, for those researchers aware of these forgeries, in what can be described as a *Dutch forgery*; namely whether they are identified by style and period alone, or can any forgery originating on the Continent during that period bearing a false name, fictional or famous be called *Dutch*? The term *Dutch forgery* itself is the greatest demonstration we have of the need for a solid definition as there is no evidence to suggest some if any of these watches were manufactured in the Netherlands. Finally and most significantly for contemporary researchers, the story surrounding *Dutch forgeries* is one of the best examples existing in antiquarian horology of the risk of refusing to embrace change and confront foreign competition. Ultimately, the greater story of English watchmaking concludes at the end of

[60] For example Sotheby's, New Bond Street, London Fine Watch Auction 13th December 2011; Lot 112.
[61] There are many examples listed in Cees Peeters *Horologes van Engelse Uurwerkmakers 1670 – 1910* (Horology by English Watchmakers) in the Stichting Tijdmeetkunde Collection, Holland which are in fact *Dutch forgeries*. These forgeries are listed in the appendix of this research, reference No. 5 - List of *Dutch forgeries* identified by this research p. xci.
[62] Ref. Richard E. Gilbert (joint author of American publication *Complete Price Guide to Watches*) eBay item number 290764486140 sold 21st Sept 2012.
[63] BARROW, C*. The Verge Pocket Watch: Its History, Development and Maintenance*. Robert Hale Limited, London, 2011.

the nineteenth century, when the reluctance of English watchmakers to embrace improved Continental technology such as the Swiss lever escapement and the potential of the wristwatch over the traditional pocket watch, allowed Swiss competition to become so advanced that they went on to dominate the world market. This position in the industry stands to this day, only now our rising competitors are in the Far East and this time, Swiss luxury watch brands are generally dismissing the inferior quality of Eastern watches rather than acknowledging their growing creative potential and technical advances. While the argument of whether there is a likely risk of history repeating itself, and whether that advancement is negative and should be prevented or is a form of natural selection allowing for positive creative evolution, is a fascinating and a worthy research subject, the limitations of this PhD will only allow this area to be touched upon within the greater historic content surrounding the *Dutch forgery*.

This research is a continuation of the candidate's master's degree dissertation which set out to uncover the real identity of the renowned forger John Wilter. Whilst finding previously undocumented contemporary primary reference by an individual claiming to have known him, at present his true identity remains a mystery.[64] What that research has demonstrated, however, is that the key to unlocking where these forgeries were coming from and who was making them is far more complicated than previously imagined. Current speculation based on trade routes, the locations of watchmaking centres of the period, design characteristics and scarce genuine names taken from hidden signatures is that these forgeries were being manufactured in Switzerland. Thus far it would appear that while the Swiss were in part to blame, regions with the potential to produce watches suitable for forgeries spread out much further. There are examples of watches in existence signed with a coded name claiming to be from London, which we know with certainty actually belonged to a well-established watchmaker in Germany.[65] This evidence alone is enough to disprove

[64] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 67.
[65] Friedberg watchmaker Joseph Spiegel would reverse his surname and sign his watches "Legeips, London". THOMPSON, D. (2008) p. 73.

the exclusively Swiss production theory and is supported by reliable primary references to the manufacturing of forgeries in the Netherlands and remarkably of orders placed with English craftsmen to make what appear to be counterfeit components to be sent abroad.[66]

Due to the scarcity of current literature on this subject, this research will offer the first definitions to describe the various types of forgery referred to as *Dutch*. While nearly all Continental forgeries of English watches dating back to the eighteenth century are referred to as *Dutch*, they actually fall into a range of different categories. There are those that are out-and-out forgeries, bearing fictitious names which appear nowhere on any apprentice record or even, as in the case of Wilter, any likely birth, death or marriage entry in the British General Register Office. There are watches bearing the names of famous watchmakers presumably cashing in on the celebrity earned by others, and there are extremely interesting examples by the likes of known watchmaker Eardley Norton which bear both Continental and English traits and might imply the purchase of cheap Continental movements by legitimate English makers which are then cased and retailed in the UK for a greater profit. To make matters more complicated, the general perception amongst antiquarian horologists currently is that the quality of a watch and the skill of its maker can somehow exonerate it from being described as a forgery. Dr Alice Arnold-Becker acknowledges the use of a coded name by skilled Friedberg watchmaker Joseph Spiegel,[67] who reversed his surname in the signature on his watches in what she describes as "an intelligent marketing strategy".[68] In order to keep sources close to their practical context within this research, further literature will be introduced in the heart of this thesis when germane to the subject. This will occur in Chapters 3, 4 and 5 which analyse in detail the technical, mechanical, visual elements of physical examples of surviving *Dutch forgeries*.

[66] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 55.
[67] Interestingly, Spiegel is also the German translation of the word 'mirror', although whether this was an intentional pun or a coincidence is not known.
[68] ARNOLD-BECKER, A. *Friedberg – a centre of watch and clock making in 17th and 18th century Bavaria*. Dingwall-Beloe Lecture, British Museum, London, 26 November 2012.

Chapter 2 : An Age of Imitation

> It can be argued that fakes, scorned or passed over in embarrassed silence by scholar, dealer and collector alike, are unjustly neglected; that they provide unrivalled evidence of the values and perceptions of those who made them, and of those for whom they were made.[69]

To begin understanding the *Dutch forgery*, our knowledge of the nature of imitation at the time these watches were being created must be honed. These watches must be judged by the era which gave rise to them, an age which popularised imitation and hailed the birth of masstige. This chapter will explore the watches in their eighteenth-century context and pinpoint what terms like fake and forgery meant by the standards of the day. Once its true nature has been established, the *Dutch forgery* will be compared to the greater context of imitation in the eighteenth century.

2.1 The evolution of intellectual property law

The practice of forgery in England has been recorded since the Norman Conquest, from literature to documents and money. The law has been historically slow in responding to the proliferation of forgery; indeed the first bill addressing the forgery of deeds was not introduced until 1413.[70] Protecting the name of an existing craftsperson is a complicated issue, the concept of copyright first appears in the Statute of Anne in 1710 however for much of its existence it only stretched to protecting the direct copying of an artist's work, primarily in works of literature, rather than his or her name itself. [71]

[69] JONES, M. *(*1990) p. 11.
[70] Act I Hen. V c.3 1413.
[71] The relevant section reads, "Whereas Printers, Booksellers, and other Persons, have of late frequently taken the Liberty of Printing, Reprinting, and Publishing, or causing to be Printed, Reprinted, and Published Books,

In 1887, the British government acted to reduce the import and purchase of non-domestic goods by introducing legislation demanding that products made outside the United Kingdom be branded with their location of manufacture.[72] Known by modern researchers as the *Country-of-Origin Effect*, the influence the proclaimed origin has over purchasing decisions and perceived value is well recognised. Researchers Cristea, Capatina and Stoenescu summarise that "a brand's country-of-origin can influence the brand's perceived positioning by reducing perceived risks, acting as a guarantee and enhancer for the positioning strategy. Thus it can influence consumers' buying decision process and offer a significant competitive advantage."[73]

The term fake or fraud by false representation becomes enshrined in the Theft Act of 1978. Although the *Trade Descriptions Act 1968* prevents traders from misleading consumers regarding the location of manufacture and the identity of the manufacturer, it did not become illegal to sell counterfeit goods in the UK until 2013.[74] To this day, designers and craftspeople are not allowed to simply copyright their own names without significant distinctive specifications such as logos and brand names.

According to Stephen B Welfare (Partner, Royds Solicitors), "current UK copyright stems from the *Copyright Designs and Patents Act 1988*.[75] The concept as we understand it developed from late fifteenth-century following the invention of printing. The world's first copyright Act was the Statute of Anne 1710 which established the principles of recognition of the author of a work, and a period of

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and other Writings, without the Consent of the Authors or Proprietors of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their Families: For Preventing therefore such Practices for the future, and for the Encouragement of Learned Men to Compose and Write useful Books; May it please Your Majesty, that it may be Enacted". Ref: PATTERSON, L. RAY, and JOYCE, CRAIG, 'Copyright in 1791: An Essay Concerning the Founders' View of the Copyright Power Granted to Congress in Article 1, Section 8 Clause 8 of the Constitution', *Emory Law Journal*, 52, p. 919.

[72] CAI, Y. *Country-of-origin effects on consumers' willingness to buy foreign products: an experiment in consumer decision making*. Student thesis submitted to University of Georgia, Athens, 2002.

[73] CRISTEA, A. CAPATINA, G. STOENESCU, R. D. 'Country-of-Origin Effects on Perceived Brand Positioning', *Procedia Economics and Finance*, Volume 23, 2015, pps. 422–427.

[74] Announced by the IPO and confirmed in the Queen's speech, 8th May 2013 – Referenced online - http://www.theguardian.com/law/2013/may/08/counterfeit-goods-criminal-offence [viewed 24/05/ 2015]

[75] WELFARE, S.B. *Re. RE BJA research assistance request*. [email correspondence sent on 06/07/2015]

protection [from copying]. But this was an English law so of no application whatsoever elsewhere, not even Scotland."

The subject of name protection is more in line with trademark, which is more of a modern concept. The UK trade mark regime did not commence until the Trade Mark Act 1875, and according to Welfare the earliest laws that any current English lawyer would be aware of would be the Trade Marks Act 1994. Previous to this it is unlikely that there would have been any protection from the sort of conduct we see in the copying of English watches on the Continent in the eighteenth and nineteenth centuries. Indeed pan-European trademark rights didn't really exist until the European Council regulation 40/94 of 1993.[76]

2.2 Understanding the *Dutch forgery* in the context of eighteenth-century law

During the eighteenth century, forgery could be prosecuted under a range of related laws however the focus on these cases was very much protecting the copying of legal and financial documents and money rather than protecting the work of artists and designers. In reaction to the increasing threat posed by forgery, the second half on the eighteenth century saw the copyright elevated to a subject of academic study.[77] Researchers such as William Blackstone, Denis Diderot and Johann Stephan Pütter seeking historical sources to prescribe the norms of copying, although the elevation of the status of copyright law at this time was still largely limited to Britain, France and the German-speaking countries. This leaves us with an issue surrounding the definition of *Dutch forgeries* as if forgery did not apply to makers named in the eighteenth century, and the term fake wasn't enshrined in law until the 1970s, then the so-called *Dutch forgery* is neither a fake nor a forgery.

[76] Ibid.
[77] DEAZLEY, R. KRETSCHMER, M. and BENTLY, L. (eds) *Privilege and Property; Essays on the History of Copyright*. Cambridge, Open Book Publishers, 2010, p. 2

What further complicates the defining of a *Dutch forgery* is the common current opinion that these watches were actually made in Switzerland. Thus far, the earliest reference this research has unearthed to Dutch involvement is in an 1817 petition where the "Dutch style" is used frequently throughout. [78] Dutch style in this instance obviously refers to the design, rather than origin of the watch and refers to the arcaded style of the minute track which scallops over the outside of the numerals on the dial which was a popular style applied to clock dials in the Dutch Republic at the time. In 1899, Baillie's encyclopaedia of watchmakers directly uses *Dutch* to describe a forgery, which he applies in reference to his entry on the fictitious watchmaker John Wilter. The two words, however, are separated. The full term *Dutch forgery* does not appear to have surfaced until recent years, perhaps as a result of human error and presumption. Currently, it would appear that the first published application of *Dutch forgery* lies in the quote which opened this study, found in Cuss' 1967 publication. [79] He suggests that the reputation was earned because of the similarity in the style of the design and as a consequence "they have long been thought to have originated in Holland". Curiously, Cuss would appear to be one of the first historians to claim in writing that there was a time when the common opinion was that the Dutch Republic was the main manufacturer of these forgeries. Admittedly there has been no significant published research written on this subject. While he cites the findings of J.H. Leopold, late curator at the British Museum, to date no written record of these findings has been discovered. Leopold certainly published nothing on the subject, however, it is known that the two were friends and consequently might have discussed the matter personally. It is possible that these forgeries had "long been thought to have originated in Holland", but that this was a topic discussed by horologists in person and consequently there is no printed record known of at present to validate this claim. Still, the possibility remains that the term *Dutch* simply referred to the style, that no one assumed the Dutch were to blame, and that recent researchers might have taken descriptions like Baillie's a little more literally than was intended. The watchmakers in the

[78] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817).
[79] CUSS, T.P. 2nd ed. (1976) p. 309.

petition of 1817 certainly did not accuse the Dutch of manufacturing these watches, although they do refer to Dutch merchants responsible for smuggling them into England. In their interviews, several connected watchmakers discuss being approached by two Dutch gentlemen head-hunting English watchmakers to set up their own workshop in Rotterdam. The question must be asked, if the forgery market was already booming within the Dutch Republic at this point then why was there a need to recruit English watchmakers to run a workshop some sixty years after these forgeries first started appearing? It is far more likely that the Dutch style of these watches was inspired by the Dutch merchants who commissioned them from elsewhere in Europe. As the Industrial Revolution progressed and manufacture moved from cottage industry to mass manufacture, an increasingly merchant-led product revolution emerged. At the start of the eighteenth century, Europe's elite classes favoured goods designed and made by a particular master craftsman and were happy to source from the makers direct, or at least through a representative. By the end of the eighteenth century, the rapidly expanding middle-class market and an increase in retail demand introduced the merchant market. Well-travelled and in tune with the demands of the rest of Britain and Europe, merchants would travel around workshops ordering on behalf of their mass clientele, dictating the styles they knew were popular.

Creating a revised definition will form a key part of this research, as it underpins the very meaning of the manufacture and proliferation of *Dutch forgeries*. Luxury will frequently be referenced, and as it has become one of the most overused terms of the twenty-first-century consumer market being used to describe everything from an Aston Martin car to a bar of chocolate, it is important that the term is defined in the context of this work. This abuse of the term luxury by modern marketing has faced heightened interest from researchers to such an extent is has formed the topic for the V&A exhibition *What is Luxury?*[80] For the purposes of this research, luxury is defined in its traditional

[80] *What is Luxury?* 25 April – 27 September 2015. *Victoria and Albert Museum.*

Western sense to mean an experience rarely obtained, involving great expense in the acquisition of an inessential object of desire.

Luxury:

1. a state of great comfort or elegance, especially when involving great expense;
2. an inessential, desirable item which is expensive or difficult to obtain;
3. a pleasure obtained only rarely.[81]

There were multiple paradigms of luxury across Europe in the period covered by this research as there are to this day. The watch was, to a degree, influenced by cultural stylistic preferences. Until the third-quarter of the eighteenth century the more flamboyant Rococo, a traditionally Catholic style, had been popular amongst London watchmakers. As the more reserved Protestant Lutheran style introduced by the Hanoverian monarchs filtered into British popular culture, we too see ornate engraved solid precious metal dials being replaced with simpler enamel ones and decorative repousse cases being phased out in favour of plain ones. Further to the existence of cultural differences, this evidences that attitudes towards luxury in Europe were themselves changing over the duration of the period covered by this study.

2.2.i Yesterday's actions - today's standards

Understanding these watches within the context in which they were created will be pivotal in forging a new definition. The historic misuse of terminology in their descriptions and analysis had painted an inaccurate picture of the role they played in eighteenth-century culture and consequently veiled their true nature. It must be taken into consideration that at the time these watches were being manufactured there was no legislation to cover misrepresentation of origin and consequently they

[81] OED.

were breaking no laws. Even by today's standards, as the maker's names are often fictitious, there would be no copyright infringement under both modern and eighteenth-century designers' rights and so terms such as fake and forgery were not, and still are not, accurate. The only modern law which would impact the production of these watches would be regarding the accurate proclamation of the country of origin. Even then there is some degree of flexibility as current country-of-origin laws dictates that only a percentage of the value of an article plus significant finishing of the piece be completed within a country for that country to be defined as the country-of-origin. For example, European Union legislation demands that parts being imported into Europe be marked with their originating countries that are then built into watches. At a recent conference Tony Cousins, CEO of Cousins Tools and largest UK retailer of watch parts to the trade estimated that between 50-70% of Swiss watch components originate in the Far East; these are in turn used to create Swiss-made watches.[82] The building stages of the watch provide the bulk of the value of the finished piece so providing this is performed in Switzerland, a watch with 70% of the components made in the Far East can still be legally defined by modern standards as Swiss made.[83] Reflecting back to the *Dutch forgery*, this research has demonstrated that these watches were being made from components with a number of different countries of origin before being assembled. If the bulk of these watches were assembled in Holland from components made on the Swiss-French border and occasionally England, by modern standards they could technically be defined as Dutch made. This, however, would be contributing to an already highly contentious field. The tension between the buying public and manufacturers surrounding misleading proclamation of the country of origin is increasing in the current market, as outlined in the introduction to this study. Discussion is continuing regarding the routes to best define objects made in multiple locations. Just as the *Dutch forgery* took advantage of the rapid technological change which surpassed preventative legislative precedents for malpractice, the latest round of rapid advance in computerised production is reversing the industrial requirement for centralised labour, so a single object of engineering can now be created from components

[82] The British Watch and Clockmaker's Guild Conference. Wednesday 11th March 2015.
[83] Ibid.

sourced from the most cost effective suppliers all around the world. Once again, legislation has not kept pace with technology and this too requires review.

2.3 The role of luxury in eighteenth-century material culture: incentivising and facilitating imitation

To satisfy the demand for goods which conveyed modernity and distinction, the streets and shops provided the stage for buying, and displaying novelties.[84] One of the leading narratives of the eighteenth-century product market was fashion.[85] As the market for luxury opened up to a new audience of emerging middle-class wealth, fashion began to permeate the design of not only ornamental and decorative objects but everyday articles. Berg quotes M. Chevalier de Jaucort who wrote that "pleasure, ornament, frivolity, and wit were key factors generating the expansion of the branches of luxury production."[86]

The more affluent consumers of the eighteenth-century had an appetite for fashionable luxury, two terms which are not always comfortable bedfellows. The speed at which fashion changes is fundamentally at odds with the traditional perception of luxury, which in many cases can take a great deal of time to create. Luxury is perceived as timeless, elegant and high-quality whereas fashion provides a more instant disposable gratification. Unlike much of the rest of Europe, class lines in Britain were blurred occasionally beyond recognition. While the gentry in France or Germany could easily be identified by their dress and style, the British egalitarian approach to personal style meant that particularly in the capital, London, an outsider would have difficulty telling gentry from the middle class.[87]

[84] BERG, M. *Luxury & Pleasure in Eighteenth Century Britain*. Oxford; Oxford University Press, 2005, p. 247.
[85] Ibid.
[86] Ibid p. 248
[87] Ibid.

The Industrial Revolution comprised of a series of social and economic revolutions overturning pre-modern history in Britain and Europe. The emerging product and consumer revolutions which were intrinsically linked grew out of the greater Industrial Revolution.[88] Industrial advance meant that products that were once a luxury, taking a master craftsman time to make could now be manufactured in their hundreds. Equally, advances in agricultural equipment and farming techniques acted to reduce the cost of food, and the booming cotton industry of the north brought down the cost of linen and clothes.[89] This increase in disposable income would have inspired a desire for luxury, however, with real wages increasing little until well into the nineteenth century the luxury attained by society's most elite would still have been far out of range.[90] This gap between want and achievability fed back into the potential for mass-manufactured, cheaper luxury. The emergence of the shopping high street and organised public open spaces brought about new retail opportunities. From the obvious dressmakers, shoemakers, milliners and jewellers, to the birth of the second-hand shop, for the first time in British history individuals had a shop to serve their desire for high-quality fashion at affordable prices through the second-hand market, a service which was so in demand it started a trend that can still be seen in the vintage and charity shops on high streets to this day.[91]

In the absence of laws to define objects of design as fakes or forgeries, many of these objects are most accurately described as imitation. Imitation was a key component of eighteenth-century style, from painted blue Oriental-inspired ceramics to plate and cut steel. The advances made in mass manufacturing as a result of technical advance and more organised and concentrated skill centres matched the demands of a booming population to whom style and luxury had never been so accessible. The increasing popularity of newspapers partnered with improving literacy rates provided the less affluent with an insight into the styles and expenses of the upper classes. Additionally, theatres, parks and the emergence of free museums and art galleries provided more

[88] MCKENDRICK, N; BREWER, J; PLUMB, J. H. (1982).
[89] VRIES, J.D. (2008) p. 10.
[90] JONES, P. M. (2008) p. 12.
[91] BERG, M. (2005) p. 260.

opportunities for the wealthy and the aspiring to collide.[92] The rich were no longer hidden away; their styles and choices were open for inspection, judgement and ultimately aspiration.

Improved understanding of metallurgy and chemistry from the Scientific Revolution merged with industry to provide a wealth of materials which could now be explored in manufacture.[93] Precious metals like silver and gold were being alloyed with base metals to varying extents to extend their profit capacity.[94] Precious metal is still measured in parts per thousand. In Britain, the most common forms of silver recognised by the assay office were sterling silver, containing 925 parts silver per thousand in use since the twelfth century and Britannia silver (now containing 999 parts per thousand but 958 at the time in question) since 1696. On the Continent, however, lower grades of silver which would reduce the precious metal content to as little as 800 parts were also popular. While these were not recognised by British assay offices they did provide a solution for reducing bullion costs in the jewellery, watch and silver trade.

The second half of the eighteenth century saw one of the most prolific periods in hallmarking forgery. The recognised threat posed to industry is demonstrated by the severity of the punishment, those who were caught forging hallmarks were given a fine of £100 or in default of payment imprisonment (under section 8 of the Act of 1738) until 1757 when under 31 Geo. II. C. 32 punishment was increased to the death penalty. This remained until 1773 when 13 Geo. III c. 59 commuted the death penalty was commuted to fourteen years' transportation.[95]

Plate Licences, required by law to be purchased by anyone working with or retailing any object containing precious metal sheet added exorbitantly to the cost of manufacture. This remained the

[92] Museums with free entry included the British Museum, London which opened in 1759 and the biennial Salons held in the Louvre, Paris held from 1737.

[93] QUICKENDEN, K. 'Silver and its Substitutes', in *Matthew Boulton; A Revolutionary Player*, ed. by Malcolm Dick. Warwickshire; Brewin Books Ltd, 2009, p. 153.

[94] Ibid.

[95] DE CASTRO, J.P. *The Law and Practice of Hallmarking Gold and Silverwares*. London; Crosby, Lockwood & Son, 1926 p. 17.

case until 1798 when the makers (although not those retailing their own work) of watch-cases in both gold and silver became exempt from paying duty under Act Geo. III. C. 24.[96] It was, however, another century before the exemption of duty was extended to all other gold and silver wares.[97] Finally, plate licensing was revoked for the retailers of watches under the Customs and Inland Revenue Act, 1870. (33 & 34 Vict. C. 32.) Section 4 which stated, "on and after 6th July 1870, it shall not be necessary for any person to take out a licence as a dealer in plate, in order to enable him to sell watch-cases which shall have been made by him."[98]

Poor understanding of the system meant multiple licences were often being purchased unnecessarily, and a government department that was profiting was in no hurry to ease or clarify the law.[99] One solution for evading plate licences was to avoid the assay offices altogether. The problem with that was that it was illegal to retail precious metal in Britain without a hallmark. The solution became part of the largest scale practices of hallmark forgery in British history. Techniques would vary from letting in hallmarks from a scrapped piece of existing silver, effectively cutting and shutting old hallmarks into the new piece. There was soft punching, where a genuine hallmark would be struck with a piece of red-hot copper bar to form the shape of the genuine stamp, quenched, then used to strike the unmarked piece of silver. Finally, there was punch forgery where the original steel punches for striking the marks would themselves be forged. There were pros and cons to each of these processes. Let in hallmarks would always prematurely date a piece of work in a time when being of the moment meant everything and required the destruction of another piece. The hallmarks would not always be in the correct position for the object they now lay on which, if the forger was not careful would make them easy to spot. The benefit in the eighteenth century was that, when well placed, the marks appeared genuine, making it very difficult to spot that they were

[96] Ibid p.25.
[97] Ibid p.130.
[98] Ibid p.329.
[99] Mention is made in multiple accounts throughout the interviews taken in the *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817).

fake. Today, a simple X-ray reveals the true history of the piece. Soft punches used the genuine marks as a template making them aesthetically accurate, however, the softness of copper which was required so as not to damage the original mark meant that soft punched hallmarks were often quite shallow compared to the real thing, and punches could only be used once or twice making the process more laborious. Assay punches are feats of engineering executed to an exceptional level of precision and virtually impossible to clone, making fake punches one of the most straightforward false hallmarks to spot due to the poor quality of the design. Still, even this takes some level of experience and unless the buying public of eighteenth-century Britain and Europe happened to be familiar with the identification of fake hallmarks, they would have been virtually impossible to identify. Since the faking of hallmarks on genuine sterling silver to avoid plate duty was not uncommon, the stretch to hallmarking metals of inferior quality would not have been a far one. This situation would have been exacerbated by a loophole in the law meaning those caught retailing goods with forged marks were almost impossible to convict as the retailer could only be held accountable if it could be proven that he knew of the forgery.[100] It should be fairly safe to assume that no retailer in court for selling forged goods would ever have confessed, risking a fine, transportation and even death in the full knowledge that playing the innocent would have allowed him to get off scot-free.

Figures taken from the 1817 *Petition of the Watchmakers of Coventry* indicated the average values of silver watches and that, even in the state of distress of the watch industry after the Napoleonic Wars, the cheapest silver English watches were changing hands for in the region of 21s a piece (the equivalent of nearly £1,300 today),[101] compared to imitation English watches which averaged 15s.[102] Even at 15s, these watches cost the equivalent of just over £900 spent on a commodity in 2015. While Continental imitation watches were a cheaper alternative, they were still by no means

[100] Ibid p. 159.
[101] Calculated as a commodity based upon income value in 1817 compared to 2015, Source http://www.measuringworth.com [viewed 07/05/2015].
[102] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 42.

accessible when the average comparative annual real earnings in 1817 were £1,911.[103] To put average wages within the greater context of the time in question, Peter Mathius calculated the average earning of the aristocracy to be approximately £10,000pa, compared to £8,000pa by the gentry. The middle-class were earning between £100-£600pa and the working class were earning from £40 to less than double figures.[104]

Precious metals account for a large proportionate value of jewellery, watches and silverware, so substitute metals and weight reduction had an obvious appeal. One survey comparing the weight and value of gold cases in English watches to Continental imitation English watches quoted the difference as 0oz 19dwts of new standards case at 70s per oz, equalling £3 6s 6d compared to 1oz 9dwts of inferior case worth 52s per oz, equalling £3 14s. In an extreme example, in 1796 wealthy Welsh landowner Sir Watkin Williams Wynn is recorded as buying a diamond watch in France for £404 10s.[105]

European watch production rose from the tens of thousands per year in 1700 to nearly 400,000 per year in the last quarter of the eighteenth century.[106] In a ten-year span, there were enough timepieces being produced to supply one-quarter of the adult males in Western and central Europe, based upon Voth's calculation that 40% of all Europe's watches were made between 1775 and 1800[107]. The calculation is flawed in that it is based on the assumption that the working life of the average watch of the period was between five and twelve years, despite the continuing existence of

[103] Real earnings calculated as an average comparative income value in 1817 to 2015, Source http://www.measuringworth.com [viewed 07/05/2015].
[104] MATHIUS, P. 'The Social Structure in the Eighteenth Century: a Calculation by Joseph Massie' *Economic History Review* Second Series, X, 1, 1957, 30-45, pps.42-43.
[105] SCARISBRICK. D. (1994) p. 249.
[106] LANDES, D, *Revolution in Time. Clocks and the Making of the Modern World*, Cambridge, Massachusetts; Harvard University Press, 1983, p.231, fn 19; p. 442.
[107] Calculated based on the assumption of a useful life of a watch being between five and twelve years, the stock of watches in 1800 would have been between 1.4 million and 3.1 million, compared to an adult population of 5.5 million. VOTH,H.J. *Time and Work in England, 1750-1830*, Oxford; Oxford University Press, 2001, p.51. Cited in VRIES, J. D. (2008), p. 2.

many examples from that period which almost universally show varying marks of repair suggesting the life of a watch could considerably exceed the figures suggested.

2.4 Imitation in the eighteenth century

What were the social and economic drivers which triggered the proliferation of imitation as a key trait in eighteenth-century material culture? Over the course of the Industrial Revolution, past research has told of a new form of consumer behaviour in England. This behaviour was rooted in enhanced levels of affluence across all social strata and dictated a more hedonistic approach towards material possessions, particularly textile, metallic, ceramic and cut-glass wares both in entrepreneurship and in emulation.[108] Economic historians have, however, argued that the standards of living remained fairly static throughout the early phase of industrialisation.

What can be certain is that the middling classes of provincial England were consistently "increasing in numbers and spending power during this period".[109] Although it would appear that annual real earnings remained relatively stable over the second half of the eighteenth century, economic historian Jan de Vries argues that ordinary families were learning to reorganise their household finances more efficiently and reallocating expenditures.[110]

Fake? The Art of Deception at the British Museum, 1990, exhibited a vast collection of artefacts Jones described as 'the material evidence of the myriad deceptions practised by men upon their fellows over three millennia'[111]. *Fake?* applied as a question also acknowledges one of the fundamental issues in the research of mimesis, and that is the definition of the word used, both in its colloquial and formal sense, thus aiding a correct identification of what item is or is not a fake. The

[108] JONES, P.M. (2008) p. 11.
[109] Ibid p. 12.
[110] VRIES, J.D. (1993), pp.98-132; *idem*, The Industrial Revolution and the industrious revolution, *Journal of Economic History*, 54, 1994, pps. 249-70.
[111] JONES, M. (1990) p. 11.

definition of terms like fake varies greatly over the course of history in law and in social perception. Equally applicable and subjective terms include forgery, imitation and counterfeit. Baines identifies Grafton's text on forgeries and their detection in classical humanistic scholarship as a paradigm for the archetypical pattern to which both forgeries and the techniques for their detection conform, suggesting:

> The basic techniques and topoi by which forgers evoke belief, the basic willingness of many readers and even experts to be deceived, and the basic fact that apparently firm documents are often deeply dubious have remained unchanged. So has the rhythm by which criticism develops, demand driven, as new ways of forging require new methods of detection.[112]

Although Grafton is discussing forgery in literature, the parallels between his field and forgery in its greater context, both historic and contemporary are striking, particularly regarding the willingness of the audience to be deceived. The abandonment of common sense in encounters with forgery, or imitation in the eighteenth century could be so stark that it raises questions about how much the consumer market knew about the products they purchased, how much they wanted to know and their willingness to turn a blind eye.

2.5 Imitation as an art

For the purposes of this research, it is important to move away from our twenty-first-century view that forgery equates to fakery which is an illegal and immoral practice by modern law, instead viewing forgery as imitation in not only a legal but fashionable eighteenth-century context. Imitation formed a key design trend of industrial England, in an era of enlightenment and wider class exposure

[112] GRAFTON, A. *Forgers and Critics: Creativity and Duplicity in Western Scholarship*, Princeton, 1990, p. 35.

to antiquities, classical history and global styles. Far from being immoral, to emulate the style of ancient societies was seen as a challenge to prove the worth of a designer.

By the 1760s, the custom of The Grand Tour was at its peak, a tradition whereby wealthy young adults would tour across France, Italy and around the Mediterranean to study art, culture and the foundation of Western civilisation. The social and historical significance of the works of ancient Greece and Roman increased in prevalence and underpinned Neoclassicism. As young artists and designers returned home, they took their inspirations with them and found new ways to imitate and improve upon the works of the ancient masters. Demonstrating an understanding of classical mythology also became associated with wealth and status, fuelling the market for their work. The majority of the working population at the time were recruited in agricultural and later industrial employment, working long hours from a very young age and poorly educated. To have the luxury of affording education, to take the time to study classical mythology and learn Latin and ancient Greek was something that could only be afforded by the wealthiest in society. To own interior design, jewellery and watches inspired by mythology was not only a symbol of status because of the obvious financial cost in obtaining the object, but was a testament to the education and worldly wisdom of their well-travelled owner.

2.5.i Wedgwood: imitation in admiration

In 1790, Josiah Wedgwood sought to demonstrate his technical abilities as a ceramicist by reproducing a likeness of the Portland, or Barberini, Vase a celebrated piece of Roman cameo glass acquired by the Duke of Portland in 1786.[113]

Figure 3: *The Portland Vase*. Circa AD1-AD25 (left).[114]
Figure 4: a replica of the Portland Vase. Circa 1790, by Josiah Wedgwood and Sons Ltd. (right).[115]

Wedgwood, his son Josiah II and several of his foremost artisans spent four years painstakingly reproducing the vase, pioneering new experiments and techniques in Jasperware. Wedgwood's Portland Vase is recognised as one of the pinnacles of his achievements. Sir Joshua Reynolds, founder and first President of the Royal Academy, London, declared the vase "to be a correct and faithful imitation, both in regard to the general effect and the most minute detail of the parts." In all, 43 vases were produced the first of which was placed on exhibition by admission ticket only at

[113] FORTY, A. *Objects of Desire, Design and Society since 1750*. Reprinted by London; Thames and Hudson Limited, 1992, p. 16.
[114] Catalogue registration number GR 1945.9-27.1. Image Photo ©Trustees of the British Museum.
[115] Museum number CIRC.732-1956. Image ©Victoria and Albert Museum: London.

Portland House, London. Wedgwood purportedly stated, "I have now the pleasure to find that my imitation of this vase, after strict comparison with the original, has given perfect satisfaction to the most distinguished artists in Britain."[116] Describing the approach of eighteenth-century artisans to reproduction, Forty argues that the point of reproductions was not just that they were as good as the original, but that they demonstrated the sophistication of contemporary manufacturing techniques better than any new and original designs could have done.[117]

2.5.ii Neoclassicism and imitation through revival

The Neoclassical movement which permeated design, from ceramics to silver, architecture, furniture and personal ornamentation such as watches was in itself a movement of open imitation which relied heavily on applying contemporary techniques pioneered during the Industrial Revolution to classical design. Architects like James Stuart would play with our concepts of authenticity by combining genuine antiquities with wood or plaster dummies in his interior design.[118] Neoclassical designers would gain their knowledge, in part, from their aristocratic contacts who would show and sometimes lend them antique pottery and sculpture to study.[119] Wedgwood described the way he set his craftsmen to both produce exact copies, and interpret classical originals as follows:

> I only pretend to have attempted to copy the fine antique forms, but not with absolute servility. I have endeavoured to preserve the stile and spirit or is you please the elegant simplicity of the antique forms, and so doing to introduce all the variety I was able, and this Sir W. Hamilton assures me I may venture to do, and is the true way of copying the antique.[120]

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[116] *Portland Vase*, accessed online http://www.wedgwoodmuseum.org.uk/learning/discovery-packs/pack/lives-of-the-wedgwoods/chapter/portland-vase [viewed 24/05/2015].
[117] FORTY, A. (1992) p. 16.
[118] Ibid p. 22.
[119] FARRER, p.358; and FINER & SAVAGE, p.149, referenced by FORTY, A. (1992).
[120] Ibid p. 24.

The over-riding aim of the Neoclassical designer was not to simply copy, but to improve the nature of classical work through the incorporation of industrialised production techniques and enlightened scientific approaches.

2.6 Imitation as a solution

> In England it is scarcely possible to know a lord from a tradesman, a man of letters from a mechanic; and this seems to arise from the sovereignty of fashion in the metropolis.[121]

If we are to take the stance of researchers de Vries and Jones that real average wages changed little over the second-half of the eighteenth century, then the growing middle-class market would have been confronted with a taste beyond their financial means. Mass production led to a fall in the cost of everyday essentials such as food and cotton allowing a marginally greater disposable income for luxury, which de Vries furthers by suggesting families were learning to reorganise their household spending in a more efficient manner.[122] Still, this left a gap in the market for luxury goods being produced at more affordable prices, a gap which the Industrial Revolution provided the perfect solution for.

2.6.i The substitute of luxury materials: introducing luxury to the home

Quick to spot the demand, entrepreneur Matthew Boulton was heavily involved in the luxury metal consumer-goods industry, responding "to the commercial opportunity and actively intervening in

[121] GOEDE, C.A.G. *The Stranger in England or Travels in Great Britain*, 3 vols, London, 1807, ii, p. 83.
[122] VRIES, J.D. (2008) pps. 25-37.

the marketplace to stimulate and shape demand".[123] Precious metal was much more expensive that its substitutes.[124] Invented circa 1742, Sheffield Plate became popular among the rising social classes. Designed to replicate sterling silver, Sheffield Plate was used across the luxury homeware sector to create everything from dinner services to candlesticks and other tableware.[125] Logos and marks were commonly designed to appear as genuine hallmarks at a glance to the host's guests. Similarly, ormolu, bronze or brass gilded to appear as gold, was hugely popular during the second half of the eighteenth century.

The success of substitutes like ormolu and Sheffield Plate gave a clear message; there was a strong market for openly selling more economically accessible alternatives within the luxury market, with the act of deception being by the consumer to their social group rather than the vendor to the consumer. Still, while these substitutes might have been more affordable than the real thing they were by no means cheap. Boulton's factory sold silver tea-urns ranging in price from £27 to £100[126], while the Sheffield Plate alternatives cost between £6. 0s. 0d.[127] and £10. 10s. 0d.[128] Compared to a typical annual income of the proletariat of £40 to less than double figures, a Sheffield Plate urn could amount to a year's wages.[129] While the advances made in technology, manufacturing and science were evidently acting to bring down the prices of luxury over the course of the industrialisation of Europe, there was still considerable scope for opening the market to the lower-middle and working classes.

[123] JONES, P.M. (2008) p. 12.
[124] QUICKENDEN, K. 'Silver and its Substitutes', in *Matthew Boulton; A Revolutionary Player*, ed. by Malcolm Dick. Warwickshire; Brewin Books Ltd, 2009, pps. 153-169.
[125] CROSSKEY, G. *Old Sheffield Plate: A History of the 18th Century Plated Trade*; Treffry Publishing, Sheffield, 2011, p. XIII.
[126] QUICKENDEN, K. and KOVER, A.J. 'Did Boulton Sell Silver Plate to the Middle Class? A Quantitative Study of Luxury Marketing in the late Eighteenth-Century Britain' in *Journal of Macromarketing*, 27, 1, 2007, p. 56.
[127] BCA:MS 3782/1/6pp. 382-83, Order for AGB Yield, 15.8.1780. Referenced ibid.
[128] Ibid.
[129] MATHIUS, P. 'The Social Structure in the Eighteenth Century: a Calculation by Joseph Massie' *Economic History Review* Second Series, X, 1, 1957, 30-45, pps. 42-43.

Figure 5: British silver plate marks compared to sterling hallmarks.[130]

Imitation as a solution to manufacturing more affordable luxury was not limited to the home, but also became more heavily integrated with personal adornment over the course of the century. Scarisbrick refers to the social context of early Georgian jewellery between 1714 and 1789 as "the golden age of the decorative arts in Britain and jewellery attained a high level of craftsmanship and design, for although Paris still retained its supremacy, Huguenot immigrants had brought the French standards of excellence to the London trade."[131]

2.6.ii The dissolution of sumptuary legislation

The market for substitutes was also led in part by existing sumptuary legislation, which had existed in England since the *Statute Concerning Diet and Apparel* in 1363. The next three hundred and fifty years saw a heavily restrained and highly specific dictatorial restricting of the appearance of the various social classes. Even fabrics were limited, Elizabeth I's 1562 proclamation asserts, "None shall wear in his apparel and silk of the colour purple, cloth of gold tissue, but only the King, Queen . . .

[130] 925-1000, *Plate Marks*, http://www.925-1000.com/platemarks.html [viewed 25/05/2015].
[131] SCARISBRICK, D. (1994) p. 226.

except dukes and marquises who may wear in doublets and sleeveless coats cloth of gold tissue not exceeding £5 the yard, and purple in the mantles of the Garter".[132] Sumptuary law aimed to halt social imitation and the threat to the cultural superiority of the aristocracy posed by the new gentry which, in effect, used legislation to restricted social mobility.[133] Discussing sumptuary law in Tudor England, Scholtz suggests that "rapid social change enabled groups of individuals that had previously been excluded from social and political agency to enter the field of social action, which generated tremendous anxieties about perceived hierarchies in Tudor England".[134] The Tudors effectively repressed the early fledging middle-class via heavily restricted limitations on symbols of status. McCracken goes further by suggesting that "By the simple expedient of an act of Parliament, England declared status forgery illegal and created the disincentive of trial and punishment".[135] By the Industrial Revolution, the same middle-class had increased in numbers to such an extent that they could no longer be ignored, and sumptuary legislation began to crumble marking the start of a new era in British fashion and expression of social aspiration and mobility. Still, the transition met with resistance. In 1711, Jon Dennis writes a demand for "the immediate suppression of bare-fac'd Luxury, the spreading Contagion of which is the greatest Corrupter of Publick Manners and the greatest Extinguisher of *Public Spirit*";[136] while other's started to accept the "necessary Evil".[137] The pursuit of luxury could now be seen as socially acceptable.[138] This changing societal paradigm for luxury meant that substitutes such as paste not only became completely socially acceptable but provided an opportunity to evade sumptuary legislation whilst monetising the latest trends and fashions. As Scholtz summarises, "what the gentleman wears is by no means accidental; through his

[132] Quoted by SHULMAN, R. 'Sumptuary Legislation and the Fabric Construction of National Identity in Early Modern England' in *Constructing the Past*. 2007, Vol. 8: Iss.1 Article 8.
[133] KUCHTA, D. *The Three-Piece Suit and Modern Masculinity: England, 1550-1850*. Berkley; University of California Press, 2002, p. 17.
[134] SCHOLTZ, S. *Body Narratives: Writing the Nation and Fashioning the Subject in Early Modern England*. New York; St Martin's Press, 2000 p. 4.
[135] MCCRACKEN, G. *Culture and Consumption: New Approaches to the Symbolic Character of Goods and Activities*, Bloomington; Indiana University Press, 1988 p. 33.
[136] DENNID, J. *An Essay upon Publick Spirit: being a satyr in Prose upon the Manners and Luxuries of the Times*. 1711. P. v.
[137] DAVENENT, C. *An essay upon the Probably Methods of making People Gainers in the Balance of Trade*, 2nd edn. 1700 p. 152.
[138] MCKENDRICK, N; BREWER, J; PLUMB, J. H. (1982) p. 19.

apparel, he partakes in a system of signification that assigns to him a certain place in the social order according to his outward appearance."[139]

2.6.iii Changing seasons: the rise of fashionable luxury and disposable culture

By making luxury more comparatively affordable, the upper classes could indulge in buying the latest most fashionable designs on a more frequent basis rather than saving to purchase genuine pieces which would ultimately fall behind the changing trends. For the market who quite simply could never afford the real thing but were becoming increasingly exposed to the circles that could, it was their first opportunity to indulge in personal adornment on their rise up the social ladder and provided an opportunity to blend in. These new middle classes drove the market for wearable imitation and appropriated its use for the classes above them. According to Scarisbrick:

> All the best jewellers sold paste. George Wickes's trade card in 1759 advertised 'False Stonework in Aigrettes, Earrings, Buckles etc', and the ledgers record many sales of 'French drops' and 'paste tops'. . . . . Mrs Hardcastle observed in *She Stoops to Conquer* that 'half the ladies of our acquaintance, My lady Kill Daylight and Mrs Crump and the rest of them carry their jewels to town and bring nothing but paste and marcasites back.' It appealed to those of modest means, like Mrs Delany, and also the rich. Paste a highly regarded alternative to diamonds and the best was such high quality many were deceived by it.[140]

Imitation in jewellery was by no means limited to paste. Our increased understanding of gemmology and the formation of precious and semi-precious gemstones opened the doors to experiment how other desirable natural resources could be artificially created or enhanced. Coq-de-perle became the alternative for mother-of-pearl and was formed from the shell of a snail which, according to Pouget's

[139] SCHOLTZ, S. (2000) p. 18.
[140] Ibid p. 232.

Traité des pierres précieuses written in 1762, could only be found in the East Indies. Only a single *coque* could be obtained from each snail which was so thin that it needed to be filled. Despite its flaws, the substitute became a highly successful substitute praised for its beautiful iridescence.[141]

Doublets were already a well-established means of enhancing small or low-quality gemstones in a technique still used to this day. The technique involved a thin layer of the genuine stone, whether it be emerald, opal and so on, and cementing it to a glass or crystal back to make it appear deeper and/or improve the colour. The popularity of the technique is proved by its prolific use throughout centuries of lapidary. An example of an "emerald doublet set round with brilliants" was catalogued by Christies in 1772, and jeweller George Wickes was recorded as supplying "doublets as drop earrings, set in stay hooks, buttons and rings, and sometimes combining the doublet with genuine stones, as in the brilliant solitaire with a red doublet in the middle stone and drop."[142]

The sparkling properties of cut iron pyrite as an imitation for diamond has been known of since the sixteenth century. Rechristened with the more market-friendly name of marcasite, the substitute fast became fashionable in jewellery embraced by both the middle and upper classes. When cut and polished, the glittering effect of marcasite would have made it hard to distinguish from the real thing under Georgian candlelight. The stone became popular for use in buckles, broaches, earrings, necklaces, chatelaines and rings. It was commonly set in silver and could often be found in use alongside other substitutes such as coq-de-perle.[143]

Imitation in jewellery was not limited to the stones; the metal itself could be substituted. In the early eighteenth century, Clerkenwell clockmaker Christopher Pinchbeck pioneered an alloy to provide a less expensive alternative to gold, formed of 90% copper and 10% zinc using purified rose copper

[141] Ibid p. 237.
[142] Ibid.
[143] Ibid p. 238.

and pure zinc from China. He invented Pinchbeck for use in watch cases and decoration on clocks; however, the technique and its ability to hold colour, unlike any other alloy or plating was such a success that it extended to chain and chatelaine making. Although his son Edward went on to claim not to 'dispose of one grain of his curious metal which so nearly resembles gold in colour, smell and ductility to any jeweller whatsoever,' the technique proved so popular it inspired many similar imitations.[144]

To an extent, imitation was also a by-product of inadequate hallmarking legislation surrounding the assay of imported goods. It was not until the Merchandise Marks Act of 1887 and an Order in Council made thereunder, that a special mark of the word "Foreign" became compulsory in hallmarking to identify foreign-made watches cases.[145] Variations on the location hallmark to define a precious metal object were not introduced until 1904. Even then, it was not until much later in the twentieth century that Goldsmiths' Hall finally made some acknowledgement that there was no way of knowing for sure that the person submitting goods for assay had made them by, changing the name of the initials identifying the individual or company from the "Maker's Mark" to the "Sponsor's Mark". Prior to this, legitimately imported foreign silver and gold sent for assay in England would have been hard to distinguish from that made in England, not by imitation to deceive, but simply because there was no alternative.

[144] Ibid p. 240.
[145] CASTRO, J.P.D. *The Law and Practice of Hallmarking Gold and Silverwares*. London; Crosby, Lockwood & Son, 1926 p. 131.

2.7 Imitation to deceive

> Society was an aggregation of self-interested individuals tied to one another by the tenuous bonds of envy, exploitation and competition. Dangerous levelling tendencies lurked behind the idea of personal improvement through imitative buying.[146]

At a time in British design history when imitation in design was viewed both as a form of art and as an appropriate solution in the production of accessible luxury, the line between mimesis and forgery would have been a fine one. Indeed, considering the total lack of laws protecting designers' names and products at the time; to copy the work of a craftsperson directly with no credit or transparency would not have even been defined as forgery, which was a term already in official use for the criminal reproduction of money and legal documents. By these standards, design forgery did not technically exist during the time *Dutch forgery* watches were being manufactured, making a practice that is now illegal under EU law, no legally different at the time from Wedgwood's imitation of the Portland Vase. The issue was purely moral, and morality is purely subjective.

2.7.i The incentives to create fake objects

The act of faking can have two intended purposes. The first is an out and out deception, a fake designed and priced as a genuine object but manufactured elsewhere at a considerably lower cost to provide a higher return to the merchant. The second can be referred to as a replica, designed to be similar to the genuine object, however, more affordable to a customer who is either knowingly purchasing a non-genuine object, or is willingly remaining ignorant. Understanding the greater social role of imitation in the eighteenth-century Product Revolution will assist in shedding light on the

[146] MCKENDRICK, N; BREWER, J; PLUMB, J. H. (1982) p. 19 referencing Professor Appleby, loc. cit., pps. 507-11.

placement of our *Dutch forgeries*, and understanding whether they were being sold under our modern definition of fake, or as a replica. Forming a correct definition is vital in understanding the market for copying English watches in the eighteenth century. Incorrect terminology acts as a distraction from the true nature of the practice within its historic context.

The effect of the proliferation of forgery over the century caused the creation of early intellectual property legislation for artists and designers. One artist, in particular, to fall foul of forgery was William Hogarth whose advances in print engraving to reproduce his work in larger numbers also provided forgers with their technique to exploit his name for financial gain.[147] Hogarth's work became copied to such an extent that his petitioning to have artists' names protected by law resulted in the Act passed being nicknamed after him.[148] Similar Acts had to be passed at the beginning of the century to protect the names of writers.

2.7.ii London watchmaker versus London forger: comparing profiles

David Penney's 2014 lecture entitled *The Faking of English Watches* discussed the market and manufacturers of the watches subject to this research.[149] The term fake is defined as a criminal act of fraud by misrepresentation, now punishable by hefty fines and a prison sentence. The incorrect application of it to the practice of signing Continental watches as London-made in the eighteenth century, which was in fact perfectly legal at the time, casts a very different image of the typical eighteenth-century watchmaker. Penney dismisses the notion that English watchmakers were themselves involved in the trade of *Dutch forgeries*, stating that he "simply didn't believe" that an English watchmaker could behave in such a manner.

[147] The Engraving Copyright Act 1734 Act (8 Geo.2 c.13)
[148] VERHOOGT, R. *Art in Reproduction: Nineteenth-century Prints After Lawrence Alma-tadema, Jozef Israels and Ary Scheffer*. Amsterdam; Amsterdam University Press, 2007, p. 15
[149] PENNEY, D. (2014).

In the eighteenth century, watch and clock making was regarded as a gentleman's profession, practised by educated and often middle-class individuals who were family men and highly regarded by society - a profile which clashes with our ideas about modern traders in fake luxury goods. However, when placed within a period context a very different picture is painted. Baines' case study on the life and works of Dr William Dodd provides us with a fascinating insight into the real characters behind eighteenth-century forgery. [150] Dr Dodd was an educated family man, a preacher with a history of charity work, a man respected by society. Unlike legally applying false names and locations to watches, Dr Dodd forged a bond; a crime for which he was executed in 1777. An account of the character of the eighteenth-century forger was given as follows:

> Forgerers [sic] are seldom among the low and abandoned part of mankind. Forgery is very often the last dreadful refuge to which the distressed tradesman flies. These people are then sensible of shame, and perpetual infamy would be abundantly more terrible to such men than the mere dread of death.[151]

Baines then references Lincoln B. Faller who describes the eighteenth-century forger as 'more likely to have come from respectable circles' committing a "crime that comes to interest ... is eminently middle-class; committed in a weak and private moment".[152] This association between forgery and class seems to have garnered a more sympathetic public response than crimes committed by the lower social classes. Dr Dodd's case attracted a great deal of public interest, with a number of newspapers publishing letters in support of a pardon, Baines counts 166 letters and comments in direct support of Dodd. One petitioner offered to accept the punishment on his behalf, with comparisons remarkably made between the execution of Dodd and that of Christ.

[150] BAINES, P. *The House of Forgery in Eighteenth-Century Britain*. Aldershot; Ashgate Publishing Limited, 1999
[151] Cit. ibid, p. 126.
[152] Ibid p. 126.

Ultimately, the stream of support for Dr William Dodd was to no avail, and he was hanged on 27th June 1777. Contemporary reports of his execution describe a teary, trembling and repentant Dodd; and a weeping executioner. The newspaper *The Public Advisor* reported the following day:

> there was a universal Silence: Tears flowed from many Eyes, but from one Quarter there was an almost instant Groan that was deplorably affecting: and a mournful Shriek (apparently a Woman's Voice) that pierced the hearts of those who heard it.[153]

The heightened drama of an execution will undoubtedly have excited the romantic imaginations of the press and public at the time. Whether the hangman truly wept and the audience groaned and shrieked in horror we will never know, but in many ways, the dramatised reports tell us more than the truth. Regardless of the exact course of events surrounding the execution of Dr Dodd, the lasting legacy the press and public wanted to leave was one of sympathy for these gentlemen forgers. The shame of being caught and the impact that had on their public social standing was punishment far worse than death for a respectable member of society, unlike the lower social classes who they clearly felt had nothing other than their life to lose.

If we take the case of Dr William Dodd as an example of how gentleman criminal forgers were viewed in the late eighteenth century, can we really not believe that our gentleman watchmakers would perfectly legally apply their own or fictitious names to movements purchased from abroad? Once the issue of design forgery is placed within its eighteenth-century context, caution should be displayed so as not to judge yesterday's actions by today's standards.

[153] Cit. ibid, p. 136.

2.7.iii A study of cases: using scientific analysis and the marking of watch cases in the detection of deception

Recent research by Philip Priestley,[154] now evidenced by further scientific analysis by Richard Newman, has proven the practice of silver depreciation in watch cases made in England as early as 1700.[155] Priestley has found six examples of cases by Liverpool case maker William Laithwaite only one of which bears full hallmarks, the remaining being simply stamped with the maker's initials WL with the last in the series stamped WL beneath a coronet.[156]

The appetite for the latest European, and particularly English fashions, in the Colonies is well documented and, consequently, the demand for the latest technology and design available to their social class in London increased steadily throughout the eighteenth century.[157] The Colonies (in this case the Americas), however, did not have the same strict legislation surrounding hallmarking and importation of precious metals as England during the same period. Consequently, workers in precious metals could get away with reducing the precious metal content in their work, avoiding marking in the English Halls and exporting cheaper work to be sold as the genuine article abroad. Metallurgic analysis of a John Wright watch with case by William Laithwaite in 2014 has proven the existence of these low-grade silver cases being exported to the Americas, with the example having between 0.837-0.876 parts silver per 1.000 compared to the English standard of 0.925.[158]

[154] PRIESTLEY, P. *Early Watch Case Makers of England 1631-1720*, Pennsylvania; Cornerstone Printing Services, 2000.
[155] NEWMAN, R. 'New York Colonial Watchmaker John Wright, and the Discovery of America's Oldest Watch' in *NAWCC Watch & Clock Bulletin*, March/April 2014 pps. 115-126.
[156] PRIESTLEY, P. (2000).
[157] Ibid p. 122.
[158] Ibid p. 123.

Table 1: Metallurgical analysis of the Wright watch.[159]

Silver Components	Gold	Silver	Copper	Lead	Iron	Zinc	Arsenic	Manganese	Palladium	Nickel	Tin	Indium	Chromium	Ruthenium	Bromine
Champlevé Dial	-	94.56	4.28	0.28	0.28	-	0.11	0.31	0.56	-	-	0.43	-	-	-
Regulator Dial	0.12	90.56	8.30	0.24	0.54	-	0.14	0.32	0.50	-	-	0.47	-	0.07	-
Balance Table	0.49	86.84	10.78	0.29	0.25	1.57	-	-	0.38	0.04	-	-	-	-	0.06
Inner Case	0.43	85.40	12.34	0.64	-	0.55	0.13	0.22	0.48	-	-	0.15	-	-	-
Outer Case	0.83	83.67	11.63	0.60	0.18	2.33	0.13	0.19	0.64	-	-	-	-	-	0.61
Bezel	0.43	87.60	9.92	0.43	-	0.60	0.14	0.51	-	-	-	-	-	-	-

Looking back now and placing *Dutch forgeries* within this context of imitation and forgery, of the marks that are legible on these cases, those that appear most frequently are import marks for Continental silver entering the Dutch Republic. These marks simply denote that the silver is above the 0,800 parts per 1,000 standard set at that time. What is notable is that these marks commonly date to a period after the time we most commonly associate with the production of *Dutch forgeries*, the first quarter of the nineteenth century rather than the end of the eighteenth.

[159] Cit. Testing Courtesy of Philip Poniz , source ibid p. 123.

Figure 6: tax mark for foreign made silverware used from 1814-1953 – Netherlands.[160]
Figure 7: tax mark for locally made silverware used from 1814-1953 – Netherlands.[161]

Figure 8: provincial guarantee mark for small silverware used from 1809-1819 – France.[162]
Figure 9: possibly of Neuchâtel denoting 0.800 grade silver.[163]

[160] Catalogue registration number 1958,1201.643. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[161] Catalogue registration number 1958,1201.815. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[162] Catalogue registration number 1958.1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[163] Catalogue registration number 1958,1201.724. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

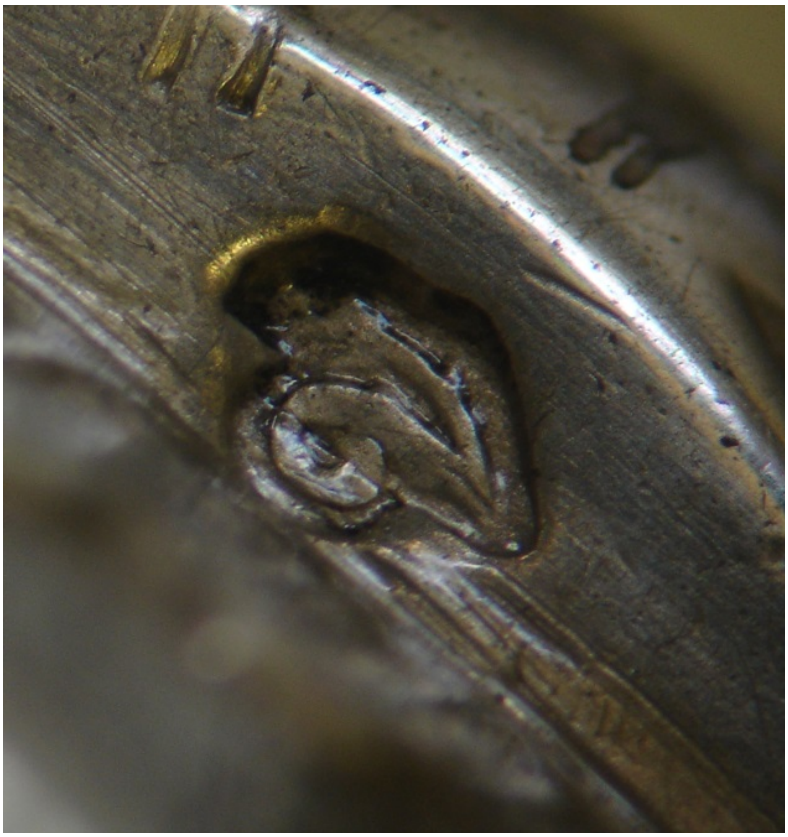

Figure 10: tax mark for foreign made silverware used from 1814-1953 – Netherlands.[164]

This chapter has set the scene, depicting the landscape of imitation within the context of eighteenth-century luxury and material culture. The demand has been demonstrated, and the means to supply it provided by the technological and social advance of the Industrial Revolution. The following chapters will integrate surviving examples of the *Dutch forgeries* themselves into the greater context of this age of imitation.

[164] Catalogue registration number 1958,1201.311. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Chapter 3 : What is in a Name?

Figure 11: London-made watch by Tho. Windmills (left).[165]
Figure 12: Amsterdam-made watch by Jan Berninck (centre).[166]
Figure 13: a *Dutch forgery* signed Harry Potter, London (right).[167]

Since the invention of the mechanical timekeeper eight hundred years ago, the centre of the world of watchmaking has moved location on three notable occasions - from Germany between 1560 and 1630, to England between 1630 and 1890, and finally Switzerland from 1880 to present.[168] During each of these eras, watches produced within these areas have demanded a premium. The watches being analysed by this research fall into the second period when England, and particularly London, was home for many of the world's most celebrated watchmakers. In the space of just 150 years, English horologists and inventors contributed the balance spring[169] which gave such an extraordinary improvement in timekeeping and accuracy it allowed for the addition of the first minute hand.[170] In 1704, Thomas Tompion and George Graham invented the first planetary orrery.[171] Sully's invention

[165] Catalogue registration number 1958,1201.208. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[166] Catalogue registration number 88,12-1.249 3. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[167] Catalogue registration number 1958,1201.137. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[168] These dates are generalisations with some overlap in the transitional periods.
[169] Robert Hooke, London, 1664.
[170] Daniel Quare, London, 1690. Previous to this, watches had an hour hand only as the timekeeping was not accurate enough to warrant any further precision in measurement.
[171] George Graham, London and Thomas Tompion, London. Presented to Charles Boyle, the 4th Earl of Orrery in 1704, and whom the device was named after.

of the oil sink in 1715 improved movement cleanliness, running order, and service longevity.[172] Thomas Mudge invented the detached lever escapement in 1755 which improved timekeeping by reducing frictional error.[173] By 1765 watches could keep such accurate time that they were worthy of the introduction of a seconds hand.[174] One of the most extraordinary watchmakers of the era was John Harrison, who created the first successful marine chronometer in history to win the Longitude Prize.[175] Among his considerable contributions to the history of horology, he made significant advances in our understanding and compensating for temperature variation, including perfecting the design of the 'gridiron' temperature compensation in clock pendulums[176] and bimetallic strip compensation.[177] He invented the caged roller bearing, a virtually frictionless assembly requiring no lubrication and used in virtually all complex machinery to this day.[178] The improvements made in our understanding of the art of timekeeping are felt to this day, with the balance spring and improved variations of the detached lever escapement being used in virtually every modern mechanical watch. Inventing reliable methods of timekeeping both saved lives and revolutionised mankind's relationship with the world around us.

As a consequence of its formidable reputation as the world capital of fine watchmaking, watches made in the city of London were in great demand amongst the few who could afford them and commanded a significant premium over the vast majority of Continental alternatives.[179] The great watchmakers of eighteenth-century London were affluent men; John Harrison earned the modern

[172] Henry Sulley, London, 1715.
[173] Thomas Mudge, London, 1755.
[174] John Whitehurst, London, 1765.
[175] Harrison's final payment for the Longitude Prize was made in 1773, although he never received the full prize money. Source: BETTS, J. *Harrison*. National Maritime Museum, London, 2007, p. 89.
[176] In 1726, improving on the work of George Graham, London who started experimenting with temperature compensated pendulums in 1715. Source ibid, p. 39.
[177] Formed of a sheet for steel and brass riveted together which rely on each other's different thermal expansion rates to move a fixed point. The bimetallic strip was used in the index regulating the balance spring on Harrison's H3 chronometer made between 1740 and 1759, and is a common feature in homes around the world as the thermostatic safety control in electrical plugs. Source ibid, p. 56.
[178] BETTS, J. *Harrison*. National Maritime Museum, London, 2007, p. 57.
[179] With occasional exception to Paris, which was home to a number of celebrated watchmakers however has a far lower production rate and registered considerably fewer patents.

equivalent of around £45,000 a year for most of his life. After receiving his prize from the British Parliament for solving the longitude problem, he died the equivalent of a multi-millionaire in today's terms.[180] Watchmakers like Thomas Tompion, George Graham and Thomas Mudge counted British royals among their clients and their names were well known in aristocratic circles.

3.1 The state of the London trade

English, and in particular London, watchmakers were apparently enjoying an unquestionable boom in the industry. Ellmers describes the course of the eighteenth-century London clock and watchmaking as enjoying "a prodigious expansion from the small-scale manufacture of costly, but technically simple, pieces for an exclusive market to the large-scale production of pieces, highly varied in their technical and visual quality, selling in markets as diverse as farming villages in Ireland and wealthy eastern princedoms."[181]

Adam Smith supported this theory back in 1776 when, in a comparison to the diminution of prices of goods manufactured by cutlers, locksmiths and toy makers, he argued that they had demonstrated "a very great reduction of price, though not altogether so great as in watch-work" and that in general this reduction was "sufficient to astonish the workmen of every other part of Europe who in many cases acknowledge that they can produce no work of equal goodness for double, or even triple the price."[182] If we look to the scale and diversity of the trade in England during the second half of the eighteenth century, reports from the Worshipful Company of Clockmakers and other social

[180] Calculations made based on figures given in: BETTS, J. *Harrison*. National Maritime Museum, London, 2007.
[181] Guildhall Library MS 2710/5 Clockmakers' Company Court Minute Book 1778-1804, Special Court held 11 December 1780: the Company stated 'we export Clocks and Watches to all commercial countries, except France, and particularly to Holland, Flanders, Germany, Sweden, Denmark, Norway, Prussia, Spain, Portugal, Italy, Turkey, East and West Indies, China etc'.
[182] SMITH, A. *The Wealth of Nations Books I-III*, St Ives; Clays Lts, 1999, p. 351.

documentation supports the view that the industry was as strong as ever and embracing the centralisation of labour and subdivision of work to increase productivity and reduce costs.

> In the making of a Watch, If one man shall make the Wheels, and another the Spring, another shall Engrave the Dial-plate and another shall make the Cases, then the Watch will be better and cheaper, than if the whole work would be put upon any one man[183]

A list compiled in 1747 divided the London watchmaking trade into movement makers, wheel cutters, spring makers, chain makers, cap and stud makers, case makers, dial cutters, dial enamellers, gilders and finishers.[184] The author Campbell is the first, according to Ellmers, to refer to the "watchmaker" as an entrepreneur employing a collective of makers rather than a solitary craftsman.[185] The move toward a greater subdivision of labour was paralleled by a move towards an increased geographical centralisation of the watch and clock trades. North London became the most well-known of these centres, with the areas in and around Holborn, Clerkenwell and St. Luke at its centre and a border that stretched as far as Hoxton in the west, Islington in the north and south towards Smithfield, Cripplegate and Moorfields. However, as the capital and centre of commerce in Britain London was not the most cost-effective location to support production. Therefore, in the progression towards reducing the cost of manufacture, watchmaker entrepreneurs looked north with cities like Liverpool and its neighbouring town of Prescot becoming new centres for cheaper labour as the century drew to a close. On a visit to the British Isles in 1805, Philip Andreas Nemmich commented:

[183] PETTY, W. *An Essay Concerning the Multiplication of Mankind*. London, 1686.
[184] CAMPBELL, R. *The London Tradesman*. London, 1747, pps. 250-251.
[185] ELLMERS, C. The Impact of the 1797 tax on Clocks and Watches on the London Trade in *Collectanea Londiniensia*, London and Middlesex Archaeological Society, 1978, p. 389.

> Many of the inner parts of the watch come from Lancashire and are assembled in London; some parts also come from Coventry, but these are not considered so good. Watch springs are made, as far as England is concerned, only in London, and are sent to Lancashire and elsewhere. . . . The wheel-work is cheaper in London, but not nearly so good as in Lancashire. . . . Cases are made best in London and are sent to Coventry and Derby and even to Lancashire.[186]

In 1797, a Clockmakers' Company petition referred to the "great number of persons employ'd in the manufacture of these articles [clocks and watches], which upon the smallest computations supposed to amount to twenty thousand persons, in the Metropolis alone."[187] In the year 1796 alone, Goldsmiths' Hall assayed 6,576 gold and 185,102 silver cases.[188]

Table 2: Watches exported from London year ending 5 January 1793. Source: Parliament *Report from the Committee on the Petitions of the Watchmakers of Coventry* etc. (London, 1817) Appendix 4, 13.

	Number	**Value**		**Value per Watch**	
		£	£	s	d
Gold	484	7,260	15	0	0
Metal	595	1,190	2	0	0
Silver	14,005	52,530	3	15	0
	15,084	60,980			

Forbes lists that watchcases accounted for a substantial part of the work of the Assay Office. In later years between 1800 and 1886, an average of 6000 parcels of silver cases were received annually, in amounts varying between 100,000oz and 250,000oz each year. He continues "in the eighteenth and

[186] Quoted in BAILLIE, G.H. *Watches, their History, Decoration and Mechanism*, London, 1929, pps. 272-273.
[187] Guildhall Library MS 2710/5, *loc. cit*. in note 26. Special Court held 6 July 1797.
[188] ELLMERS, C. (1978) pps. 338-400.

early nineteenth centuries Britain has a watch industry that was second to none in the world, but its dominance gradually diminished and eventually Switzerland took the lead."[189]

Although a small handful of other regions in Europe were also subject to imitation *Dutch forgeries*, such as Sweden and Holland, no others suffered such a significant and permanent impact to their national trade.[190]

3.2 Identifying *Dutch forgeries* and isolating the case study group

Previously, there had been no alternative to the hand skills of the master watchmaker to manufacturing a watch, however, industrialisation filtered into traditional manufacture during the eighteenth century, opening a new chapter in the history of horology. Improved trade, access to cheap labour on the Continent and a vastly increased capacity for production combined with the social aspirations of the emerging nouveau riche to fuel the first commercial scale market for watch fakes and forgeries.

Although references exist within horological literature discussing eighteenth-century forgeries, how can their existence be authenticated? These watches are signed by London makers and some even carry the correct English hallmarks from the period; so what has made some horologists feel that they were of spurious origin, and can their suspicions be proved?

The art of watchmaking, as with any design style, varies from country to country. Although the function of the watch will always be the same, how the watchmaker styles the finishing of his or her final product is a reflection of the traditions and influences of their place of origin. An English watch

[189] FORBES, J. S. *A History of the London Assay Office*, London; Goldsmiths' Company Unicorn Press, 1999, p. 268.

[190] Examples of these watches such as an example signed 'Gibb, Rotterdam' and those proclaiming to be by 'Wallerius i Norrköping' will be examined in detail later in this thesis.

made in 1780 will look different from a French watch of the same era, which in turn will look different from a contemporary Swiss watch, and to the trained eye, the country of origin of a watch can be roughly identified by its style alone without the need for a signature. For those convinced of their existence, this is one of the key arguments to support the suggestion that there are a substantial number of contemporary forgeries of English watches in collections and circulating the antique market worldwide to this day.

Isolating these variations and identifying the characteristics of the Dutch forgery was pivotal in selecting the case study group of watches at the British Museum. To tackle the issue of a potentially skewed collection, a list was made of all examples of *Dutch forgery* type watches found in the specialist horological library at the British Museum. This library covers collections from global museums and galleries, private publications and the auction catalogues of Sotheby's, Christie's and Bonhams departments worldwide, specialist European auction houses such as Dr Krott, and dealers such as Pieces of Time. This list covered the proclaimed names and locations of these watches along with distinguishing features regarding their dials, cases, and marks such as hallmarks and serial numbers were identified. It must be acknowledged that this list itself has limitations, as the watches were identified as *Dutch forgeries* by the design characteristics set out by this research from photographs and were not examined physically. As their comparative financial value to high-grade English work is low, auction house descriptions are commonly vague with pre-1980s cataloguing rarely including images. This also raises a concern regarding repetition, as without accurate imagery or unique serial numbers it is impossible to know whether a watch being described is the same example which appears in numerous auctions over the years. To counter this, a high level of caution was used in determining any of the listed examples as *Dutch forgeries* which might have resulted in good examples being excluded from the list due to lack of corroborative evidence; however as a consequence the examples which appear can be said to be *Dutch forgeries* with a high level of certainty and there is little risk of repetition.

Access to the watches as primary research material was fundamental to this research, and consequently the British Museum provided the best opportunity possible to access a sample group with the degree of detail required. The examination of the collection was broken into three stages.

3.2.i Stage 1 – Rationalising and identifying the case study group (technical sections?)

First, every watch dated between 1720 and 1820 was superficially examined to identify watches which could fall into the *Dutch forgery* type, and from these, the dates used in the title of this research were derived from being the prevailing period for the practice of this type for forgery. Once identified, every *Dutch forgery* was subject to first step analysis, which for the purposes of this research consisted of the removal of the movement from the case and the removal of dial and hands to identify marks of interest and give a better indication as to the richness of the data which may be extracted by step two analysis. Out of those identified in the collection at the British Museum by this research, a sample group of thirty watches was chosen for further analysis. The selection process involved determining the watches data richness, identifying examples which demonstrated all or as many of the following criteria:

1. completeness – Including inner and outer cases, dial and full movement components;
2. originality – While some later repairs and alterations were acceptable, dramatic alteration to the original piece resulted in disqualification;
3. significant makers' names – Both in terms of movement signature, plate maker and case maker;
4. hallmarks – Either British or Continental to ascertain proclaimed metal purity;
5. at least one example of a known Dutch watch – To act as a quality control against the *Dutch forgeries*;

6. watches with names associated with forgery but apparently of English manufacture – To further understand what, if any, role English watchmakers might have had in the trade.

A degree of flexibility had to be applied to the criteria as by the nature of these watches, many surviving examples have been damaged over time. Additionally, it was not uncommon for watches with champlevé dials to be re-dialed with later enamel dials after the fashion changed towards the end of the eighteenth century, although these can usually be detected by the alterations made to the existing dial plate. There were also examples chosen for having identical cases by Daniel Cochin, to make a comparison of their movements and ascertain the extent to which the movements might also have been related.

To counter this degree of flexibility and set the parameters of the new definition of the former term *Dutch forgery*, the watches which this research analysed in detail were set against a list of identifiers selected. . The first is the only conclusive indicator which connects these watches - the declaration of false national origin. As this study will show, while the vast majority of these watches purport to be of London origin there were other locations and nationalities being imitated in a similar way. The one thing that unites all of these examples is that none are signed with the true location of origin.[191] Secondly, a group of inconclusive indicators were identified that, whilst not representing strong enough evidence be decisive alone, when combined in numbers they give a very strong indication that the watch is not of the origin being proclaimed. These inconclusive indicators were the presence of a : Dutch-style arcaded dial; Dutch-style balance bridge; Dutch import marks; fake English or otherwise spurious hallmarks; plate marks or other marks connecting the watch to conclusively known *Dutch forgeries;* unknown or unrecorded maker; low quality of craftsmanship. Finally, one absolute requirement was pinpointed for the identification of the sample group being

[191] This indicative trait had to be adjusted in light of new information found towards the end of this PhD study, which expanded the number of countries being copied in a similar way to cover both Holland and Sweden. This material will be examined in detail within Chapter 7 of this thesis and addressed within the new definition and conclusion.

examined by this study - that the watch had to be signed as made in an English city in combination with Dutch-style arcaded dial and/or balance bridge.

Watches that fulfilled the absolute requirement of being signed as made in an English city whilst having a Dutch-style arcaded dial and balance bridge would be immediately classed as *Dutch forgeries*. Watches signed as made in an English city with either a Dutch-style balance bridge or a Dutch-style arcaded dial, had to satisfy at least three of the five inconclusive indicators before they could be defined as *Dutch forgeries*. This method was chosen to provide enough rigidity to isolate and provide structure to the rationale behind the selection process, whilst allowing enough flexibility to include and explore design and technical anomalies.

3.2.ii Stage 2 – Examination of the case study group

Every one of these thirty watches was disassembled and examined under magnification to find any trace of hidden marks which could give an indication of their origin or persons involved in their creation and dissemination. Each watch was also explored for signs of the changing production techniques seen in allied trades over the course of the British and European Industrial Revolution, such as production line or machine techniques and cost cutting measures by reducing the quality or gauge of materials. Through the reading of these marks, along with the analysis of production techniques and the nature and quality of later repair work and modification; these case studies were then used to build up a picture of the life these thirty watches had led and the regions with the capability to make them in the quantities they appear using the technology required to create them. Hidden names were examined for European regional implications as well as traces of any formal documented training or apprenticeship in Britain or on the Continent. Prior to the Industrial Revolution, watchmaking had been a cottage industry mastered and dominated by English makers; however signs of standardisation in these movements tell a different story about the shift in

production techniques over the period and the early stages of solving the problem of manufacturing watch cases and movements with such predictability and uniformity that they could be manufactured en masse independently anywhere in the world to make the greatest benefit of global trade and tax differences - a technique finally perfected between Waltham Watch Company in Massachusetts, USA and Dennison Watch Case Co. in Birmingham, England in the second quarter of the nineteenth-century. Analysing the degree of standardisation in these movements by tracking patterns in the stripped back plates demonstrates that the birth of this solution can be seen in the movements of these *Dutch forgeries*. By comparing the thirty movements not only to others bearing the same signature but to each other; illustrates conclusively the scale of the operation producing these movements and the redistribution in skills, labour and refined production techniques that simply did not exist in British watchmaking at the time. These marks serve as an indicator not only to how the watches were made but also to who was making them and where in Europe they were based.

3.2.iii Stage 3 – Rationalisation, identification and examination of the scientific analysis case study group

Out of the sample group of thirty, a further seven were selected for stage three analysis which extended detailed examination to scientific analysis of the cases using X-ray fluorescence scanning (referred to herein as XRF) and X-ray of the cases. As no previous research has been conducted to this level on *Dutch forgery* watches, this provides invaluable primary data which can be used to dispel myths surrounding their production and an insight into their genuine precious metal content rather than rely on spurious or vague Hallmarking. The scanning analysed the unabraded surfaces of the watch cases using an Artax micro-X-ray fluorescence spectrometer (XRF). Although the data collected from surface analyses do not accurately reflect the bulk compositions of the silver alloys, the results gave enough information to indicate if the cases were manufactured using English

sterling silver (containing at least 92.5% silver), Britannia silver (at least 95.8% silver) or Continental silver (containing at least 80% silver).[192] This research was performed in collaboration with Harriet White from the Department of Scientific Research at the British Museum. The full analysis report with detailed results and associated methodology can be found in the appendix to this study.[193]

3.3 Isolating the case study watches

Using the methodology outlined in the three stages, the full list of watches identified and selected for levels two and three analysis are as follows:

Stage 1 – examples with plate marks

1. 1891,0314.1
2. 1958,1201.482
3. 1958,1201.772

Stage 2 analysis – examples disassembled and examined

1961,11-2.4	1958,1201.387	OA.455
1889,0311.2	1958,1201.403	OA.456
1958,1201.33	1958,1201.642	OA.464
1958,1201.34	1958,1201.643	
1958,1201.125	1958,1201.815	
1958,1201.135	1958,1201.826	
1958,1201.165	1958,1201.879	
1958,1201.175	OA.403	
1958,1201.305	OA.413	
1958,1201.383	OA.449	

[192] Reference Appendix No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum, Department of Conservation and Scientific Research, *Scientific examination of seven mid to late eighteenth-century European silver watch case pairs.* 16th December 2015.

[193] Reference Appendix No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum, Department of Conservation and Scientific Research, *Scientific examination of seven mid to late eighteenth-century European silver watch case pairs.* 16th December 2015.

Stage 3 analysis – examples where cases were subject to scientific analysis

1958,1201.1637	CAI.1637 (Loc. HSR/V28/24)
Conservation:	N/A.
Metal marked:	inner case - Dutch boar's head mark for silver composite above 0.800 used after 1814; outer case - Dutch boar's head mark for silver composite above 0.800 used after 1814.
1958,1201.724	CAI.0724 (Loc. HSR/V21/16)
Conservation:	verdigris on the bezel of the inner case removed using Goddards Silver Foam (1993).
Metal marked:	inner case – possibly Neuchatel mark for silver composite above 0.800; outer case – erased fake London Hallmarks for 0.925 silver.
1958,1201.610	CAI.0610 (Loc. HSR/V17/35)
Conservation:	N/A.
Metal marked:	inner case – unmarked; outer case – hallmarked London 1779 for 0.925 silver.
1958,1201.772	CAI.0772 (Loc. HSR/V22/33)
Conservation:	N/A.
Metal marked:	inner case - hallmarked London 1778 for 0.925 silver; outer case - hallmarked London 1778 for 0.925 silver.
1958,1201.473	CAI.0473 (Loc. HSR/V13/34)
Conservation:	N/A.
Metal marked:	inner case – Dutch cursive V mark for silver composite above 0.800 used after 1814; outer case – unmarked.
1958,1201.549	CAI.0549 (Loc. HSR/V16/08)
Conservation:	N/A.
Metal marked:	inner case – unmarked; outer case – unmarked.
1958,1201.854	CAI.0854 (Loc. HSR/V25/14)
Conservation:	N/A.
Metal marked:	inner case - Marks believed to be fake Cheshire Hallmarks for 0.925 silver, date unidentifiable; outer case - Marks believed to be fake Cheshire Hallmarks for 0.925 silver, date unidentifiable.

3.4 The makers of *Dutch forgeries*

One of the greatest mysteries surrounding the creation of *Dutch forgeries* is the true identity of the individuals who hide behind the names that adorn the watches. The motivation of a craftsman who chooses to replicate the work of a celebrated maker is relatively simple, with the aim usually being to put their own skills to the test by replicating the works of ancient masters, as was popular among the decorative and visual arts practice in the eighteenth century.[194] The other was as a deception by way of misrepresentation to achieve a higher retail value for an inauthentic object by stealing the name of a famous maker. What is curious about the watches defined by this research as *Dutch forgeries*, is that they are signed with the names of watchmakers we have no evidence even existed. Indeed, some of the names are so rare that there is little global reference to the surname in any context, let alone recorded in the records kept by the watch industry.

This anomaly was chosen as a benchmark in the identification of the *Dutch forgery*, as to replicate a famous watchmaker fits a clear pattern of forgery and imitation within many art and design-led industries over the course of the Industrial Revolution.[195] The *Dutch forgery* is of poor quality which in no way represents a master craftsman testing his skills by replicating the best, in the way that entrepreneurs like Josiah Wedgwood would. Neither are they a fake stealing the name of a famous watchmaker to make a quick and easy profit. They are something quite different, and would have had different motivations and incentives driving the market which drove their production.

Over the course of the eighteenth century, the Product Revolution saw a shift from craftsman-led cottage industries to more organised and centralised merchant-led production. Merchants travelling

[194] As practised by Josiah Wedgwood, and a style which underpinned the Neoclassical movement during the second half of the eighteenth century.
[195] Such as of money and documents e.g. Dr William Dodd [Baines p. 125]; literature, e.g. Lauder and Johnson, the forgery of works by Ossian [Baines p. 81]; sculpture, e.g. The Townley Discobolus and Statue of Endymion sleeping on Mt Latmos [Jones pp. 141-2] and classical gemstones [Jones, p. 147].

across Europe and further afield bore frequent witness to the popular changing styles in fashion and were far more in tune with market demands than static craftsmen. This paradigm shift meant merchants were now dictating to the craftsmen, rather than simply retailing on their behalf. This, in turn, changed the nature of work, where at the start of the century watchmakers would make under their own name or that of their master, they were now taking commissions to create unsigned movements for export, or even signed under names unknown to them. This was a relatively new trend in Britain, however, it is a trend which played a fundamental part in the establishment and growth of manufactories along the Swiss-French border which would pride themselves on making large quantities of "watches in the English style" to order.[196]

For each maker, British and European watchmaking directories representing England, Scotland, Wales, Ireland, France, Holland, Germany, Switzerland, Belgium, Spain and Italy were searched for possible entrants who fitted the correct name or close variations thereof, and that had been recorded as active at the time in question. Many of these directories, when referencing the names we associate with forgery, would reference some of the examples in the collection of the British Museum which have been examined by this research. The names are often defined as spurious, if any opinion is given at all, and described in brief. This research aims to add detail behind the names associated with these forgeries which can, in turn, be referenced in the future biographical cataloguing of eighteenth-century watchmakers.

Beginning with one of the most common names associated with these watches, the signature of John Wilter appears on a total of sixty-four watches identified by this research to date, nineteen of which are at the British Museum and a further example has been inspected at the Museum of London.[197] Of these, four examples were selected for significant further examination and set against

[196] CHAPUIS, A & JAQUET, E. (1970) p. 79.
[197] Museum of London catalogue reference A9873.

primary contemporary accounts and secondary historical research.[198] The name variations considered as belonging to the same origin, cover the full "John Wilter" as well as "J. Wilter", "Jno. Wilter", "Wilter" and apparent spelling mistakes "Jonh Wilter" and "John Vilter".[199] Previous cataloguing and directory autobiographical information has determined his active years as between 1750 and 1800.

While the name and its variants appear with considerable frequency on *Dutch forgery* watches, no evidence exists to suggest a watchmaker by that name ever existed in London.[200] Baillie associated Wilter with "many Dutch-type watches" suggesting that it is "perhaps a fictitious name" and lists examples at the Guildhall Museum, Museum of London, Dennison Collection, Marryat Collection and Carnegie Museum.[201] Despite these numerous examples, Loomes did not consider the name worthy of mention in his list of *Watchmakers & Clockmakers if the World*.[202] Britten's connects Wilter with the case maker Daniel Cochin, citing an example at the Guildhall and describing his watches as of the "Dutch style".[203]

The *Petition of the Watchmakers of Coventry* holds one last clue. The second interview of watchmaker Mr Henry Clarke reveals to us what might be the closest we will ever get to the truth behind Wilter. He discusses an English watchmaker, "now deceased" (in 1817) who was making watches to order without a name so that a name of the commissioner's choice could be applied instead, as well as watches bearing the name of his "foreign correspondent". A few years later he claims, foreign manufacture had developed to a point that it became cheaper for this "foreign correspondent" to commission his work on the Continent. The English watchmaker lost his business,

[198] British Museum identification number 1958,1201.383, British Museum identification number 1958,1201.387, British Museum identification number 1958,1201.879 and British Museum identification number 1958,1201.172 respectively.
[199] Reference Appendix No. 5 - List of *Dutch forgeries* identified by this research.
[200] THOMPSON. D. (2008) pps. 80-81.
[201] BAILLIE, G.H. (1972) p. 619.
[202] LOOMES, B. (2006).
[203] *Britten's Old Clocks & Watches and their Makers* (1982) p. 648.

and eventually went bankrupt. On closing, the paragraph, Clarke specifically identifies that "watches are now prohibited to be imported into that country"

He then lists a second reputable London watchmaker, again deceased, and describes the following:

> [He] introduced the making of watches with the feigned name of 'Wilters, London,' on them; those watches were well made, and would have done credit to the maker, who should have put his name on them; other persons speedily imitated the external appearance of the watches, and sent them to the same country; but instead of the intrinsic value of the last-mentioned watches being equal to those of the first watchmaker, those had sham day of the month, dials and hands without and wheels to move them, and also the sham appearance of being jewelled in the pivot holes, although they were not really jewelled.[204] The last I saw of those spurious watches was offered to me for sale at 34s. each, but really were good for nothing; whereas the first introducer of watches, with that feigned name, was not overpaid at eight guineas each. English watches are now prohibited to be imported into that empire also.[205]

Again, Clarke specifies that the English watches are prohibited to be imported into the place of origin for the forgeries, however, when referring to Wilter, he specifically and with meaning replaces "country", with "empire".[206] Of course much of the ground for complaint by these watchmakers is based on disgruntled hearsay and finger pointing. However, the historical accuracy with which Clarke

[204] In this instance, the "other persons" being referenced by Clarke can be assumed to be located on the Continent. This is supported by the transition from high-to-low grade finishing in watches themselves and the plate maker's marks discovered by this study. Multiple interviewees make reference to working by commission to Dutch merchants throughout the text. It is therefore suggested that this is evidence these watches were not being made in, but were in fact being traded through Holland.
[205] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 67.
[206] Ibid.

speaks; particularly in reference to identifying the name Wilter, and by going as far as to explain why some Wilter watches are of fine English quality, and why others are of poor Continental quality (supported by the physical collection at The British Museum), cannot be ignored. Clarke specified "country", then "empire", for a reason, and what makes that interesting is that while current opinion is that the Swiss made these watches, the Swiss did not have an empire.[207] The predominant empires of Europe at the turn of the nineteenth century were the British Empire, the French Empire, the Dutch Empire, and the Holy Roman Empire.

The physical and documentary evidence all suggests that the active date of the individual operating under the name John Wilter starts considerably later than previously suggested. If the witness interviewed in 1817 is correct and his contact was the first to manufacture watches under the name Wilter before production was moved abroad then, the primary physical evidence suggests that Wilter was not active until after 1760[208] and possibly as late as 1770.[209] That the later Continental examples appear to be earlier in style than the popular fashion in Britain at the time should not be unexpected, as it conforms to the manufacture of luxury goods on the Continent in a number of different sectors, including jewellery, silver and ceramics which were sometimes decades behind the popular styles in London or Paris. Considering that these watches might have skewed aesthetic and technical properties, it is more likely that John Wilter was active later than previously imagined too. Although not all sixty-four examples identified by this research were physically examined, a significant number bear Dutch duty marks used after 1814 to denote imported silverware. It is, of course, possible that these watches were simply passing through Holland many years after production after spending time in their primary market elsewhere in Europe. However, considering the ports of Holland provided some of the busiest gateways to trade routes in Europe, and judging by the Dutch style these watches are almost exclusively executed in, there is also a very strong

[207] Ibid.
[208] Based on an example not physically examined by this research.
[209] Based on example physically examined by this research.

possibility that these watches were being marked as or near new on their first passage through Holland. This would date a significant amount of production to post-1814. Although the account of the watchmaker who knew the Englishman behind the first Wilter watches does not expressly say that they no longer appear to be in circulation, or that he has not heard of the merchant commissioning them since. His description, along with the resounding opinion of all other interviewees in the document, is that the problem of cheap imitation English watches with spurious names was not only still an issue, but was increasing by 1817. Consequently, watches that appear to have been made in around 1750 of English origin might have been manufactured as late as 1820. This conflict between the date suggested by the type of movement and aesthetics and the dates suggested by Continental duty marks reoccurs throughout the study of these watches to such an extent that it cannot be ignored.[210]

Other frequently reoccurring names include Tarts who appears in connection with nine watches in total, six of which are at the British Museum, and a further example at the Museum of London.[211] Usually appearing as "Tarts, London" and occasionally, "J. Tarts, London",[212] he is described by G.H. Baillie as active in the second half of the eighteenth century and his "signature [is seen] on many watches for the Dutch market, probably a fictitious name."[213] He is not mentioned by Loomes[214], but Britten's list adds Tarts as a pseudonym or trademark producing watches between 1755-90 stating "many hundreds of watches for the Dutch market were marked 'Tarts, London' or 'Jno Tarts,

[210] The style of the verge escapement, depth of movement and pillar design are more similar to the popular style in England of the first half of the eighteenth century. By the nineteenth century, technical advances meant movements were becoming slimmer, fancy baluster pillars were being replaced with more simple round pillars and although the verge escapement was still in use, it was smaller in size and more precise in its execution than the earlier examples.
[211] Reference Appendix No. 1.12 - 1958,1201.473 and also Museum of London catalogue reference C1450.
[212] Reference Appendix No. 5 - List of *Dutch forgeries* identified by this research
[213] BAILLIE, G.H. (1972) p. 308.
[214] LOOMES, B. (2006).

London' '' and Britten's First Edition quotes "I do not think anyone has been able to trace a manfr. named Tarts''.[215]

Another name appearing twice in the British Museum's collection is that of "May, London", or "J. May" as he also appears.[216] Of one example, the British Museum's records describe this watch as "the movement is of standard Geneva pattern with fusee, four-wheel train and verge escapement" and that "the name May is likely to be fictitious."[217] The curator's comments further suggest that:

> During the eighteenth century, particularly in the second half, there was a flourishing industry in Geneva making poorer-quality watches with spurious London names on the movements. They typically have silver repoussé outer cases and are now thought to have been sold either in Europe or perhaps as second-quality merchandise by the London watchmaker-retailers, although the practice was at the time illegal. In this instance, the existence of London hallmarks in the inner case of this watch suggests the latter circumstance.[218]

Baillie lists six watchmakers by the name of May working in Britain at the time in question, two of whom were based in London by the name of John May and the other Boys Err May.[219] Boys Err May was active between 1746 and 1796 and was a member of the Company of Clockmakers with a number of apprentices, it is unlikely he personally would have been making watches of an inferior quality *Dutch* type, although not impossible that he was involved with the trade in *Dutch forgeries* in another way. There is not enough evidence to suggest that Boys Err May was in any way associated

[215] *Britten's Old Clocks & Watches and their Makers* (1982) p. 619.
[216] British Museum identification 1958,1201.642 and British Museum identification 1958,1201.643.
[217] http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=56858&partId=1&searchText=CAI.0642&page=1 [accessed 29.12.2015]
[218] http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=56858&partId=1&searchText=CAI.0642&page=1 [accessed 29.12.2015].
[219] BAILLIE, G.H. (1972) p. 55.

with the May *Dutch forgeries*. However, his story sheds an interesting light on the life of this one watchmaker and how close he was to known criminals. Britten associated him with a stolen and found advert in 1765 describing a "large quantity of gold & silver watches with a timepiece & some other curious things of value."[220] One of Boys Err May's apprentices, Boys Err Burrill was recorded as being involved in illegal activities for which he spent time in prison and narrowly avoided deportation.[221] While it is perfectly possible Boys Err May had connections with the black market for smuggled Continental watches, other examples of *Dutch forgeries* with the surname May bear the first name John.[222] All records of John May made within horological reference lists relate to a fictitious maker, with no watchmaker known to have been operating under that name at the time in question recorded in London. It is unlikely that Boys Err May or the apprentices who succeeded him were in any way involved in the market for *Dutch forgeries*, however with such a distinct and unusual name it is unlikely he would have operated under his genuine title, as it would have devalued his legitimate work. It could, therefore, be possible that Boys Err May chose one of the most common names in London of John as a pseudonym to distance himself from inferior quality work.

[220] *Britten's Old Clocks & Watches and their Makers* (1982) p. 537.

[221] It might be of note that Boys Err May's apprentice, Boys Err Burrill, was in 1781 tried at the Old Bailey, wrongly convicted of a 'highway robbery' and sentenced to imprisonment in the New Prison, Clerkenwell. Boys Err Burrill escaped from prison and lived for several years as a watchmaker in the St Martins lane area of London, before giving himself up to the magistrate in 1789 when he was imprisoned again. He successfully appealed his conviction and became a Freeman of the Company of Clockmakers in 1796.

In 1813, Boys Err Burrill was declared bankrupt and imprisoned in the Fleet debtors' prison. He wrote to Sir Joseph Banks applying to participate in the Matthew Flinders expedition to Australia but was unsuccessful. In 1821, Burrill requested a legal retainer against George Edwards. In a letter from Burrill to Lord Sidmouth, it is made clear that this Edwards was the government spy who exposed the Cato Street conspiracy. The letter to Lord Sidmouth is held at The National Archives. Source: http://speedydeletion.wikia.com/wiki/Boys_Err_Burrill [viewed 29.12.2015].

While it is unlikely to have any bearing on the source of this watch, it does demonstrate that unlike the assertions of researchers such as David Penney [PENNEY, D. (2014)] watchmakers were making associations on a criminal level which in turn opens the possibility of links with smuggling and other illegal activities linked to the production of *Dutch forgeries*.

[222] Example British Museum catalogue reference 1958,1201.643.

This research has been unable to identify a single surviving watch signed Boys Err May. With a total of six recorded apprentices, an unusually high number, it can be assumed that May would have produced a fair number of watches per year. It is possible that May was exclusively manufacturing watch movements for retailers and operating under a retailer's name. While the story of Err May and his colourful apprentice do not necessarily give us any information about the creation and dissemination of *Dutch forgeries*, it is a wonderful example of the proximity between luxury and the morally dubious financial activities.

Despite frequent reoccurrences of names seen with these forgeries, many exist as solitary works. There was only one example found in the collection of the British Museum signed John Bolt, London which survives as a movement only.[223] This watch is described within the Museum's cataloguing as a "Geneva forgery - the name most likely to be fictitious."[224] In other texts, Loomes only records one watchmaker by the name of Bolt working at the time, who was located in Teignmouth.[225] Britten's references a John Bolt as working in London in 1820,[226] which is much later than the British Museum's suggested production dates for this movement of 1740 to 1760.[227] In light of this new research, this should not perhaps be unexpected as examples surviving in a more complete state within larger sample groups all signed by the same maker suggest time and time again that watches in the style popular in England in the early to mid-eighteenth century were still being made on the Continent well into the nineteenth century.

[223] British Museum identification OA.403.
[224] Accessed online: http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=51894&partId=1&searchText=OA.403&page=1 [viewed 06/01/2016].
[225] LOOMES, B. (2006) p. 25.
[226] *Britten's Old Clocks & Watches and their Makers* (1982) p. 376
[227] Accessed online: http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=51894&partId=1&searchText=OA.403&page=1 [viewed 06/01/2016].

Sadly, Britten's listing for Bolt does not reference the source for his 1820 date, however, it is possible that this John Bolt was an English watchmaker importing cheap watch movements from the Continent to retail under his own name, as a means of cutting the costs of manufacturing watches in London.[228] As a result, these case studies include a number of watches which fit the design characteristics of the *Dutch forgery* but have been excluded from the definition set by this research. The reasoning behind this was to develop a greater understanding of the extent to which English, and occasionally Continental, watchmakers were not only involved in the creation of watches for the European market but also the commissioning of them. This turn of events, if true, would demonstrate that known skilled watchmakers were playing an integral part in their own downfall by supplying and investing in the market for cheap watches at both ends of the trade. While this research does not describe the following examples as *Dutch forgeries*, it will examine the extent to which they might be forgeries.

The first example is a movement-only signed John Clifton, Liverpool.[229] While the forgeries being examined by this research are usually associated with London-signed watches, this example by John Clifton of Liverpool bears all the characteristics of a *Dutch forgery*. Judging by the style of the movement, it was likely to have been made in around 1780. This watch is significant in the forming of the definition of the term *Dutch forgery* as it pushed the boundary on the location of the merchants and watchmakers responsible for retailing these watches. John Clifton was a known longcase clockmaker in Liverpool working between 1777 and 1790[230] with a registered workshop on 14 Fazakerley Street.[231] Examples of Clifton's clockmaking are not hard to find and are of a good standard. An example of his work sold recently through a provincial English clock specialist, and was described as "a very rare example of a clock where the exact date (1790) and exact place of

[228] Although Britten's source is not referenced, when quoting precise dates it is thought that they were derived from hallmarks so this is likely to be reliable.
[229] Signed 'Clifton, Liverpool, 273' British Museum identification 1958,1201.34.
[230] BAILLIE, G.H. (1972) p. 332.
[231] *Britten's Old Clocks & Watches and their Makers* (1982) p. 404.

manufacture (14 Fazakerley St., Liverpool) are known."[232] A further example passed through an auction in the USA in 2008 with an approximate date of 1785 to 1790.[233]

The existence of a recorded clockmaker with surviving work operating in the same city and at the same time as the watch in question raises a high level of probability that the Clifton on this watch was the same as John Clifton the clockmaker. There is no written mention of clockmaker Clifton making watches, only longcase clocks; so it is possible that Clifton was working with an external merchant or watchmaker to produce watches he could retail under his name. Without the case, it is impossible to say whether the hallmarks were English or whether the watch carried any Continental duty marks. Liverpool was, however, one of the busiest ports in Britain at the time in question and much comment was made as to the smuggling of watches into England, there is reason to suggest that perhaps Clifton was importing movements from the Continent for signing under his own name and selling as Liverpool-made watches.[234] This practice would have been perfectly legal, although perhaps frowned upon by some British watchmakers. It would have also provided a useful source of extra income to a craftsman already associated with the manufacture of timepieces but perhaps not with the equipment, skills or capacity to move into watchmaking. There have been suggestions made that some watchmakers themselves imported watch movements from the Continent to broaden their market by allowing them to retail these spurious examples under the counter at a lower cost to the English-made examples.[235] Considering the climate for more affordable luxury, the increasingly merchant-led design market and that this is not the only example suggesting this practice was in use, the evidence would strongly support this theory.

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[232] SMITH, A. *Antique Longcase Mahogany Clock - LCMAH 296* http://www.allansmithantiqueclocks.co.uk/Detail.asp?catList=LCMAH+296&catTitle=Longcase+Mahogany [viewed 06/01/2016].

[233] https://www.liveauctioneers.com/item/5778099_english-mahogany-tall-clock-jn-clifton-18th-c [viewed 06/01/2016].

[234] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817).

[235] For example, watchmaker Eardley Norton (active 1760-94, registered with Clockmakers Company 1770 at 49 St John Street, Clerkenwell [Ref. Britten p. 555]), whose name appears on both high-grade apparently English work and low quality 'Dutch' style watches.

Another watch signed by a well-documented watchmaker but displaying characteristics of a *Dutch forgery* was examined within the case studies in the hope of shedding more light on this.[236] Louis Duchêne was a known maker whose company operated in Geneva during the late eighteenth century. This watch was selected for the similarity in the design of the dial with *Dutch forgeries* and the outer case which is signed by maker Daniel Cochin, another figure associated with the trade in imitation London watches as well as the known Dutch market. Britten referenced Louis, as originally Luigi and as working between 1785 and 1820 associating him with decorative watches at the V&A in the form of a sphere and an egg, with further examples in the form of a lyre at the Carnegie Museum.

Figure 14: a spherical watch by Louis Duchêne, circa 1795.[237]

The third example by a recorded maker examined by this research and located at the Museum of London proclaims to be by Debaufre, London.[238] The Debaufre family of watchmakers had been

[236] *Watch by Louis Duchêne* [photograph] British Museum: Catalogue Image, object identification number 1958,1201.311.
[237] *Gold watch signed 'Ls. Duchêne & Fils'* [photograph] V&A; Catalogue Image, object identification number 57-1898. Image ©Victoria and Albert Museum: London.

working in London since the early 1700s, in a workshop passed from father to son for the best part of the century. Their skilled craftsmanship is illustrated in the example below left, by the last in the family succession Peter Debaufre, which was made a similar time to the Museum of London watch pictured below right. While Peter Debaufre's watch is stereotypical of the English style and quality of craftsmanship, the Museum of London 'Debaufre' is of the *Dutch forgery* type with poor quality finishing and the top plate furniture layout of a typically Dutch watch.[239]

Figure 15: a watch by James Debaufre, London. Circa 1720.[240]
Figure 16: a *Dutch forgery* signed Debaufre, London. Circa 1780.[241]

Of course, it is perfectly possible that the Debaufre's had no idea that their name was being used on forgeries on the Continent. Still, although a well-known maker the Debaufre's were not among the most famous London makers, so their name would not have been an obvious choice for anyone looking to cash in on their reputation. There is a possibility that the Debaufre's themselves were involved with the creation and dissemination of these watches as more accessible under the counter

[238] Museum of London catalogue number 34,181/64.
[239] Such as the double footed balance bridge. The champlevé dial of this watch is also arcaded and the case carries Dutch duty marks.
[240] Auktionen Dr Crott, sale number 87, Lot 323, sale date 11.05.2013. Image © Dr Crott.
[241] Museum of London catalogue number 34,181/64. Image author's own ©R. Struthers and ©Museum of London.

versions which would have held appeal for the rising middle classes, and this is a possibility which must be explored.

To examine the extent to which the latter scenario could be possible, an example signed Bramley, London was selected as a genuine English watch with forged hallmarks to investigate these other types of forgery being carried out in the watch industry at the time in question.[242] This watch was also selected for further XRF scanning and examined in detail to identify whether there is any correlation between forgery within the home trade and the forgeries being manufactured on the Continent. Additionally, the outer case displays an unusually onion peel time erosion to the inner surface which can be indicative of plating or rolling down sheet metal without sufficient annealing.

G.H. Baillie identifies two Bramleys working around the time this watch was made, one being clock and watchmaker John Bramley of Andover, Hampshire, in 1791 and the other being I. & H. Bramley of London, 1820, who are associated with a repeating cylinder watch in the collection at the Mathematisch-Physikalischer Salon in Dresden.[243] Loomes adds a further W. Bramley also working in Andover as a clockmaker active in 1790.[244] While the literature does not connect W. Bramley to John Bramley, the village of Andover had a population of little over 3,300 at the turn of the nineteenth century and it is it highly likely that the two were related.

As this research has set a new boundary around the definition of which watches can be described as *Dutch forgeries*, examples which had been miscatalogued as fakes were also selected for further examination. These examples included an example signed Graham, London.[245] This watch had been incorrectly catalogued as a fake watch proclaiming to be by George Graham, a celebrated watchmaker, inventor and Fellow of the Royal Society who was apprenticed 1688, appointed to

[242] British Museum identification number 1958,1201.854.
[243] BAILLIE, G.H. (1972) p. 37.
[244] LOOMES, B. (2006) p. 29.
[245] British Museum identification number 1958,1201.724.

Clockmakers Company 1695, and died in 1751. While it cannot be ruled out that this watch intended to deceive as it is simply signed Graham, London, and the signature in no way resembles that of the famous deceased George Graham; it cannot be assumed that there were no other watchmakers by the name Graham working in London at that time, or that there was not a genuine individual by the name of Graham acting as sponsor. Without a Christian name, it is impossible to identify who Graham could have been if she or most likely he existed at all.

Another similar example is signed God. Poy, London. There are two watchmakers by the name of God. Poy, London, one of whom is a famous maker and the other we know very little of.[246] Identified in Britten's, the first, Godfrie Poy, active between 1718 and 1750, was a fine clock and watchmaker creating repeating watches and striking clocks alleged to have been made for the Prince of Wales, who later became George II. A genuine example of a Godfrie Poy made in around 1740 was listed and illustrated by German auctioneer Henry's Auktionshaus which demonstrated the vast difference in quality, finish and complication between the first God(frie) Poy and the maker of this watch.[247] The first Poy was working at too early a date to be the maker of the *Dutch forgery* watch in question, although as a renowned London maker it is possible his name could have been later forged. The second Godfrey Poy is recorded as active between 1775 and 1795 at 78 Mortimer Street, London[248] by Britten and Pall Mall (1742-7) and Haymarket (1753) by Loomes. Loomes also references his name appearing on a long-case clock dial signed in Stad M. Amsterdam, although he does not reference where these examples can be found.[249] As the second God. Poy has been referenced at a number of different addresses with his name appearing on timepieces both signed as London and Amsterdam, this mobility could imply his role was more of a merchant watchmaker than a craftsman watchmaker in the traditional sense. This approach to manufacture would tie in with Chapuis's descriptions of the

[246] British Museum identification number 1958,1201.549.
[247] Lot 3305, Sale Date 5th July 2014. Found via Live Auctioneers [https://www.liveauctioneers.com/item/27799031_godfrie-poy-london-repousse-verge-watch-14-repeater] viewed 06.10.2015.
[248] *Britten's Old Clocks & Watches and their Makers* (1982) p. 573.
[249] LOOMES, B. (2006) p. 257.

development of the watch industry in Switzerland at the same time, and also Schumpeter's theory of the craftsman to the merchant-led industry over the Industrial Revolution. There is no reference to the latter God. Poy's induction into the Clockmakers' Company, so it is possible that his role was nothing more than co-ordinating other craftsmen signing watches with his name or that he was operating outside of the Company's City of London remit. Being on record as working at various addresses around London indicates a high level of certainty that this watchmaker did exist and was operating under his real name, although as a merchant he might have been sourcing the components for his watches from anywhere across Europe.

Returning now to examples of spurious provenance two examples of watches signed Chandler & Son, London, both of which are housed at the British Museum, were also subjected to extensive further analysis.[250] Baillie references these examples from the British Museum's Ilbert Collection, along with another entry for a Robert Chandler in London working in the early-nineteenth century.[251] Britten's gives greater detail of the watchmaker Robert Chandler listing him as active between 1793 and 1825 in Martin's Court from 1793 then later 8 Leicester Square (1815-25).[252] There are no further watchmakers by the name of Chandler registered as working in London during the time in question.

Another watch, signed Allen Walker, was identified by this research as a *Dutch forgery* despite not being signed London.[253] Allen Walker has been identified as being the London signature of Dutch watchmaker Allin Walker, who is recorded as being active in the mid-eighteenth century.[254] Walker would sign his name as both Allin Walker, Amsterdam and Allen Walker, London apparently depending on the intended destination market the watch was intended for. The decision to class this

[250] British Museum identification number 1958,1201.815.
[251] BAILLIE, G.H. (1972) p. 55.
[252] *Britten's Old Clocks & Watches and their Makers* (1982) p. 398.
[253] British Museum identification number 1958,1201.305.
[254] LOOMES, B. (2006) p. 807.

watch as a *Dutch forgery*, rather than an "intelligent marketing strategy" employed in a similar way to German watchmaker Joseph Spiegel, was based upon the overwhelming conformity of the watch to the *Dutch forgery* style.[255] Archival documentation of the name refers more commonly to a watchmaker by the name of Allen Walker working in London in the mid-to-late eighteenth century. Baillie notes Allen Walker as working in London around 1780, referencing a watch dated 1783 in the Wilsdorf, Dennison and Gélis collections at the Museum of London.[256] Britten's lists Allen Walker as active between 1738 and 1783, associating the name with a "handsome watch, outer case repoussé à jour" at the Schloss Collection.[257] Only later references make the connection between Allen and Allin Walker. This suggests that the objective of these watches was to deceive, as it has taken over two centuries to connect the dots between these makers. Further to the deceptive element, the Allen Walker watch has been finished to a very low standard and shares more similarities in its technical and aesthetic design with *Dutch forgeries* than genuine Dutch watches. Again, this offers two solutions. Either Allen Walker was importing cheap movements into Holland for export or, his name was being copied without his knowledge.

The case studies also explore a watch signed Miller, London. Names like Miller are harder to track down as without a first name it is both common and vague. [258] G.H. Baillie lists a total of twenty-seven Millers, nine of whom with the first initial J, worked during the eighteenth century: five in London, one in Scotland, one in Hertfordshire and two in Augsburg. After eliminating partnerships (who would have co-signed), and a church clockmaker and those working outside of the manufacture date of this watch that leaves Joseph Miller of London (a. 1718, C.C.1728-41) who is

[255] ARNOLD-BECKER, A. (2012).
[256] BAILLIE, G.H. (1972) p. 332. This example could not be found at the Museum of London so the source of Baillie's reference is unknown.
[257] *Britten's Old Clocks & Watches and their Makers* (1982) p. 634. Note; this example could not be located. The first edition of Britten's guide was written in 1899 and consequently significantly prior to the looting of the Schloss Collection under the Nazi occupation of France in 1943. While a number of the paintings for which the collection is renowned have been restored, there is no mention of any watches in the current collection cataloguing.
[258] British Museum identification number 1958,1201.610.

associated with a very fine gold, enamel and repoussé case watch; Johann Conrad Miller of Kriegshaber, Augsburg (c. 1755); James Miller of Lombard Street, London (c. 1758); Joseph Ignatius Miller of Augsburg (c.1780) who is associated with a gilt enamel pocket watch, John Miller of Ware (c. 1784); another James Miller of London (c. 1778) who was a member of the Clockmakers Company; and American John Miller of London (c. 1784) who was originally from Schenectady, New York before joining the Clockmakers Company and setting up a workshop in Church Street, Hackney (registered 24th November 1784).[259] Loomes adds a John Miller in Liverpool (c. 1747).[260] The prevalence of the name would make pinpointing the exact Miller responsible virtually impossible, and that would be assuming the name had not been copied from a trade directory on the Continent for its frequent use.

Adding to the complex nature of relying on biographical directories, this research has unearthed an error which has resulted in at least one further repeated error published in Loomes' Watch and Clockmakers of the World.[261] A watch catalogued as being signed Nadrow, London was initially selected as the British Museum's inventory opined that "the characteristics of this watch suggest that it was actually made in Geneva and the inner case hallmarked in London."[262] The round minute track on the dial, single footed balance cock and full genuine hallmarks for London are all suggestive of a genuine English watch. So this study explores the factors within the mechanics of the watch which might have given rise to the suspicion of Continental manufacture to the examining curator. Upon examination, it became clear that the signature read Nadroy, rather than Nadrow as listed.[263] Due to the error, now corrected by this research, Loomes references a "Thomas Nadrow [of] place

[259] BAILLIE, G.H. (1972) p. 220 and *Britten's Old Clocks & Watches and their Makers* (1982) p. 542.
[260] LOOMES, B. (2006) p. 161.
[261] British Museum identification number 1961,1102.4.
[262] *Object Number 1961,1102.4,* Collection Online; British Museum http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=57074&partId=1&searchText=2590+watch&page=1 [viewed 24/12/2015].
[263] The tail of the 'y' was concealed beneath the top plate furniture and only visible upon the dismantling of the movement.

unknown" as working in 1772.[264] Neither Britten's nor Baillie gives any reference to either a Thomas Nadroy or a Thomas Nadrow.[265] A genealogy search reveals how rare the surname Nadroy is, with only three examples found in birth, death and marriage registers in the USA in the late-nineteenth century.[266] It is possible that Nadroy is an anagram, as this was a technique known to be used by Continental makers signing their work as London made, although none of the variations of the name appears in any reference literature either.[267] Another example selected for examination and which this new research sheds greater light on is a watch signed Samuel Weldon, London.[268] This example had one of the most thorough descriptions, and was listed in the British Museum's cataloguing with the comment:

> Although signed 'Samuel Weldon, London', the outer case by Daniel Cochin and the characteristics of the movement show the watch to have been made in Geneva. It is likely that the Weldon and London associations are fictitious. This practice in Geneva of signing watches with spurious names on watches intended for the Continental market was fairly common-place in the eighteenth-century. Although low-quality Continental forgeries have been associated with mock date work, concentric score marks and a post where the date driving wheel suggest this was present at manufacture and removed at a later date.[269]

[264] LOOMES, B. (2006) p. 169.
[265] BAILLIE, G.H. (1982).
[266] Five records relating to three individuals found on the *1880 United States Federal Census*; found in an online search of twelve billion family history records http://search.ancestry.co.uk/cgi-bin/sse.dll?MS_AdvCB=1&gl=35&rank=1&new=1&so=3&MSAV=2&msT=1&gss=genfact&gsfn_x=1&gsln=Nadroy&gsln_x=1&msbdy_x=1&msbpn_x=XO&msbpn__ftp_x=1&msrpn_x=XO&msrpn__ftp_x=1&msydy_x=1&msypn_x=XO&msypn__ftp_x=1&gskw_x=1&_83004002_x=1&cpxt=0&uidh=000&cp=0 [viewed 24/12/2015].
[267] For example, Joseph Spiegel who signed his work 'Legeips'. Ref. THOMPSON, D. (2009) pps. 72-72.
[268] British Museum identification number 1958,1201.403.
[269] Object Number 1958,1201.403, Collection Online; British Museum, Added by the author. http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=56308&partId=1&searchText=CAI.0403&page=1 [viewed 27/12/2015].

This research has demonstrated that there is no positive link between *Dutch forgeries* and Geneva in terms of location of manufacture, as was commonly historically assumed. Baillie describes Weldon as active between 1740 and 1780, listing examples of repoussé cased Samuel Weldon watches at the Guildhall Museum, Carnegie Museum, Fränkel Collection and Mathematisch-Physikalischer Salon, Dresden.[270] Britten's lists him as active in 1774, citing an example at the Nelthropp Collection belonging to the Worshipful Company of Clockmakers which now resides at the Science Museum.[271]

The final watch mentioned in this chapter, signed Wiet, London, demonstrates the challenges faced by contemporary researchers seeking information in published literature on these watches and their makers.[272] Wiet, London, is identified in G.H. Baillie by this watch in the British Museum's collection and offers no further information on his activity or comment on his existence or location outside of documenting the engraving on the watch.[273] No other references to a watchmaker by the name 'Wiet' could be found in any other literature, and the surname is rare, possibly representing a Teutonic language variation on the surname Wight or White.

As mentioned at the beginning of this thesis, London was not the only city being imitated in this way. Whilst in a very small minority, and secondary to the London watches, this study has, for the first time, argued that examples signed as being made in other European cities should be included by the term *Dutch forgery*. The final example in this chapter proclaims to be a legitimate Dutch watch signed Gibb, Rotterdam.[274] Willem Gib, or Gibb, Rotterdam were father and son watchmakers working between 1710 and 1780. A number of their watches survive in collections of the British Museum, Clockmakers Company and Science Museum, London as well as L'École d'Horologerie, Geneva. Associated with mock pendulum watches, such as this example, some use what are

[270] BAILLIE, G.H. (1972) p. 338
[271] *Britten's Old Clocks & Watches and their Makers* (1982) p. 640.
[272] British Museum identification number 1958,1201.1637.
[273] BAILLIE, G.H. (1972) p. 341
[274] British Museum object identification number 1958,1201.772.

described as "silver" balance bridges and repeating long case clocks.[275] What seems curious about some of these watches, including the example examined within this research, is that there is a huge variation in the quality of work. The Gibb name is associated with both high-grade and low-grade work which would have been unusual within an eighteenth-century horological workshop as the low-grade work bearing his name would have had a negative impact on the master craftsman's reputation as a maker of fine work. Additionally, their name appears both as Gibb and as Gib – to have multiple spelling variations of something as significant as the maker's name seems peculiar, although not impossible. Finally, the cases bear anomalies, such as the example examined here which has what appears to be a duty mark denoting imported (rather than home manufactured) silverware struck within its inner case. It has also been suggested that every watch by Gibb Senior has the serial number which is repeated on the movement that struck on the top of the outer case joint which, on this example, is missing.[276] While this evidence is circumstantial, it suggests that there were two possible scenarios at play. Either this is a low-quality forgery of a Gibb watch which they had no knowledge or involvement with; or this movement, possibly together with its case and dial, was purchased by the Gibbs to be retailed under the counter to clients without the financial means to purchase an in-house watch.

To date this research has identified a total of thirty-eight names associated with the manufacture of *Dutch forgeries*, only a handful of which hold the possibility of being associated with a known maker.[277] This has contributed to our knowledge of the names associated with *Dutch forgeries* by finding more extensive examples of their work and consequently a greater level of detail about when they were active.[278] This research has also found inaccuracies in the referencing of some directories as a result of erroneous historic descriptions made regarding of these watches which can

[275] *Britten's Old Clocks & Watches and their Makers* (1982) p. 122.
[276] As suggested in conversation with David Thompson, secondary supervisor to this study and former colleague of John Leopold.
[277] Reference Appendix No. 5 - List of *Dutch forgeries* identified by this research.
[278] Ibid.

be explored and expanded with this new information. Perhaps most significantly, the use of entirely fictitious names, or indeed virtually unknown names if these characters existed but left no historical record, demonstrates that to the market for cut-price English watches in eighteenth-century Europe a maker's name meant very little. Instead, simply the supposed origin of London and rarely other English cities was where the perceived value of a watch lay.

Chapter 4 : The Mechanics of the *Dutch Forgery*

Aside from spurious names belonging to unknown and potentially mythical characters, the *Dutch forgery* exhibits distinctive variations from the English style both in its mechanical and aesthetic design. Comparing these forgeries to legitimate English, Dutch and French examples both highlights some of these differences and begins to demonstrate one of the potential sources of the association between the Dutch and these forgeries. Additionally, detailed analysis of the quality of the craftsmanship and materials employed in producing these watches gives rich data on the processes used to make them, and consequently insight into the geographic locations of watchmakers engaged in similar production methods at the time who might also have been responsible for their creation.

Although these watches added little to the development of watchmaking in terms of technical advances of the watches themselves, they do tell the researcher a great deal about changing production techniques and the society in which the watches were being dispersed. Repair marks, modifications, hidden signatures and the type of wear all give insight into where these watches were made, their route to market, intended distribution and finally, the role these watches went on to play in the society of which they became a part.

4.1 Technical analysis

One of the tensions this research set out to overcome is the requirement for a practising watch or clock maker to collect horological data for analysis by other researchers, and consequently the degree of bias that might exist where the watch or clockmaker's personal opinion of the findings might influence the work of later historians. To counter this lack of transparency, it was essential that this study made a detailed photographic record of every watch being analysed both in terms of

the aesthetic, and also the hidden elements of the mechanism itself. The technical analysis of these watches could then be presented from the author's perspective, whilst allowing other historians the opportunity to make their own interpretations. This transparent approach to technical horology remained fundamental throughout the data collection and review.

Every movement selected for study was dismantled and cleaned to reveal any hidden marks of authorship or history of the life of the watch.[279] Later repair marks were analysed to ascertain the authenticity of the design, both aesthetic and mechanical. The author's extensive experience handling and restoring eighteenth-century watches was used to isolate wear marks, proving suggestions, such as these watches carried false date work designed to make the watch appear more valuable, invalid by photo-documenting historic wear to demonstrate the removal of integral components was the act of later repair work.[280] This detailed review gave insights into the environment in which these watches were being made, with significant alterations to base plates being made before the watches were sent out for retail, and notes hidden for individuals further down in the finishing process. For example, most dials of this era have three feet which are pinned to a brass disk known as the dial plate, which is in turn pinned to the main watch movement. The taper pins securing the feet have to be removed and replaced every time the watch is serviced leaving a series of scratch marks and a filed 'V' shape for the pin to sit into. This research has found examples that have been re-drilled to allow the placement of a different dial foot layout; however the unused holes show no signs of wear or fitting marks indicating that the plate was never used with the dial it was originally drilled for. Rather than make a new plate, the modification was made in-house before the watch was retailed, implying there were quantities of parts being modified and

[279] The methodological approach for defining authorship in this study was inspired by Foucault, who applied his analysis of verbal clusters as discursive layers to physical analysis of mechanical works. FOUCAULT, M. 'What is an Author?' *The Art of Art History: A Critical Anthology*. Ed. Donald Preziosi, Oxford University Press, 2009, pps. 321-335.

[280] Worn date work can stop the running of a watch. If the owner of a watch has limited funds for repair, it makes a faster and more cost effective solution to remove the date-work altogether, rendering it useless, rather than commission the cutting of a new date train.

put together on a larger scale than the small workshop and chain-work process historically employed in English horology. For hidden messages, this study also found a silver champlevé dial with the maker's name and city scratched on the underside of the dial, presumably as a note to the engraver indicating the lettering he should place on the front of the dial and again implying a quantity of stock components being customised to order. Markers such as these help place the watches within the contemporary accounts of the era describing the first stages in mass-manufacture. Other hidden maker's marks and consistencies in design demonstrated beyond doubt for the first time connections between the signatures of *forgers* and of known watchmakers. It was not until the later reviewing and comparative stages between the case studies and literature that a change in direction from the author's original interpretation of the results was identified. This change was the result of a demonstration that the manufactories creating watches falsely signed London were also creating watches falsely signed as being made in Holland. The decision was made that these watches should not be ignored simply because they do not fit within the parameters of the historical definition of a *Dutch forgery*, which this research already had argued was highly inaccurate and misleading. This new connection proved the rigour of the list of indicators set out by the author prior to the identification of the sample group. Without the flexibility which allowed a watch signed as made in Rotterdam, and another bearing no city of origin to be identified and included on the strength of associated aesthetic and technological style alone, these discoveries would not have been made.

Each of these case studies was drawn up into a concise document now in the appendix of this study so that it could be referenced in the chapters analysing in detail the technical and aesthetic features which define these watches. It was through this data collection and review that the new definition of *Dutch forgery* could be created.

4.2 The eighteenth-century watch movement

The top plate of a watch carries the balance furniture and is the only part of the watch movement visible in detail without stripping the watch to pieces, making it one of the best areas to decorate because it would have been accessible to the owner. The component which supports the top pivot of the balance, the large round disk or table visible in all of the following images, was one way watchmakers could put their own stylistic influences into the decoration and construction of their movements, and these influences varied depending on the culture and nation of origin. One of the key characteristics in identifying the nationality of an eighteenth-century watch movement is the method by which the table of the balance furniture was secured to the rest of the movement. This could be done by a single foot, an assembly technique referred to as the balance cock, or by two feet known as a balance bridge. English makers exclusively used the single footed balance cock, whereas the Dutch preferred the balance bridge. The popular style in France was a form of balance bridge, except, unlike the Dutch who liked the appearance of large winged securing feet, they preferred to virtually conceal the feet and use either vertical pillars or an oval table secured directly to the top plate which gives the appearance that the balance table is almost floating.

Figure 17: a French-style balance bridge.[281]
Figure 18: an English-style balance cock.[282]

Figure 19: a Dutch-style balance bridge.[283]
Figure 20: balance bridge of a London-signed *Dutch forgery.*[284]

Despite the English sounding name Harry Potter and the proclaimed location of origin of London, the *Dutch forgery* pictured above shares little by way of similarities with English work instead appearing

[281] British Museum identification number 1958,1201.233. An example of a French double-sided balance bridge on a movement by Les Dufour et Ceret. The table form of French style balance bridges is typically round or slightly ovoid in form with compact feet largely if not entirely concealed beneath the table of the bridge. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[282] British Museum identification number 1958,1201.208. An example of an English single-foot balance cock on a movement by Thomas Windmills, London. The quality and finish of the piercing and engraving has been executed to a very high standard. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[283] British Museum identification number 88,12-1.249, a genuine Dutch watch signed by Jan. Berninck of Amsterdam. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[284] British Museum identification number 1958,1201.137, an example of a double-footed balance bridge on a watch signed Harry Potter, London, a trait associated with *Dutch forgeries*. The Dutch design of these English-signed watches is one of the reasons they cannot be described as imitation, as it is not English design which has been imitated. Note the extended wings both sides of the round bridge, and poor quality of the engraving and piercing. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

closest in aesthetics to the Dutch watch movement. Referring back to Britten's description in 1899 which used the term "Dutch style", it would appear likely that this is the primary reason these watches later became known as *Dutch forgeries* despite there being no evidence to suggest Holland ever had the infrastructure to create these watches on the scale seen.[285] The Dutch were more renowned for their clockmaking and generally worked to a very high standard which we do not see in these forgeries.

Another difference is in the design of the spring used to secure the movement within the case of the watch. Referred to as a case spring, the English style employed a small retaining clip with the active part of the spring largely concealed beneath the dial. However on the Continent, a much larger and more exposed spring fitted between the plates of the movement and visible when the case is open was the style of choice. The challenge with using active components within watches as keys in their analysis is that by the very nature of their actions, they wear and will, in time, break and need replacing. Consequently, it can be challenging in identifying the originality of components such as case-retaining springs. The following images illustrate this by exampling genuine English watches with Continental case springs, and *Dutch forgeries* with English case springs.

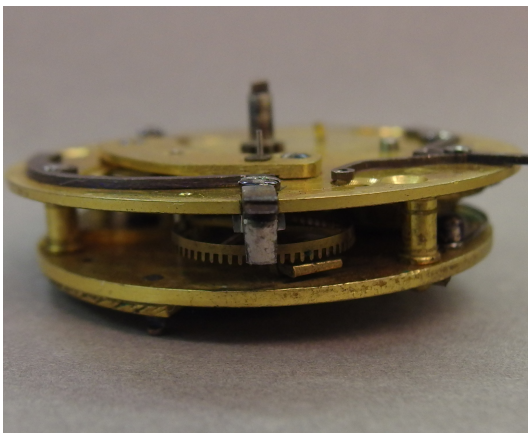


Figure 21: a London-signed watch with an English-style case spring.[286]

[285] BRITTEN, F.J. (1899).
[286] Image of a watch by a London maker from a private collection. ©R. Struthers.

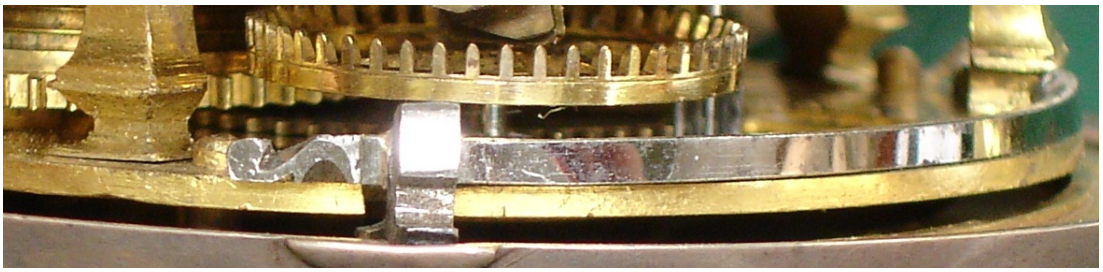


Figure 22: a watch signed John Wilter, identified as a *Dutch forgery* by this research and fitted with a Continental-style case spring.[287]

Figure 23: a watch signed Harry Potter, identified as a *Dutch forgery* by this research and fitted with an English-style case spring.[288]

Figure 24: a watch by Thomas Windmills, made in London yet fitted with a Continental-style case spring .[289]

[287] British Museum identification number 1958,1201.389. An example of a large oversized case-retaining spring associated with the design of *Dutch forgeries* on a watch signed by John Wilter. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[288] British Museum identification number 1958,1201.137. A watch fitting the *Dutch forgery* style signed by unknown maker or merchant, Harry Potter. This example demonstrates that the design style characteristics cannot be wholly relied upon. The movement appears to be Continental in origin fitting the *Dutch forgery* style, however it bears a small English style case-retaining spring. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

While it should be acknowledged that case springs do provide a mechanical stylistic difference between English and Continental work, their problematic nature means that this research will not rely on them as a dependable source of information when analysing the movements in detail.

The final key design characteristic which varies between English and Continental work is the potence or end fixing of the lower pivot of the escape wheel which must be adjustable to allow for depth adjustment of the locking of the escapement. In this respect, English and Dutch work were more similar as both relied on variations of a brass plug which was friction fitted into a brace which allowed for backwards or forward movement and adjustment. The French, however, preferred a steel potence which relied on a screw pushing against the potence plate that could be screwed in, pushing the plate out and increasing depth, or screwed out to let the plate in and reduce the depth.

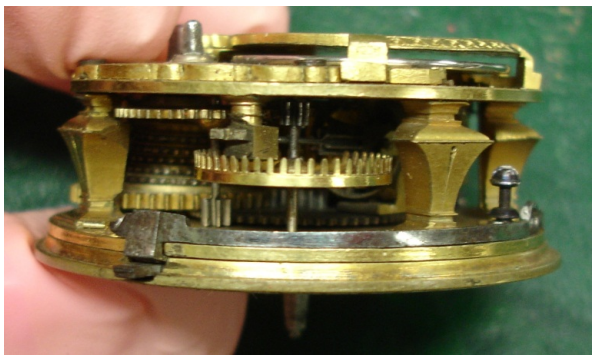


Figure 25: the potence of a London watch, in the English style.[290]
Figure 26: the potence of a French watch, made in Paris.[291]

[289] British Museum identification number 1958,1201.208. This English example by celebrated maker Thomas Windmills bears a Continental oversized case-retaining spring. Image author's own ©R. Struthers and ©British Museum: London.
[290] British Museum identification number 1958,1201.208. An example by Thomas Windmills has a brass plug potence with simple depthing adjustment. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[291] British Museum identification number 1958,1201.233. A French style potence with steel end cap and adjustment screws which is more refined and advanced than the English plug style used during the same period. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

As is apparent from these comparisons, design is not a fixed or rigid structure. A watchmaker from one country might take inspiration from the style of another, and a watchmaker might move and start practising their native style in another location. Continental watches can bear English features, and English watches can bear Continental traits. In addition, a watch made in one country might be bought and travel to another country where it breaks and is repaired by a local watchmaker, hence a replacement part is made in the style of the repairer, not the maker, resulting in a stylistic anomaly. It is impossible to neatly box a design style, and although it provides a strong argument as to the existence of these forgeries, it is by no means conclusive. Proving definitively the trade existed over two hundred years ago, which due to its morally dubious and potentially illegal nature there is no official record of, is one of the greatest challenges facing researchers in this field. [292] Consequently, significant new analysis is required of these movements, stripping them back to their core components and exploring them in microscopic detail to find any traces the original makers of these watches might have left.

Leaving hidden marks of authorship within watchmaking is not uncommon, and one of the most frequent marks we find on the movement itself is the plate makers' stamp. The blanking of plates was one of the many separate skill sets implemented in the manufacturing of ébauches. We see plate makers' marks far more commonly and more purposefully than the marks of the other craftsmen involved in making watches, possibly as a result of their scale allowing for easy stamping without distorting or damaging fine components. Out of the fifty-two *Dutch forgeries* in the British Museum, twenty of them had plate makers' marks belonging to seven different plate makers. It seems remarkable considering the quantity of movements being manufactured annually (130,000 in the Swiss mountains alone according to Sandoz-Rollin),[293] that out of twenty examples there is such a great deal of repetition in the initials we see. The few plate makers stamping their work were

[292] There is evidence to suggest these watches were smuggled into England to avoid Customs Duty. Ref. *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 8.
[293] CHAPUIS, A & JAQUET, E. (1970) p. 89.

clearly responsible for manufacturing vast quantities of base plates, opening the possibility that unlike the English manufacturers marking their plates with their initials, the plate marks on *Dutch forgeries* were more trademarks than an indication of the name of a single individual.

4.3 The movements of *Dutch forgeries*

This research sets out to define the watch movement as not only a work of engineering, but of design and material culture. While the mechanism of a movement is based on rigid scientific principle, its physical manifestation within the watch is crafted by human hands, and consequently as liable to human interpretation and stylistic variation as any work of design. An engraver's style is as unique as the illustrator, and something as subtle as the direction of a taper pin can tell us whether the craftsman was right or left handed. Additionally, a watch movement offers a craftsman a plethora of opportunities to leave hidden marks or symbols of authorship on an object being created under a third-party name. Even in legitimate English examples, workshops could consist of a number of craftsmen all working under one master but each performing different tasks in the production of every timepiece.

These symbols of authorship served several purposes from the practical, such as allowing the identification of the craftsman who made a particular set of plates, a note for later watchmakers informing them of the set-up required by the mainspring or later repairers discreetly leaving a servicing date, their initials or a code, to the less tangible nature of the human-object relationship.[294] To a master craftsman, every object represents the portion of their life spent making it. Although by the end of the eighteenth century production-line manufacturing was emerging in the watch industry, the finishing was all completed by hand. Some of the marks seen on these watches represent more than the functional, they are the hidden fingerprints of craftsmen finishing a piece

[294] MULLANEY, T. *Sustaining the Human-Object Relationship* [online] http://www.design-emotion.com/2009/07/24/sustaining-the-human-object-relationship/ [viewed 08/02/2016].

they were proud of and felt a connection with, who were unable to outwardly sign their work so instead chose to leave a secret message.

The nature of horological research, in contrast to other objects in visual and material culture, is problematic in that it requires the skills of a watchmaker to access many of the areas where these marks might be hidden. In general, horological researchers are required to be a practising watch or clock maker in order to deconstruct and thoroughly examine the object. In evidence of this, the Clock and Watch Department of the British Museum are currently the only department within the Museum to carry out their own conservation as well as research. This might, in part, explain the reluctance of academic researchers outside of horology to explore the subject beyond aesthetics and also of the practising watch and clockmakers to embrace academic research which adds a significant burden to their working lives and is not essential to having a highly successful career as a maker and restorer.

Practical watchmaking experience serves as more than just a means by which the researcher can physically examine each watch in detail, it also gives them insight into the manufacturing techniques, quality of the work and later repairs. Collecting watches is a relatively recent pastime. That said, for reasons of convenience, financial means and as an expression of wealth, a valuable watch by a famous maker in the eighteenth century would likely have been owned and used by an individual with several watches and, consequently, subject to less wear and more likely to be returned to the same master watchmaker or another of the same skill for repairs. And yet, many of the watches examined by this research show symptoms of a very different life. Heavy wear is frequent, resulting in the rebushing of bearings, missing and replaced teeth on wheels, signs of broken and repaired or replaced pivots and staffs and even the complete removal of damaged non-vital components. These repairs can also be telling in that they are often extremely heavy-handed and haphazard. They are also short-sighted in that they often render it impossible for the watch to

be fully serviced again by another watchmaker. Careless repair work tells the researcher a great deal about the person carrying out the work, as it shows a lack of pride and care for the object which implies little to no connection with its creation or owner. Finally, it might also indicate the lack of ability of the repairer, who might not have received formal training as a watchmaker. The function of many of these repairs, it would seem, was to simply make the watch run again at the quickest and cheapest cost. While the repair marks alone give no information on where the repairer was based, when combined with secret signatures and other marks they do give some insight into where the watch spent its life and consequently, some indication of the markets they were intended for.

4.4 Platemakers' marks

Of all the hidden signatures which can be found within a watch movement, the plate mark is the strongest link that can be found between a watch and one of the makers who worked on it. Plate making was considered one of several independent arts within the manufacturing of a watch, and the task was performed by a specialist craftsman. The eighteenth-century plate maker would have worked for a number of different commissioners. Although plate makers' marks are not present on all watches, this research discovered them on twenty out of all fifty-two examples of watches at the British Museum defined by this research as *Dutch forgeries*. These marks are struck at the time of manufacture and demonstrate a certifiable link between movements bearing the same mark. The twenty marks discovered belong to just seven different makers, and this falls into the reoccurring theme seen throughout this research which supports the theory that huge quantities of these movements were being manufactured by a relatively small number of individuals.

4.4.i Platemaker A

Analysing these marks and the movements they belong to in order; the first group of plates made by maker A have been signed later with the names Allen Walker, Tarts or Clerke.

Figure 27: found on a movement signed Allen Walker (left).[295]
Figure 28: found on a movement signed Tarts, London (left of centre).[296]
Figure 29: found on a movement signed Clerke, London (right of centre).[297]
Figure 30: found on a movement signed Tarts, London (right).[298]

This research has, for the first time, demonstrated with certainty that these three *Dutch forgers* are connected. The first, signed Allen Walker survives as a dial and movement only, the cases absent and presumably historically scrapped for their precious metal content.[299] The top plate carries a gilt brass balance bridge which would be highly irregular in English work but is found more commonly in Continental work, namely Dutch and Swiss. The distinctive engraved and pierced detail of this balance bridge, styled as the figure Cronos with two scythes and an hourglass above his head, is also unusual and of note. The occurrence of double-footed balance bridges as opposed to the traditional English single footed balance cock is relatively consistent throughout the examination of these *forgeries* and will be addressed in detail later in this chapter.

[295] British Museum identification number 1958,1201.305. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[296] British Museum identification number 1958,1201.472. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[297] British Museum identification number OA.0413. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[298] British Museum identification number OA.0455. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[299] British Museum identification number 1958,1201.305.

Of the two watches signed Tarts by plate maker A, only one is complete with its case.[300] Both have been designed with Continental-style balance bridges and are fitted with Dutch-style arcaded dials. The example which is complete with its original case has a Dutch import duty mark struck within the inner case.[301] Another Tarts watch examined by this research but bearing no plate maker's mark is of a virtually identical pillar and train layout, only without date work, suggesting that the craftsman behind the initial A was also responsible and did not always stamp his work and, consequently, the number of craftsmen involved in supplying the trade for *Dutch forgeries* might be even smaller than the statistics suggest.

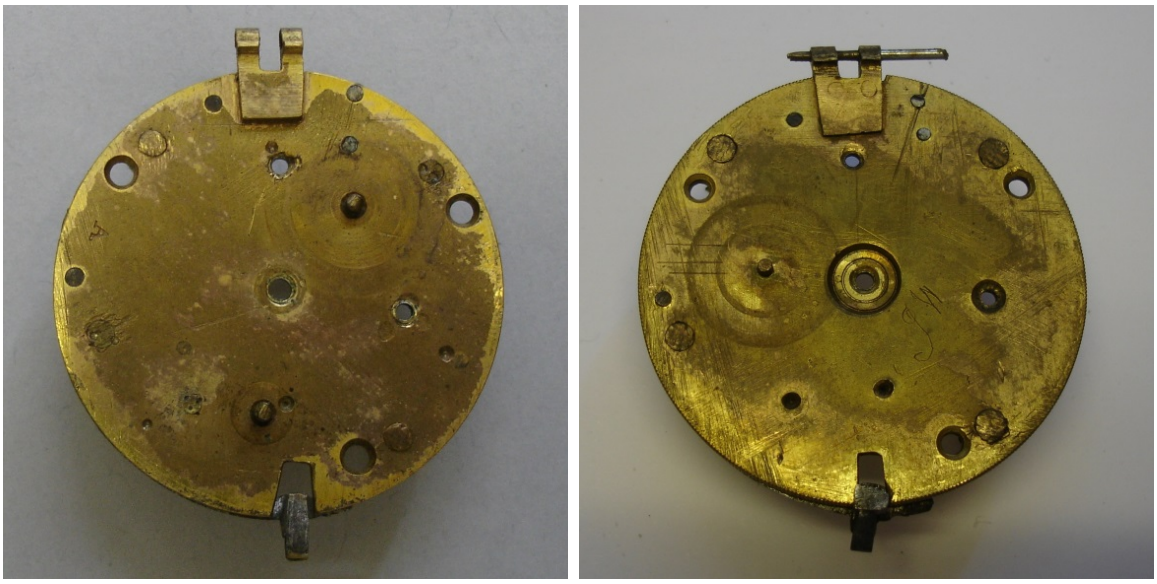


Figure 31: bottom plate of a movement signed Tarts, London.[302]
Figure 32: bottom plate of a movement signed J. Tarts, London.[303]

From examining the layout of the second Tarts watch, 1958,1201.473; this research has managed to identify another watch, this time, signed Poy, London which also appears to be the work of plate

[300] British museum identification numbers OA.455 and 1958,1201.472 respectively.
[301] A watch signed Tarts, British Museum identification number 1958,1201.47 http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=56530&partId=1&searchText=CAI.0472&page=1 [viewed 04/01/2016].
[302] British Museum identification number OA.455. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[303] British Museum identification number 1958,1201.473. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

maker A.[304] Both movement and dial are signed God. Poy, London. The top plate carries a gilt balance bridge which would be highly irregular in English work but is found more commonly in Continental work, namely Dutch and Swiss. This bridge is pierced with an aperture to reveal a mock pendulum which was a popular form of movement decoration in England during the much earlier period of 1690-1710 but was used until a much later date on the Continent.[305] The mainspring barrel cap is stamped with the initials SJ which are likely to be that of the maker. No further examples bearing these initials were discovered in the sample group.

Figure 33: top plate of a watch signed God. Poy, London, with mock pendulum balance and glazed balance bridge.[306]

[304]British Museum identification number 1958,1201.549.
[305] THOMPSON. D. *Watches*. London; British Museum Press, 2009, p. 168.
[306] British Museum identification number 1958,1201.549. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Figure 34: mainspring barrel lid in a watch signed God. Poy stamped SJ.[307]

What is most intriguing about this pairing is the similarity of the movements. Both winding holes are drilled in the inner cases in the same place and the cases appear related. While the bridges and signature plates have been finished differently, once the visual distraction of the top plate furniture has been stripped back, both movements also appear technically related. Additionally, the XRF report returned a similarity between the metal composite used in both 1958,1201.473 (85% silver and 13% copper) and this watch (88% silver and 10% copper) This is strong new evidence, which demonstrates that the manufactory involved with making watches under the name of Tarts also created watches under the name of God. Poy.

[307] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

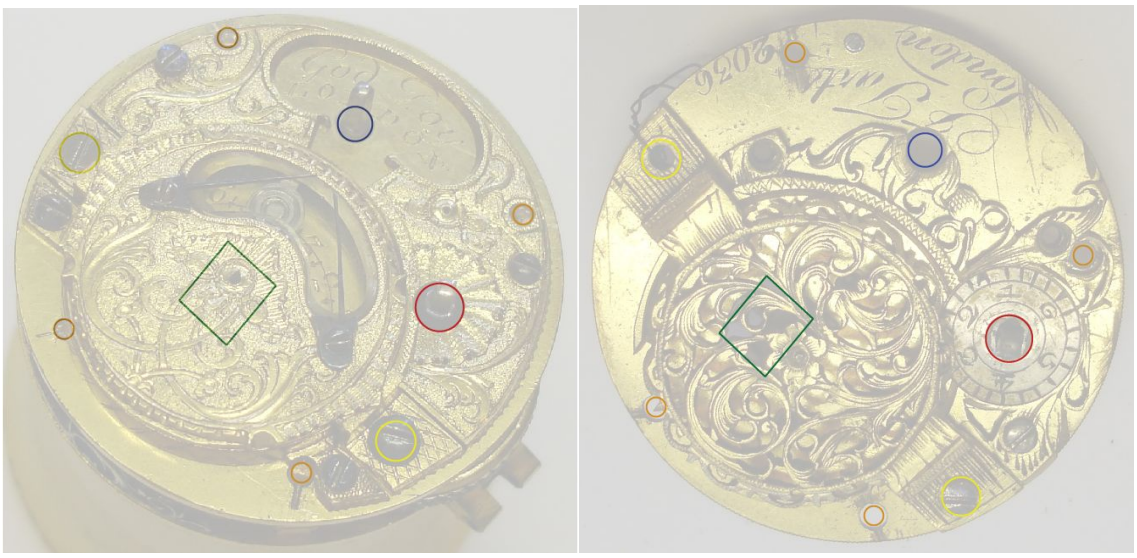


Figure 35: plate comparison between watches signed God. Poy, London (left), and J. Tarts, London (right).[308]

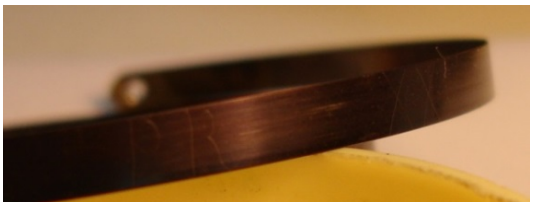
Brown = Pillars.
Blue = Winding.
Red = Regulation.

Green = Escapement aperture.

Yellow = Balance bridge screws.

Looking back at movement 1958,1201.473 signed J. Tarts London 2036. The top plate also carries a gilt brass balance bridge, this time, decorated with scrolling acanthus leaf piercing.[309] Within the movement, the mainspring has been marked with the initials PR and the Roman number XXVII. These commonly referred to the spring maker, as this was considered a separate job to watchmaking, and the date which might have been 1827. As mainsprings naturally set and break over time and use there is no way of knowing whether the spring is original to the watch or has been changed at a later date.

[308] British Museum identification numbers 1958,1201.549 and 1958,1201.473 respectively. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[309] British Museum identification number 1958,1201.473.



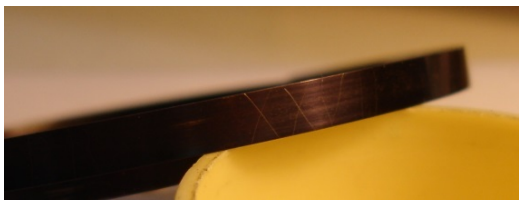


Figure 36: macro images of mainspring marks on the watch signed J. Tarts, London apparently giving the maker's initials and Roman date.[310]

Figure 37: a watch signed J. Tarts, London, British Museum reference 1958,1201.473 (left).[311]
Figure 38: Dutch-signed watch purporting to be by a P. Mougon from Gouda. Circa 1770 (right).[312]

Viewing the Tarts watch again alongside the Mougon, the similarities in the design and scalloping around the balance bridges are striking. Not only that, because the pillar layout, fusee and all screw holes are so remarkably similar it can be said beyond reasonable doubt that they were made by the same plate maker. This is the first time a *Dutch forgery* has been connected to a Dutch watchmaker. Unfortunately, this Dutch watchmaker must remain in quotation as to date there has been no evidence discovered suggesting that P. Mougon was any more a real watchmaker than Tarts or Poy. That said, the existence of this set of watches adds weight to the argument that there was clearly a relationship between the Dutch and *Dutch forgeries*, even though the Netherlands was unlikely to be

[310] Found within British Museum identification number 1958,1201.473. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[311] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum
[312] PEETERS, C. *Hollandse Horloges*, Breda; NPN drukkers, 2012, p. 287.

the country of origin. What is also telling about the Mougon watch is that Peeters describes its case as having English hallmarks dating to 1770.

A further example signed Tarts, London, shares a similar scalloped balance bridge table. However, the layout of the train is opposite to the previous examples by Tarts, Poy and Mougon. As it was not possible to inspect beneath the dials of the examples of *Dutch forgeries* at the Museum of London it is not possible to say at this stage whether there are any identifying plate maker's marks. However, the design differences mean it is unlikely these two Tarts watches are by related plate makers.

Figure 39: a watch movement with scalloped balance bridge signed Tarts, London.[313]

While this new link does not shed light on the real identity of the manufacturer behind this set of watches, it does add further weight in the form of physical evidence behind the suggestions of researchers like Penney and Kraminer that English watchmakers were not the only Europeans in their industry being targeted by the creators of *Dutch forgeries*. Although *Dutch forgeries* not signed

[313] Museum of London catalogue number C1450. Image author's own ©Museum of London.

as London-made are comparatively scarce, their existence cannot be ignored. This proven link between the manufactory creating *Dutch forgeries* signed Tarts, Poy or the potentially fictitious Mougon of Gouda, is supported by Chapuis's archival research into Swiss manufacturers which describe commissions for unsigned ébauches in different national styles being created en masse for export into Europe.[314] This raises two key questions:

1. to what extent were the resident watchmakers in each target area involved with or aware of the trade in watches falsely bearing their city of origin
2. how should these watches be considered in relation to *Dutch forgeries* signed as made in an English city; are they the same or should they be categorised differently?

The case studies within this research include an example signed Gibb, Rotterdam, which fits the same profiling as the *Dutch forgeries* of English watches. Gibb was a celebrated maker of high-quality work. The watch in this study has been identified by the British Museum as a fake bearing his name. Was Gibb an innocent victim or actively, albeit covertly, sourcing these movements to retail under the counter? This chapter will also explore watches by Allin Walker, a known Dutch watchmaker who would himself sign his work Allen Walker for the English market and whose movements again share remarkable similarities with *Dutch forgeries*.

Before exploring the links between *Dutch forgeries* and forgeries of Dutch watches, there are further examples of plate makers' marks which must be investigated.

[314] CHAPUIS, A & JAQUET, E. (1970) p. 80.

4.4.ii Platemaker IB

The next group consists of three watches which are signed as made by Thomas Nadroy, Samson and J. Bolt, all of whom proclaim to be based in London. Each watch contains a plate bearing the platemaker's mark IB.

Figure 40: found in a watch signed Thos. Nadroy, London (left).[315]
Figure 41: found in a watch signed Samson, London (centre).[316]
Figure 42: found in a watch signed J. Bolt, London (right).[317]

As the letter J was traditionally struck as an I when stamping or carving lettering, the plate maker might have had the initials JB rather than IB, which is made more curious as one of the watchmakers' signatures belongs to a J. Bolt, although this could be coincidental. The online records at the British Museum describe this watch as a "Geneva forgery - the name most likely to be fictitious."[318] Beneath its dial, there appears to be a cut-back pillar to the side of the lower bearing for the contrate wheel which might have been included in the design to allow for date work, and the dial plate has also been cut to take a date wheel. Analysis of the pillar and lack of marks to the plate which would result from functioning date work both suggest that this watch was modified to be time-only at the point

[315] Found within British Museum identification number 1961,11-2.4. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[316] Found within British Museum identification number 1958,1201.498. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[317] Found within British Museum identification number OA.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[318] A watch signed John Bolt, British Museum; Online Collection http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=51894&partId=1&searchText=OA.403&page=1 [viewed 24/12/2015].

of manufacture and would never have run with any date work. This again is another indicator that these movements were being ordered in bulk as ébauches before being customised and finished elsewhere.

Figure 43: bottom plate of a watch signed Samson, London.[319]

The top plate of the movement features a double-sided Continental-style balance bridge and the dial, although not original, has a Dutch-style arcaded minute track.

4.4.iii Thos. Nadroy: finding the missing link

Unlike all of the examples listed in this chapter so far, the next example of IB's plate making has a single-footed English-type balance cock and is on an example signed Thomas Nadroy, London.[320] The Nadroy watch is a hybrid between the eighteenth-century English trade and the trade for *Dutch forgeries*. This watch was one of the finest examples pinpointed by this research for proving the link between the two markets.

[319] Found within British Museum identification number OA.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[320] British Museum identification number 1961,1102.498.

Additionally, this watch has a round English-style minute track on its original white enamel dial, which separates it from the other two examples by IB. Nadroy's watch even has genuine hallmarks by the London Assay Office dating it to 1772 and, yet, the cataloguing at the British Museum opines that "the characteristics of this watch suggest that it was actually made in Geneva and the inner case hallmarked in London."[321] Guilt could be assumed by association, as the remaining two examples of IB's plate making present strong associations with forgery. Within the pair cases of the Samson watch, there are also genuine London hallmarks and a maker's mark belonging to Thomas Carpenter, although the date letter is too rubbed to be distinguished. This could suggest an underlying link between the plate maker and both the genuine English market and the trade in *Dutch forgeries*. The inner case of the Nadroy watch has been struck with Dutch import marks, proving it spent time on the Continent and consequently must have shared trade routes with other *Dutch forgeries*. As for the standard of the craftsmanship itself, while the watch would have functioned well by eighteenth-century standards, the execution of the piercing and engraving is not as fine as seen in high-grade English work. This could indicate foreign work or the finishing of a lower-skilled engraver in London. There are later marks scratched throughout the movement, all illegible with the exception of the name Remy marked on the underside of the fusee barrel. Remy is unlikely to be an English name and appears to be a mark left by a later watchmaker.

[321] A watch signed Thomas Nadroy, British Museum; Online Collection http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=57074&partId=1&searchText=nadrow&page=1 [viewed 24/12/2015].

Figure 44: top plate of a movement signed Thos. Nadroy, London.[322]

The Nadroy watch displays definite certifiable links with the trade in *Dutch forgeries* and the evidence in the shared plate maker's marks proved beyond reasonable doubt that this watch was not made in London. While this research supports the British Museum's description in that this watch was made on the Continent, there is little evidence to suggest it was made in Geneva. Due to the aesthetic design of the watch being English and not Dutch, this research determines that this watch cannot be defined as a *Dutch forgery* and that it is instead an imitation of an English watch.

[322] British Museum identification number 1961,11-2.4. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

4.4.iv Platemaker P

The next group of plate marks with the initial P belong to watches signed Samson and Graham and are of a slightly later design and style which imply these watches were made around the turn of the nineteenth century.


Figure 45: found in a watch signed Samson, London (left).[323]
Figure 46: found in a watch signed Graham, London (right).[324]

The example signed Graham, London was selected for further analysis of the movement to investigate the extent to which this watch, being a few decades later in its production, had been influenced by the increasing level of standardisation seen over the era.[325] Along with the maker's mark P, the bottom plate beneath the dial is stamped with the number 42.

[323] Found within British Museum identification number 1958,1201.499. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[324] Found within British Museum identification number 1958,1201.724. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[325] Ibid.

Figure 47: bottom plate of a movement signed Graham, London.[326]

The movement is numbered 24 across the remaining components including on the top of the very same plate, consequently, there is a chance that the number 42 under the dial was a miss-strike. The repeated use of numbering on the top and bottom plates, mainspring barrel, hour wheel, balance bridge, regulator plate, third wheel bridge and third wheel suggests larger scale production and the necessity to separate parts. Due to the number of watches recorded as being manufactured by a single company as being thousands per year, it is unlikely 24 is the production run. It is possible that multiple identical watches carry the number 24 and that this represented a very early form of what is now referred to as a calibre. No further examples of this movement are held in the British Museum collection to verify this suggestion. However, standardised production was perfected in America only a few decades later and contemporary descriptions of the factory production line technique of *établissage* indicate that the practice was already underway in its rough early stages on the Swiss-French border. Additionally, the gilding within these numbers proves that they were struck at the time of manufacture and not added later.

[326] Found within British Museum identification number 1958,1201.724. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Figure 48: a series of images taken of the numbered components within a watch signed Graham, London.[327]

The movement is signed Graham, London, and the steel base on the potence and train count both support the theory that this watch was later in production to many *Dutch forgeries*. The double-footed balance bridge is pierced and engraved with acanthus leaf scrolling and an open scalloped edge, all of which are more common design characteristics of the Continental style.

The examples by P are the latest found by this research to conform to the more general *Dutch forgery* style of London-signed watches which exhibit Continental traits in their design and execution. The numbering system conforms to the contemporary sources which describe the increasing use and perfection of *établissage* along the Swiss-French border regions by the start of the nineteenth century.[328] From the examples identified to date, it would appear that these two watches are from the final stage in the evolution of the *Dutch forgery* verge watches.

[327] Images in order, from top to bottom reading left to right depict under the dial, balance bridge, regulation, hour wheel, third wheel, mainspring barrel, top plate and inside the bottom plate. Found within British Museum identification number 1958,1201.724. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[328] SANDOZ, C. (1904).

4.4.v Platemaker R

The most commonly occurring plate maker was operating under the maker's mark R, which appears on a total of five examples of watches at the British Museum identified by this research as forgeries. The associated names include J. Miller, David Shenfton, and Samson.

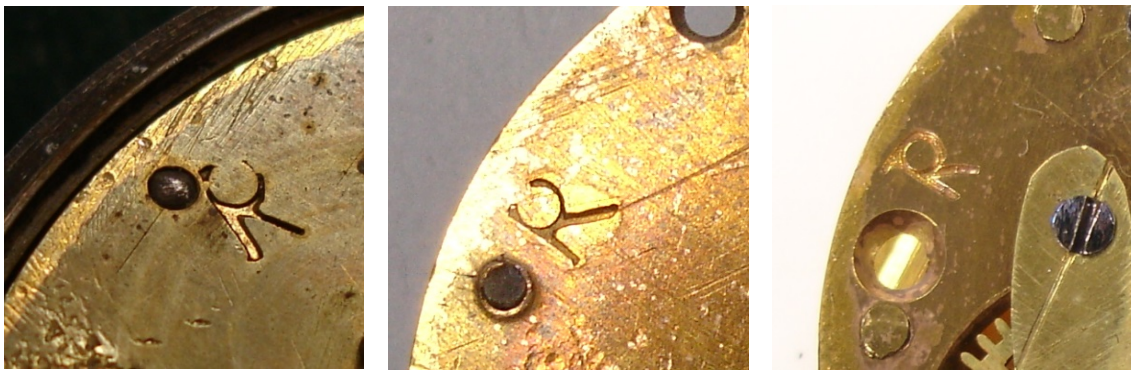


Figure 49: found in a watch signed Samson, London (left).[329]
Figure 50: found in a watch signed J. Miller, London (centre).[330]
Figure 51: found in a watch signed David Shenfton, Richmond (right).[331]

Figure 52: found in a watch signed Samson, London (left).[332]
Figure 53: found in a watch signed Samson, London (right).[333]

[329] Found within British Museum identification number 1891,0314.1. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[330] Found within British Museum identification number 1958,1201.610. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[331] Found within British Museum identification number 1958,1201.165. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[332] Found within British Museum identification number 1958,1201.482. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[333] Found within British Museum identification number OA.449. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

From these five, the example signed by J. Miller was selected for further examination as it was the most complete.[334] The inner case of the Miller watch is hallmarked which dates the movement, and consequently, plate maker R to being active in 1779. Beneath the dial, which is not original but of the Dutch arcaded style, there are a number of scratched later repairers' marks the most legible of which reads Pr Fraddey or similar.

Figure 54: hidden signature beneath the dial of a watch signed J. Miller, London.[335]

The visible top plate of the movement is signed J. Miller, LONDON 2470, and carries a Continental type gilt brass balance bridge. The scrolling acanthus leaf piercing is also more open than the typical English style and again more reminiscent of Dutch or Swiss work. These technical and aesthetic characteristics within the movement partnered with the Dutch-style dial and duty marks struck on the outer case, imply that this watch was largely constructed on and intended for the Continental market, despite the inner case being hallmarked in London.

[334] British Museum identification number 1958,1201.610.
[335] Found within British Museum identification number 1958,1201.610. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

4.4.vi Platemaker SG

The next plate marks belong to a maker working under the mark SG, and another starting S which has been miss-struck and only half visible. Other variations in the style of the font suggest these marks might well belong to two different plate makers and appear on watches signed Gibb and May consecutively as follows.

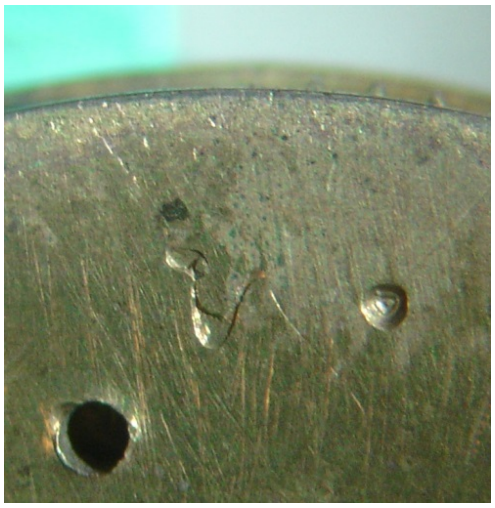


Figure 55: found in a watch signed Wm. Gibb, Rotterdam (left).[336]
Figure 56: found in a watch signed May, London (right).[337]

The plate maker SG is found on the watch already mentioned signed by Gibb, Rotterdam which although signed by a known Dutch maker, was selected as it has been identified as a fake and shares significant similarities with forgeries of watches made on the Continent but signed London.[338] The full 'SG' mark was only found on this watch out of all examples of *Dutch forgeries* examined at the British Museum. There is a later repairer's signature concealed under the dial plate, which is, however, illegible. The movement is signed Wm. Gibb, Rotterdam and the top plate carries an

[336] Found within British Museum identification number 1958,1201.772. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[337] Found within British Museum identification number 1958,1201.642. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[338] British Museum identification number 1958,1201.772.

unusual and distinctive mock pendulum balance bridge with an engraved trumpeter. The white metal regulator disc is divided by Roman numerals.

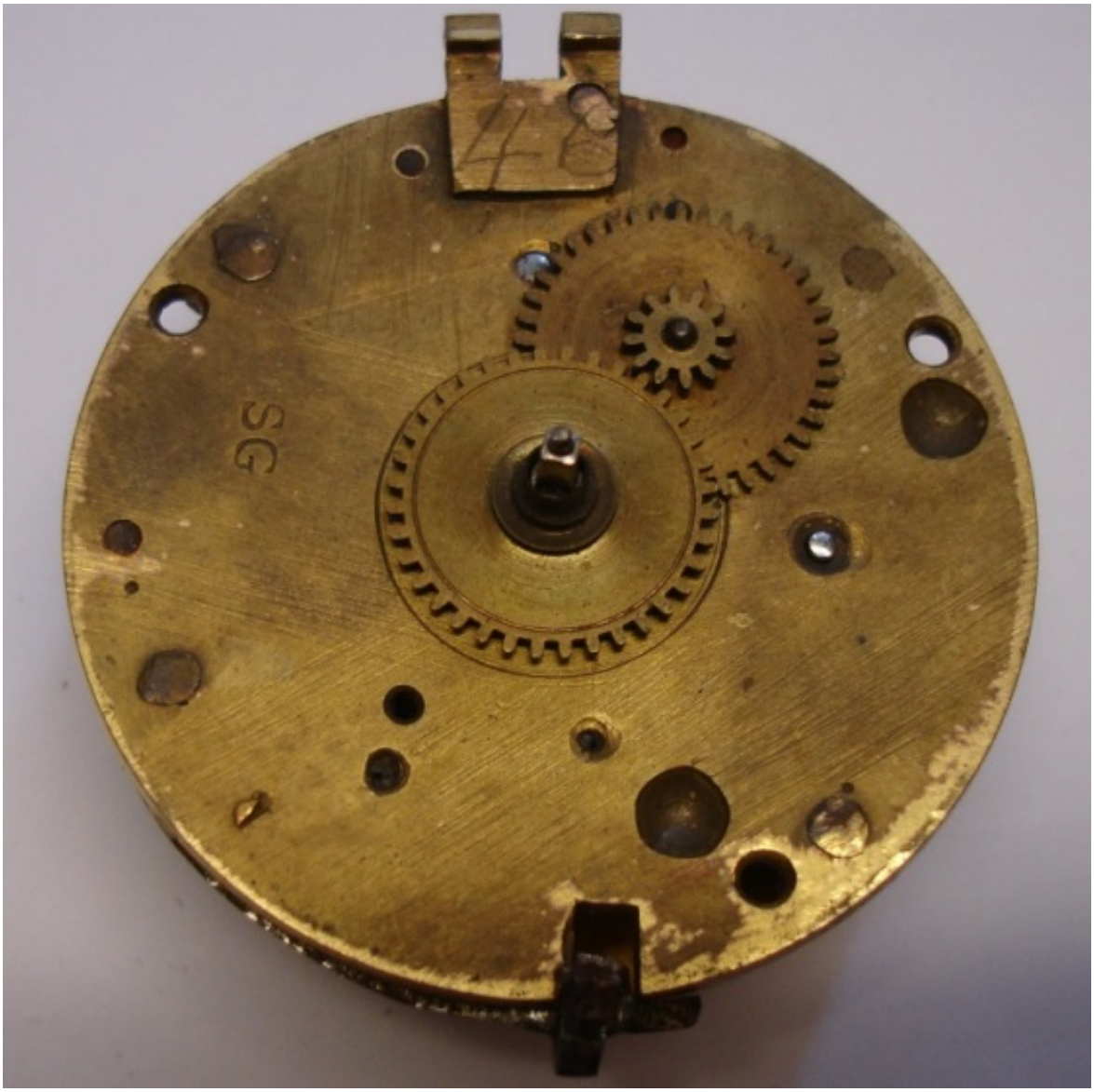


Figure 57: the bottom plate of a movement signed Wm. Gibb, Rotterdam.[339]

The plate mark on the watch signed May, London is positioned in such proximity to the outer edge of the plate it is possible the letter S stood alone.[340] Additionally, the font is far more cursive than

[339] Found within British Museum identification number 1958,1201.772. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[340] British Museum identification number 1958,1201.642.

the SG example so it is unlikely the two are connected, however as the closing set of WR examples will illustrate plate makers were known to change the style of their marks.

Figure 58: bottom plate of the movement signed May, London, the mark of plate maker S circled in red (left).[341]
Figure 59: top plate of the movement signed May, London (right).[342]

The movement is signed May, London 811, and has a Continental type double-sided balance bridge. The standard of the piercing and engraving is not high, however, the watch is functional and would have kept time to the turn of the nineteenth-century standards. Adding to the clear Continental influence within the movement, this watch has a Dutch-style arcaded dial the maker of which has been connected by this research with manufacturing for other names associated with forgery. Also, the outer repoussé pair case is identical to another *Dutch*-type *forgery* identified by this research and bearing Dutch import duty marks.

[341] Found within British Museum identification number 1958,1201.642. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[342] British Museum identification number 1958,1201.642. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

4.4.vii Platemaker WR

The last set of watches has been marked by a plate maker working under the initials WR which appears on watches signed by May, Tarts and Chandler & Son.

Figure 60: found in a watch signed J. May, London (left).[343]
Figure 61: found in a watch signed Tarts, London (centre).[344]
Figure 62: found in a watch signed Chandler & Son, London (right).[345]

Although there are slight variations in the style of fonts used in the three examples, the layout of the plates and repetition of the same initials suggest beyond reasonable doubt that the plates of these three watches were made by the same craftsman.

The first example signed J. May, London 2292, has a Continental double-sided balance bridge, which is typical of watches associated with *Dutch forgeries*.[346] The standard of the piercing and engraving is not high, however, the watch is functional. The style of the dial and outer repoussé pair case, which is decorated with a scene depicting *Aeneas and the Cumaean Sibyl*, carries the Dutch duty mark for

[343] Found within British Museum identification number 1958,1201.643. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[344] Found within British Museum identification number OA.456. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[345] Found within British Museum identification number 1958,1201.815. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[346] British Museum identification number 1958,1201.643.

imported silver used after 1814.[347] The next, signed by Tarts, shares many stylistic similarities with the May watch, although it is lacking its outer case. Both Continental-style balance bridge and Dutch-type arcaded dial support that the maker WR was either based on the Continent or working with closely with the Continental watch trade.

Figure 63: top and bottom plates of a watch signed Tarts, London.[348]

The last example, signed by Chandler & Son, London has hallmarked cases dating the plate maker WR as being active in 1803.[349] Of the two examples sharing the same *forger's* signature, only one carries plate maker's marks with the other left anonymous.[350] The examination of these watches in this research has, however, demonstrated that the similar layout of the plates, along with the circumstantial evidence of the dial similarities, proves that both Chandler & Son watches were made by plate maker WR.

[347] This watch is referenced in EDGECUMBE, R. *The Art of the Gold Chaser*, Oxford; Oxford University Press, 2000, pps. 11-12 and figure 4b.
[348] British Museum identification number OA.456. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[349] British Museum identification number 1958,1201.815.
[350] British Museum identification number 1958,1201.33.

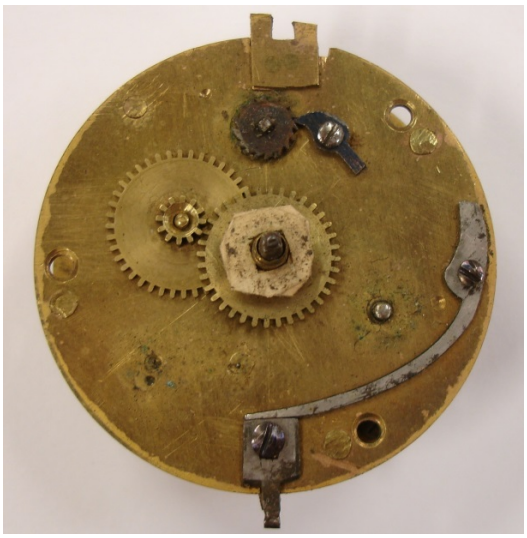


Figure 64: bottom plate of a watch signed Chandler & Son, London (left).[351]
Figure 65: bottom plate of a watch signed Chandler & Son, London without a plate mark (right).[352]

Figure 66: top plate of a movement signed Chandler & Son, London; by plate maker WR (left).[353]
Figure 67: top plate of a movement signed Chandler & Son, London with no plate maker's mark (right).[354]

The movement is signed Chandler & Son, London 721, and has a double-sided balance bridge which is typical of watches associated with *Dutch forgeries*. The standard of the piercing and engraving is

[351] Found within British Museum identification number 1958,1201.815. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[352] Found within British Museum identification number 1958,1201.33. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[353] Found within British Museum identification number 1958,1201.815. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[354] Found within British Museum identification number 1958,1201.33. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

poor and the material used in the manufacture is so thin in places it is no longer fit for purpose. The lid to the mainspring barrel is too thin to keep its friction fit within the barrel and in its current state would not run. Although it can be assumed that this watch was functioning at the point of sale, it would not have taken long to wear to a point where it needed considerable repair work. There are scratched markings under the dial plate which are likely to have been left by later repairers as they cut through the gilding. The marks are largely illegible.

Figure 68: images of marks hidden on the underside of the dial-plate of a watch signed Chandler & Son, London.[355]

[355] Found within British Museum identification number 1958,1201.33. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

4.5 John Wilter, a London watch

There is a group of examples signed by the watchmaker John Wilter, London, within the collection at the British Museum which gives the appearance of being good quality English work. This would not seem out of the ordinary were it not for the fact that Wilter is a name notoriously associated with *Dutch forgeries* and there is no record of his existence beyond the surviving watches of his in the UK or abroad.[356] One of the examples examined within these case studies has a movement signed Wilter, London, 9566.[357] The top plate carries a gilt balance cock which is typical of English work. The engraving and piercing has been executed to a high standard. This watch, unlike all *Dutch forgeries* examined by this research, has a fitted dust cover. Manufacturing dust covers is a highly skilled job as it requires a great level of ability to make a metal cover which will closely fit the movement without restricting its function. It was also unnecessary for the running of the watch, acting as an additional barrier to keep out dust and dirt rather than improving the timekeeping or adding anything other than engineering complication. It is likely that the reason dust covers do not appear on *Dutch forgeries* is because they added an unnecessary additional expense to production. In contrast, English and in particular high-grade London work used dust covers with great frequency.

[356] Although there are no records, it is possible that Wilter was operating outside of all Europeans guilds or trade directories, however, the quantity of his watches that have survived suggest the manufacture and distribution of watches under his name was prolific, making it unlikely he would have been able to operate as a real individual without detection.

[357] British Museum identification number 1958,1201.387.

Figure 69: movement and dust cover of an apparently English watch, signed John Wilter, London.[358]

Returning to the quote from a watchmaker in 1817 claiming to have known the English maker behind the Wilter watches, the physical evidence overwhelmingly supports his claim that the first watches being manufactured and signed under the name John Wilter were indeed of English origin with the later examples being manufactured to a much lower standard and stylistically confirming what is now regarded as a *Dutch forgery*.[359] This new evidence demonstrates beyond reasonable doubt that English watchmakers were complicit on some level in the creation and dissemination of *Dutch forgeries*.

4.6 John Wilter, a 'London' watch

One of the most fruitful examples and the last to be analysed within this chapter is another signed by the infamous John Wilter, London.[360] This example is far more typical of a *Dutch forgery* and aesthetically Continental in origin. The top plate carries a gilt balance bridge which would be highly

[358] Ibid. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[359] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p.67.
[360] British Museum identification number 1958,1201.383.

irregular in English work but is found more commonly in Continental work. The movement and case have concealed signatures and marks throughout, although many are illegible. The mainspring is signed Devaud, or possibly Demaud. The inside of the inner bezel is inscribed with what appears to be the name Vangastel, Wool GG/44 and the numbers 696.2.1880.3. All of these marks are likely to have been left by later repairers. As mainsprings set and break over time there is no way of knowing whether Devaud/Demaud was involved with the initial making of this watch or made the spring for a later repairer.

Figure 70: the movement of a watch identified by this research as a *Dutch forgery*, signed John Wilter, London.[361]

[361] British Museum identification number 1958,1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

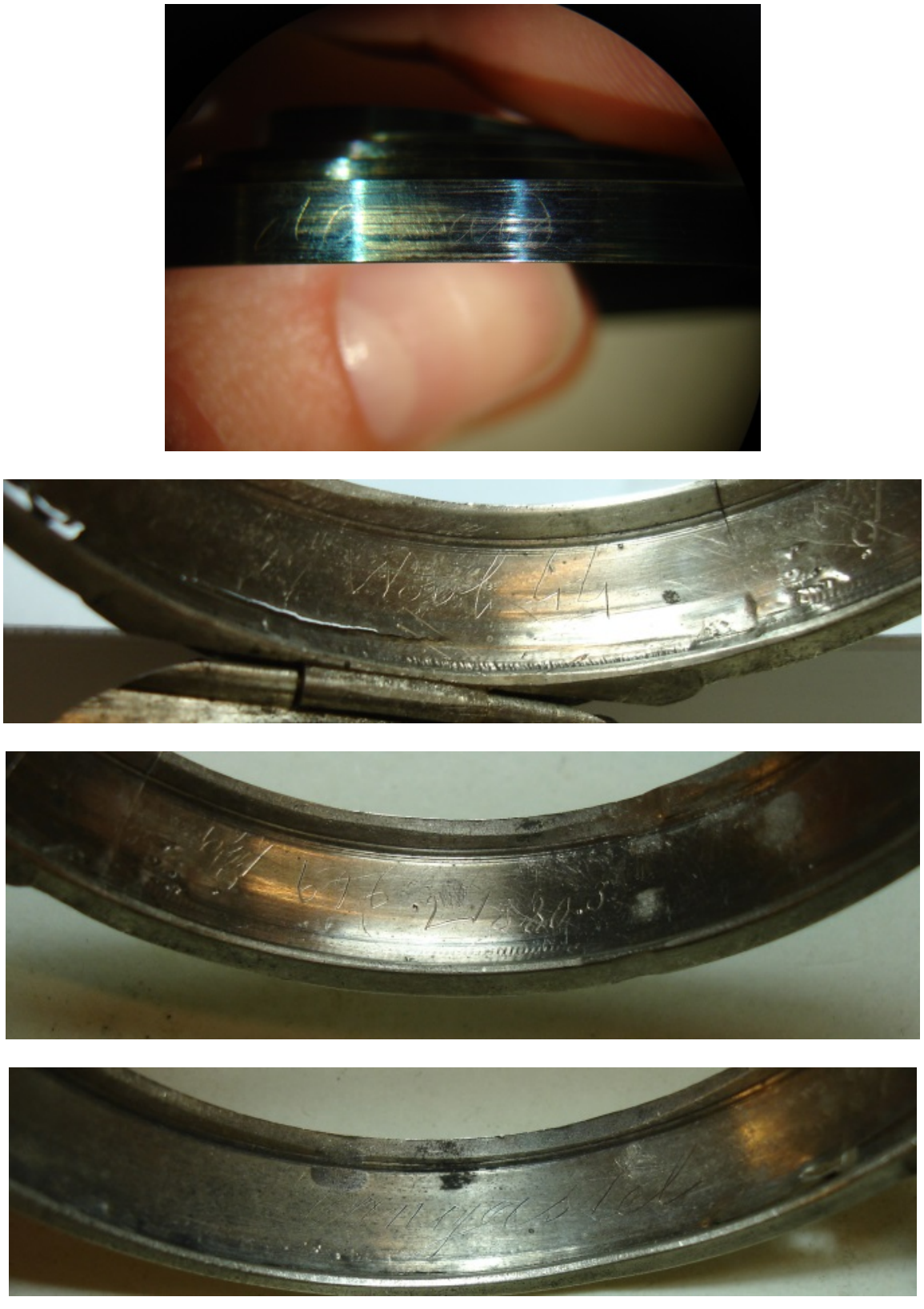


Figure 71: images of hidden marks and signatures found within a *Dutch forgery* watch, signed John Wilter, London.[362]

[362] Ibid. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

No record could be found of watchmakers operating under any of these names or their variations in any of the European watchmaking directories.[363] While the Vangastel could be a watchmaker, it could also refer to Van Gastel in Antwerp on the Belgian border with Holland. Regardless, the name is distinctly Dutch sounding in origin as is the Teutonic-sounding name of the author Wilter. The name Devaud appears to be more French in origin, appearing with the highest frequency in France and Switzerland.[364] This could be seen as supporting the theory that the mainspring is original as this research has suggested that these watches were being manufactured along the Swiss-French border. Additionally, a duty mark on the front of the outer case joint appears to be a French mark for imported silver.

This research has identified another pair of watch movements apparently by the same maker and signed John Wilter in the collections of the British Museum and Museum of London.[365] Not only do the plate layouts share a high level of similarities, but the style of engraved lettering appears to be by the same hand. The serial numbers which separate them (5719 and 5678 respectively) are so close together it is likely that these watch movements were made within a year or so of each other in the same manufactory. While this does not provide any further information on the identities of the makers of these watches, it does add to the growing body of evidence that a relatively small number of manufactories were producing vast quantities of these watches.

[363] All directories examined by this research are listed in the bibliography.
[364] Namespedia, search results for name 'Devaud' accessed online http://www.namespedia.com/details/Devaud [viewed 12/02/2016].
[365] British Museum catalogue reference 1958, 1201.382 and Museum of London catalogue reference A9873 respectively.

Figure 72: two movements appearing to have been crafted by the same maker, both belonging to *Dutch forgeries* signed John Wilter, London.[366]

With some understanding of mechanisms, it is possible to read a watch movement and develop an understanding of its origins, markets and the role it played within society. The evidence provided by the watches in these case studies overwhelmingly contradicts the notion of the watch as an object of luxury. Their makers and commissioners repeatedly show their preference for cost saving through cutting corners, employing low-skilled craftsmen and using inferior quality materials. They demonstrate that the perceived value of English watches across Europe was such that the 'London' cachet was all it took to sell the watch, otherwise, real makers would have been copied rather than the fictitious names more commonly seen.[367] It is striking that so many have been executed in the Continental style, whilst proclaiming to be English in manufacture. This again demonstrates the power of the city of London in marketing luxury goods during the eighteenth century, as apparently little else mattered to the market these watches were intended to satisfy.

These movements also prove a greater involvement with the English watch trade than researchers

[366] British Museum catalogue reference 1958, 1201.382 and Museum of London catalogue reference A9873. Images author's own, ©R. Struthers and the British Museum: London and the Museum of London respectively.
[367] Of the *Dutch forgeries* identified by this research, only 3 out of 156 examples were signed with locations other than London. Reference Appendix No. 5 - List of *Dutch forgeries* identified by this research.

like Penney would like to acknowledge.[368] The examples signed by John Wilter in particular, support all the contemporary evidence to suggest that English watchmakers themselves played an integral role in the trade for *Dutch forgeries* by willingly manufacturing watches under pseudonyms for merchants to be exported to the Continent. The sudden drop in quality and change in style is a reflection in the market sense of the merchants who fast realised they could buy and sell perfectly functioning, albeit it lower quality, on the Continent.

4.7 Duchene, London or Duchêne & Compagnie, Geneva: examining the French-Swiss style

This watch was selected for further examination as it features a silver repoussé outer pair case by Daniel Cochin, whose name is frequently associated with *Dutch forgeries*. The outer case also bears Dutch import marks, and the inner case has heavily rubbed spurious (possibly fake) hallmarks. Additionally, the enamel dial has an arcaded minute track, so the external appearance of the watch gives the impression of a *Dutch forgery*. The inventory for this watch at the British Museum describes it as "claimed to be by Duchêne [and] claimed to be from London".[369]

The movement, however, is quite unlike a typical *Dutch forgery* or indeed the French-style which the real Duchêne is associated with. It has an English-style single footed balance cock, as opposed to the Continental balance bridge. The balance bridge fell into two different styles with one more common in French and French-Swiss work (as on the genuine Duchêne watch pictured below) and the other in Dutch and Swiss-German. The French-Swiss design is typically rounder with the feet almost

[368] Penney suggested it being impossible for English watchmakers to be involved in the *Dutch forgery* trade. Ref. PENNEY, D. (2014).
[369] Accessed online; http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=57681&partId=1&searchText=1889,0311.2&page=1 [viewed 26.07.2016].

concealed beneath the plate of the balance bridge making it appear to be floating if viewed from above.

Figure 73: the Duchene, London watch with English-style movement and Dutch-style dial (left).[370]
Figure 74: a genuine Geneva-made watch by Duchêne & Compagnie in the French style (right).[371]

The back plate carries multiple scratched marks likely by later repairers as they cut through the original gilding. One reading Jn W 24 Sept 1834 will certainly be by a later repairer, looking to mark the watch for reference in the event it returns to his workshop. This practice is still used by some watchmakers today as a quick means to check whether they have worked on the watch and whether it is within its service guarantee.[372] Another mark reads VR 666.

[370] British Museum reference 1889,0311.2. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[371] British Museum reference 1958,1201.221. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum .
[372] As used by the author under instruction at Steven Hale Watch Restoration, London by contract to Bulgari and within general workshop servicing. Some restorers now use permanent ink to prevent permanent damage to the movement or case.

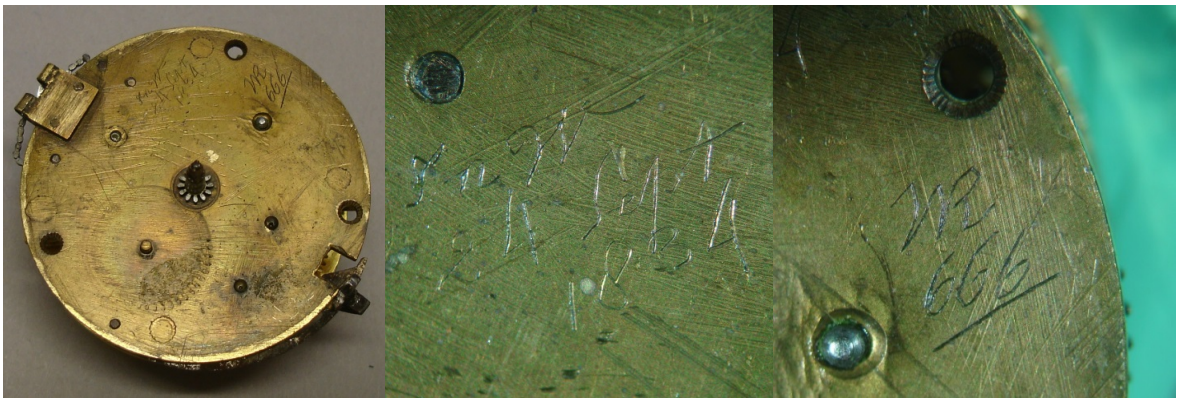


Figure 75: marks hidden on the bottom plate under the dial of the Duchene, London watch.[373]

The top plate carries a gilt brass balance cock with acanthus leaf scroll piercing typical of the English-style. There is nothing in the technical design or functioning of the movement of this watch that would imply it is not of English origin. On close inspection of this watch, it is apparent that the dial is certainly not original and that the case might not be original either. Although the modifications have been made employing the same components as used in the production of *Dutch forgeries* and, consequently, this watch was likely traded through the same routes to market. The movement was either made on the Continental in the English style to a good standard or might have been manufactured in England and transported to the Continent for signing and retail by Duchêne. This watch is an excellent example of how complicated the nature of these watches can be in terms of setting boundaries around their identifying traits. It is apparent that although there is certainly a pattern in the centres for manufacture and dissemination of these watches, there were more parties from more countries in Europe, including England, involved in the trade than previously imagined.

[373] British Museum reference 1889,0311.2. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

4.8 Allen Walker and Harry Potter

Returning to the example signed Allen Walker, first listed under the plate maker A, this research has identified four further examples of Allen Walker watches with the same unusual Cronos design pierced and engraved in the balance bridge.[374]

Figure 76: images of five watches signed by Allen Walker, for the English market.[375]

[374] British Museum identification number 1958,1201.305.

While all of these four examples describe the watch only as being by Allen Walker and do not proclaim to be London made, this research has defined them to be *Dutch forgeries* because of the quantity of similarities they share with London-signed examples. Not only has Allen Walker been identified as the anglicised name of the recorded Dutch watchmaker Allin Walker, but this research has connected a further example with a similar distinctively engraved and pierced Cronos balance bridge signed Harry Potter, London. This demonstrates that the manufacturer of the ébauche with this distinctive design was supplying the market for *Dutch forgeries*.

Figure 77: movement of a *Dutch forgery* signed Harry Potter, London.[376]

[375] Images in order from top to bottom and left to right, British Museum identification number 1958,1201.305 [Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum], Fellows & Sons Auctioneers auction number 1371, Lot number 63 [http://www.fellows.co.uk/1371-lot-63-A-gilt-key-wind-pair-case-Dutch-style-pocket-watch-by-Allen-Walker?auction_id=7902&view=lot_detail [viewed 22/12/2015]]; Cogs & Pieces Archive, stock number 682 [http://www.pocketwatcharchive.com/pocketwatch682.html [viewed 22.12.2015]] and stock number 883 [http://www.pocketwatcharchive.com/pocketwatch883.html [viewed 22.12.2015]]; and Watch-Wiki entry [https://watch-wiki.org/index.php?title=Datei:Walker,_Allen_pocketwatch_with_Chatelaine_movement.jpg [viewed 22.12.2015]].

[376] British Museum identification number 1958,1201.137. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The white enamel dial is signed Allen Walker which is unusual as most watch dials carry only the maker's surname and location. While the signature would suggest the dial is original to the movement, the dial plate has been re-drilled leaving two unused holes. The lack of any marks around these holes indicate that they have never been used to secure a dial, as the removal and replacement of the taper pins used to secure the feet results in scratches and requires filing a groove across the two edges of the hole. Consequently, this would indicate that the plate was drilled prior to the watch being built and in absence of the dial. This could have been a simple error on part of the finisher, or an indicator that there was a lack of coordination between the dial maker and watch maker. The arcaded minute track is stereotypical of both Dutch watches and watches executed in the Dutch style.

The fact that the Allen Walker signature is an anglicised version of the Dutch name Allin Walker is more than a coincidence and demonstrates a strong likelihood that the makers are one and the same. Else why choose a variation of an existing Dutch watchmaker's name when any other name would have been just as appropriate? That these watches then certifiably link back to an example of a *Dutch forgery* signed Harry Potter, London, demonstrates both an awareness and participation by Dutch watchmakers in the trade of *Dutch forgeries*. That said, this does not provide any evidence that these watches were being made, entirely or in part, in Holland. The forthcoming chapter exploring trade and manufacture in the Dutch Republic and subsequently Holland will demonstrate the financial incentives merchants and makers had to import and export rather than manufacture on home soil, and the small number of makers who would have made production on the industrial scale seen with *Dutch forgeries* impossible. The link with makers' names and variations thereof would imply that some degree of finishing was being completed in Holland. However, production capacity and taxation issues in the country suggest manufacture elsewhere. This, in turn, is supported by the quantity of cases bearing Dutch import marks denoting Continental silver.

4.9 Remaining examples

Both the use of the balance bridge rather than cock and the poor quality of the movements are consistent themes throughout the examples examined by this research.[377] One such watch, signed by Tarts, London, has been built to such a low standard that the general wear experienced by all watches in their day to day running has rendered it obsolete and beyond repair without the replacement of significant components. The top plate again carries a Continental-type gilt brass balance bridge and the scrolling acanthus leaf piercing is also more open than the typical English style and again more reminiscent of Dutch or Swiss work.

Figure 78: movement of a watch signed Tarts, London.[378]

[377] With the exception of examples such as the John Wilter watches, presumed to be of English-origin before production moved to the Continent.
[378] British Museum identification number OA.455. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The mainspring barrel has been lead soldered shut. This research has discovered watches utilising such a thin gauge of brass for the lid it has lost its friction fit and is no longer fit for purpose.[379] This example is likely to be the same and has been lead soldered shut as there would have been no other way to prevent the barrel lid falling off, which is an exceptionally poor repair.

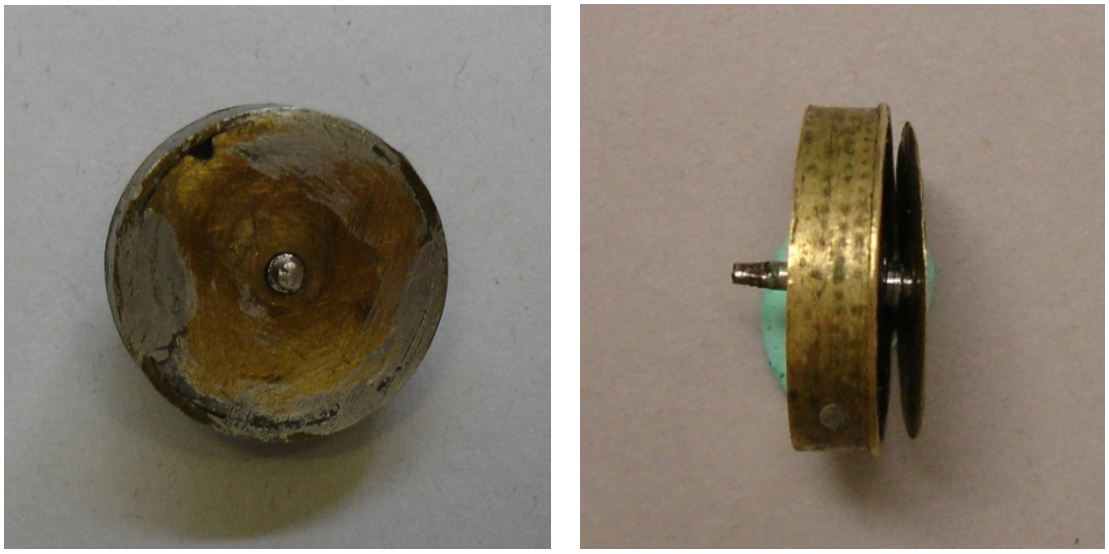


Figure 79: images of two mainspring barrels showing lead solder repair work and material gauges unfit for purpose.[380]

4.9.i John Clifton, Liverpool

Although the vast majority of examples identified as *Dutch forgeries* are signed as having been made in London, there are on occasion watches signed with other English city names such as this movement which proclaims to have been made in Liverpool.[381] The full signature reads In^{O} Clifton, Liverpool 273, note the capital I will refer to the letter J or Jno which is the common abbreviation for John on these watches. There was a real John Clifton recorded as working in Liverpool at the time in question, although all other examples of his work identified by this study were clocks and all descriptions of him list him as a clockmaker. It was not uncommon during the eighteenth century for

[379] British Museum identification number 1958,1201.815, a watch signed by Chandler & Son.
[380] British Museum identification numbers OA.455 and 1958,1201.815 respectively. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[381] British Museum identification number 1958,1201.34, a watch signed Clifton, Liverpool, 273

manufacturers in the horological trade to make both clocks and watches, although some would specialise in one or the other. This degree of specialisation became more common throughout the eighteenth and nineteenth centuries to such an extent that the large contemporary horological houses almost exclusively specialised in one or the other. A great deal of this change was driven by the incompatibility of production techniques as watches became more refined and accurate, and the financial incentive as the watch market progressively grew whereas the clock market was in a state of decline.

Figure 80: movement of a watch signed John Clifton, Liverpool.[382]

The top plate carries white metal furniture including balance bridge and signature plate which would have been highly irregular in English work but is found more commonly in Continental work. The use

[382] British Museum identification number 1958,1201.34. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

of white metal in movement decoration was not unheard of in English watchmaking but was far more commonly practised in Holland which, combined with the bridge and arcaded dial, indicate that it is extremely unlikely this watch was made in England let alone Liverpool. Although no other examples of John Clifton watches have been discovered, it cannot be ruled out that Clifton was in no way associated with watchmaking. It is also possible that, seeing the increasing demand for less expensive watches while his own trade was in a state of decline Clifton began purchasing Continental movements being smuggled through the port at Liverpool. It is also possible that Clifton's name had been pulled from a trade directory on the Continent and his name was being used without his consent and possibly even knowledge. Unfortunately, the cases of this watch have not survived so it is impossible to search for any hall or duty mark which might serve as a further explanation. However, this watch remains with its dial which is arcaded in the Dutch style. Consequently, despite proclaiming to have been made in Liverpool and not London, this research determines that this watch can be described as a *Dutch forgery* because it is proclaiming to have been made in England but has been executed in the Dutch style. Its inclusion in the definition of *Dutch forgery* is particularly important as it is an example of such a watch which defies the precedent of proclaiming London as its city of origin.

4.9.ii Wiet, London

There is another example of white metal being used within a more typical *Dutch forgery* housed in the collection at the British Museum, this time signed with the apparently fictitious name of Wiet, London.[383] As there is no record of a watchmaker by that name, unlike the Clifton watch we can assume this maker never existed in London or the rest of England. Both movement and dial are signed Wiet, London. The top plate carries a white metal balance bridge which would be highly irregular in English work but that shares similarities with Continental work, namely Dutch and Swiss. The scrolling acanthus leaf piercing is also more open than the typical English style and again more

[383] British Museum identification number 1958,1201.1637.

reminiscent of Dutch or Swiss work. The white metal regulator disc is divided by Arabic numerals spaced by a bunch of three curled lines. The repetition of these groups of three lines on the regulator disk, in between the Roman numerals on the inner hour track of the dial and again separating Wiet from London on the top plate, together with the matching style of Arabic numerals on dial and regulator suggest that all of the letter and number engraving was executed by the same craftsman.

Figure 81: movement of a watch signed Wiet, London.[384]

The train and plates are gilded brass, typical of European watchmaking although Kraminer suggested later Swedish forgeries were ungilded or the gilding had worn away.[385] Several gilded components show wear, most notably the date wheel. However, the strong colour difference and integrity of the remaining gilding demonstrate how unlikely it would be for all gilding to wear from all components without leaving a trace. This watch is very typical of the *Dutch forgery* style and can be categorised and included in this research as such.

[384] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[385] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, pps. 330-334.

4.9.iii Samuel Weldon, London

This further example signed by Samuel Weldon, London, displays very poor quality gilding.[386] The movement is signed Sam.l Weldon, London 17040. The top plate carries an English-type gilt balance cock, however, the quality of the engraving and gilding is very poor and the pale colour of the plates suggests much of the gilding to the outer top plate has worn away. The movement and case have concealed signatures and marks under the dial, although most are illegible or make little sense. One appears to read Vemeef or Vereef and another Borcello. While these might have been left by later repairers, they do not sound like English names and no similar names are associated with London makers so this could indicate the movement was being serviced abroad. Forged hallmarks and Dutch import duty marks within the case support the theory that this watch spent time on the Continent.

Figure 82: movement of a watch signed Samuel Weldon, London with hidden marks on the bottom plate.[387]

Although the hidden repairers' marks are unable to provide a certifiable link with a known watchmaker, they do give an insight into the areas in Europe where these watches were in circulation.

[386] British Museum identification number 1958,1201.403.
[387] British Museum identification number 1958,1201.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Chapter 5 : The Aesthetics of the *Dutch Forgery*

Just as the movement of a watch can hold key indicators about the age and country of origin, the aesthetic design holds a great deal of information about who made a watch and the market they designed it for. Ultimately, it is the case and dial of a watch which are the most visually apparent components to the owner. These watches were made in a time when the Consumer Revolution demanded the most current and fashionable styles in keeping with the changing popular culture. As a consequence their original design and, on occasion, intentional later changes to their design to modernise them tell researchers a great deal about the society these watches were being traded in. The visual design of a watch case or dial does not only give researchers clues about when a watch was made and who would have bought it, but also how it was made. Analysis of engraving, repoussé case work, metal composites and enamelling all hold clues as to where the watch originated and the processes required to make it.

5.1 The eighteenth-century watch dial

As the means by which you tell the time, the obvious ultimate object of a watch, the dial, is by far its most visually apparent feature. Over the course of the eighteenth century the popular style for watch dials in England shifted from black wax inlay into chased precious metal, known as champlevé, to enamel. With the exception of a few extraordinary makers in Paris, such as Lepine and Breguet, who popularised the use of engine turning on dials, enamel became the popular style across much of Europe.

It is not unknown in watchmaking for watches to be upgraded to include the latest technological and stylistic advances, such as the shift from gut line to chain driven fusee and the invention of the hairspring (both in the second half of the seventeenth century). While these examples influence only

the interior design of the watches, the exterior would have been just as susceptible to the changing fashions of eighteenth-century Europe. Although the watch was decreasing in real term value over the course of industrialisation, it would still have been a relatively expensive object and consequently worth modifying rather than replacing altogether. Enamel dials, by their nature, are fragile and liable to damage should they be dropped or knocked; so it was also known for dials to be replaced as a result of damage in everyday wear.

Dials must be examined with caution from watches of this period because, this research shows, they were not uncommonly replaced at a later date. This could have been in part a result of the waning popularity for metal champlevé dials and the rise in popularity of enamel, however, the fragile nature of enamel might have also resulted in their replacements as a consequence of damage. The originality of dials can usually be established with ease by the examination of the dial plate to ascertain whether the feet of the current dial align with the holes drilled to take them (usually three feet and holes in this period). A later dial might often be identified by the re-drilling of the plate resulting in one of more vacant holes from the original dial. Again, we can ascertain whether these holes were ever used to take dial feet from the presence of the scratch marks which result from the removal and replacement of the taper pins which would have held the feet in place.

Caution must also be exhibited when judging the quality and working order of any date mechanism. Prior to this research it had been assumed by some that *Dutch forgery* type watches had, on occasion, mock date work in order to make the watch appear to be more complicated and valuable than a standard time-only watch and that this date work would never have functioned.[388] None of the watches examined in this study showed any signs of non-functioning date work, but we do see examples where previously running date work had been removed and even cut back. It is evident that the date work on these examples ran at some point in the history of the life of the watch by the

[388] Such as that of British Museum identification number 1958,1201.403.

concentric score marks caused by the calendar wheel running against the top plate. The study also includes an example that went as far as to cut back the original post holding the said wheel to allow the fitting of a lower enamel dial. As all examples examined with date apertures were champlevé, we can assume the alteration was made specifically to allow the fitting of a later enamel dial. Again this might be the result of changing fashions. However, a low-grade watchmaker faced with a poor quality watch whose date work had worn to such an extent it was interfering with the running of the watch might well have suggested to the client that they remove the date work and keep the watch as a time-only piece, as is the case with less qualified watchmakers today.

Remaining secrets hidden within these dials include a champlevé example signed Constan, London, beneath which is scratched the name *London*. We can safely presume an engraver in London exclusively finishing dials for local watchmakers would not need reminding of their current location. This hidden prompt implies that whoever this engraver was, they were clearly completing work for several different watchmakers or merchants from a number of different locations. There is also evidence of this in the contemporary literature. In his interview for the *Petitions of the Watchmakers of Coventry, 1817*, watch and clock dial enameller Richard London-Symes discusses manufacturing dials for two merchants residing in Rotterdam by the names of Daniel David Leo and Davies, the one a Dutch national the other English. The interview runs as follows:

> Do you understand that those dials were to be exported? – Yes
>
> Without being made up into watches? – Yes
>
> Is it lawful to export dials? – I believe not; I have never exported any; I sell them to the merchants who do; I believe it to be a very common thing.
>
> Do you know that the Dutch or any other foreigners procure any other articles in the watch trade? – Yes, I know that they do buy dials, and also watch hands, and I believe raw movements; I have heard that; Every thing but watch-cases.

> They do not purchase watch-cases? – No; I believe they do not.
>
> For what reason? – They have watch-case makers I presume there, who can make them, and they can produce the metal cheaper.
>
> . . . .
>
> Of what description were they? [speaking of the dials] – Dutch arch-dials, with minute figures all round; I sold them one gross of Dutch-arch dials at six and sixpence and seven shillings . . . .

The questioning continues later:

> Did you understand that these Dutch Jews intended to have the articles made up into watches, and then smuggle them into this country, and dispose of them as British manufacture? – I do not know precisely what was their object; I do not think it at all unlikely that they might.[389]

It is insights like these that further muddy the water in the defining of the phenomenon of *Dutch forgeries*, as it is clear that London makers themselves were involved on some level with producing component parts for export to the Continent which might well have ended up in these so-called forgeries and this evidence is supported by the watches themselves. The following images illustrate the English and Dutch styles of minute track on both the earlier champlevé and later enamel dials, along with an example of a watch signed Wilter, a name associated with forgery and yet in this case, on the dial of a watch which in every sense conforms to the design and quality standards of an English watch.

[389] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 55.

Figure 83: the champlevé dial of an English watch by John Shaw of Holborn, London; with English-style round minute track.[390]

Figure 84: the champlevé dial of a *Dutch forgery* signed Wilter, London; with Dutch-style arcaded minute track.[391]

Figure 85: the champlevé dial of a Dutch watch by Bernard Van der Cloese of Hague, Holland; with Dutch-style arcaded minute track.[392]

[390] British Museum identification number 1958,1201.491. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[391] British Museum identification number 1958,1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[392] British Museum identification number 1958,1201.427. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Figure 86: an English enamel dial by a watch made to commission for the Continental market, signed Wilter, London; with English-style round minute track.[393]

Figure 87: an enamel dial belonging to a *Dutch forgery* signed Potter, London; with Dutch-style arcaded minute track.[394]

[393] British Museum identification number 1958,1201.390. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[394] British Museum identification number 1958,1201.137. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

5.2 The dials of *Dutch forgeries*

This research questions the originality of each dial examined within the case studies by examining the layout of the feet securing the dial to the dial plate, and the dial plate to the movement looking for anomalies which might indicate a later replacement. Researchers have suggested that some of these watches were of such poor quality that they were manufactured with false date apertures, designed to make the watch appear as although it is more complicated and consequently more expensive than it really is, although this complication would never have functioned even when the watch was new.[395] This analysis also, therefore, sets out to determine whether this suggestion has any grounding and whether any of these watches were manufactured with false date work or the victims of later poor repairs.

The art of dial making was historically regarded as separate from that of watchmaking, with the eighteenth-century watchmaker outsourcing the production of dials to an engraver and chaser, and later enameller. While dial makers were more commonly commissioned by local craftsmen, as the century progressed there are records of merchants ordering quantities of dials to be paired with watches of unknown origin, possibly for exporting to other markets.[396] There was a degree of uncertainty amongst London dial makers regarding the legality of merchants exporting their dials without being made up into watches, although by the end of the wars with France in 1815 the economy for watches in Britain was so poor that a potential brush with the law did not act as a deterrent to craftsmen in London receiving spurious commissions from European merchants. The legality of exporting components of objects made in Britain to Europe was very much a grey area at

[395] For example, British Museum identification number 1958,1201.610.
[396] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 55.

the time, with the sourcing of articles for watchmaking by merchants in Britain and particularly London believed by some makers in the day to be a "very common thing".[397]

The watch dials examined by this research fall into two categories, the earlier champlevé popular during the first half of the eighteenth century, and the later enamel popular thereafter. Out of those two categories there are examples which are original, replacement or modified, and two styles - one being the round minute track typical in English work and the other being the arcaded type more common in Dutch and Continental work.

The first example examined in the case studies is signed with the name of a known Dutch watch and clockmaker - William Gibb of Rotterdam.[398] The silver champlevé dial has been determined by this research as original, identified by the placement of the dial feet and drilling of the dial plate. Constructed from three pieces, the central signature panel is pierced and engraved to reveal a thin steel shim. The dial has been modified as it has the capacity to feature a date aperture, only the window in the shim had been rotated to be hidden beneath the signature scroll and the window in the pierced centre panel is vacant. The arcaded minute track is typical of the Dutch style commonly used on clocks made during the same period. Inspection of the back plate indicates that this watch was never set up with date work, and the modifications to exclude it were made at the time of manufacture.

[397] Ibid, p. 54.
[398] British Museum identification number 1958,1201.772.

Figure 88: three part set-up of a champlevé dial signed Gibb, belonging to a watch proclaiming to have been made in Rotterdam but likely to have been made in the same manufactories on the Swiss/French border as *Dutch forgeries.*[399]

[399] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The Gibb watch demonstrates the typical aesthetics of a Dutch-style watch, which illustrates how the next example signed by God[fry] Poy, London[400] shares a striking number of similarities. The silver champlevé dial has been determined by this research as original, identified by the placement of the dial feet and drilling of the dial plate, and also the alignment of the calendar work. Constructed from three pieces, the central signature panel is pierced and engraved to reveal a thin steel shim. This technique would have been very unusual in English work where champlevé dials were most commonly executed in solid silver or gold. The use of piercing and a steel shim would have acted to reduce the precious metal weight and subsequently the cost of manufacturing the dial, although this might simply have been for decoration. The arcaded minute track is again typical of the Dutch style commonly used on clocks made during the same period and has not been recorded as having ever been used by a known English watchmaker working in London. The date work for this watch was present and would have functioned.

Figure 89: three part set-up of a champlevé dial signed Godfrey Poy, London with Dutch-style arcaded minute track.[401]

[400] British Museum identification number 1958,1201.549.
[401] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

One of the objectives of this research was to establish the validity to the claim that some *Dutch forgery* type watches were created with such fraudulent intentions that the date aperture was nothing more than a deception to increase the value of the watch and did not, nor ever would, have worked. The example signed Samuel Weldon, London was one such example with redundant date work.[402] The silver champlevé dial has been determined by this research as original, identified by the placement of the dial feet and drilling of the dial plate, and also the alignment of the calendar work. This research has determined that the calendar work has been removed so the aperture is no longer functional. However, the score marks indicate it was present and running at some point. The most likely explanation is that one or more of the date wheels was damaged or worn which ultimately would have stopped the train running. Removing the date work would have been the most economically viable repair. Heavy handed repair work throughout the movement, (for example, the haphazard deep stake marks around the upper brass bearing for the fusee arbor) demonstrate this watch has been subject to poor quality repairs by a low-skilled watchmaker. Removing the date work as a solution to repair would not normally be considered an option by a skilled watchmaker or a watchmaker holding their reputation in high regard. As in the previous example by Poy, this watch has an arcaded minute track which is typical of the Dutch style like that of the Gibb watch.

Figure 90: the champlevé dial and set-up of a watch signed Samuel Weldon, London, with Dutch-style arcaded minute track.[403]

[402] British Museum identification number 1958,1201.403.
[403] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

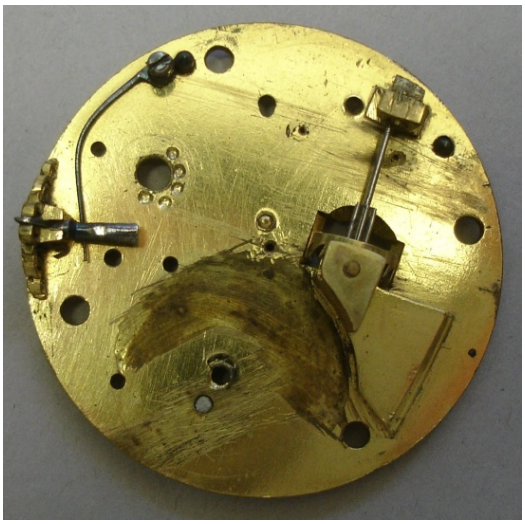


Figure 91: the underside of the top plate of a watch signed Samuel Weldon, London, showing signs of heavy-handed low-quality repair including stake marks to close the bushing of the barrel arbor and similar surrounding centre wheel bearing.[404]

Another example of a champlevé dial watch identified by this research as a *Dutch forgery* signed Wiet, London, was fitted with comparatively high-quality date work.[405] On most of the examples examined by this research, all of the date wheels were fitted to the movement by slotting onto pillars, or had extended arbors which would sit on the back plate. The date final jumper wheel of this example was secured by a screw which would have acted to prevent the train from riding up on its pillars or arbors, improving the reliability and durability of the watch. While these kinds of consideration were commonplace in English work, they are less frequently seen in European work and particularly the types of watches associated with forgery. What is also interesting is that the intact date work in this example bears a striking resemblance to the traces of date work left in the Godfrey Poy watch. Although there are not enough similarities to suggest the dials and date work were crafted by the same hand, it does imply that the Poy example also had a good standard of functioning date work. The silver champlevé dial with Dutch-style arcaded minute track has been determined by this research as original, identified by the placement of the dial feet and drilling of the dial plate, and also the alignment of the calendar work. Constructed from three pieces, the

[404] British Museum identification number 1958,1201.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[405] British Museum number identification 1958,1201.1637.

central signature panel has again been pierced and engraved to reveal a thin blued steel shim which is not only an unusual feature in English work but also in watchmaking across Europe where champlevé dials were most commonly executed in solid silver or gold.

Figure 92: images of the champlevé dial and date set-up of a watch signed Wiet, London; with Dutch-style arcaded minute track.[406]

[406] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

There are a rare few examples of champlevé dials using a similar construction incorporating a blue steel shim as a decorative feature, seventeen of which feature in Peeters' *Hollandse Horloges*, and they are all by Dutch makers.[407] Not only are they Dutch but, they typically originate from an earlier date than the *Dutch forgeries* and appear on watches dated between 1700 and 1770.[408] A number of watches listed in *Hollandse Horloges* show later modifications including replacement dials, meaning there might be more examples than apparent which were originally created with this type of dial. In terms of stylistic analysis, there is a high degree of similarity between many of these watch dials which would suggest that was the favoured technique at one specific dial manufactory working in that era. A further example is located at the Museum of London on a watch signed Debaufre, London.[409]

There is another example with a similar champlevé dial with date aperture and three-part construction that is signed John Wilter, London.[410] Again, the dial has Dutch-style arcaded minutes and pierced central panel revealing a piece of blued steel shim. This dial has the added decoration of rose gilt point markers dividing the Roman numeral hours. Interestingly, this watch is complete with its original plain pair case which generally became more popular after champlevé dials fell out of fashion. Although there is some crossover, the evidence implies that this watch might have been created towards the last quarter of the eighteenth century in a style that was already out of date.

[407] PEETERS, C. (2012).
[408] Ibid. On watches by Adam Oosterwijck of Amsterdam, circa 1700, p. 110; two watches by Paulus Bramer of Amsterdam, circa 1710 and 1730, pp. 132 and 204; Jacobus de Putter of Amsterdam, circa 1720, p. 145; Pierre Morin of Amsterdam, circa 1720, p. 168; possibly a gold watch by Steven Hoogendijk of Rotterdam, circa 1724, p. 172; in a gold watch by Clarke en Dunster of Amsterdam, 1725, p. 180; two examples by Hendrik van Voorst of De Rijp, circa 1730, pp. 186 and 190; Thomas Loor of Amsterdam, circa 1730, p. 192; Hermanus Reijnders of Arnhem, circa 1740, p. 240; Abraham Klaarenbeek of Haarlem, circa 1740, p. 264; Andries Vermeulen of Amsterdam, circa 1740, p. 248; Jean Tallans of Delft, circa 1740, p.250; Jan Berninck of Amsterdam, circa 1750, p. 267; Wolff Burqui of Middelburg, circa 1750, p. 270 and P. Mougon of Gouda, circa 1770, p. 287. Source ibid. N.B. The shim on some of these watches is missing or occasionally without bluing, although the centres of the dials have been pierced through to reveal the grey steel or gilt movement below. As the types of steel being used were liable to rust, it is likely that the original shim has disintegrated or required refinishing over time.
[409] Museum of London catalogue number 34,181/64.
[410] British Museum identification number 1958,1201.383.

This is a known phenomenon with other examples of forgery, particularly on the Continent where the fashion set in London took longer to influence design and manufacturing abroad.

Figure 93: the champlevé dial with date of a watch signed Wilter, London; with Dutch-style arcaded minute track.[411]

As the ornate Rococo style began to fall out of favour in England in the 1770s, the champlevé dial became increasingly displaced by the clean white enamel style by which it was succeeded. Enamel dials, which begin to emerge in English watchmaking in the mid-eighteenth century, would have their numerals painted and fired on using the same popular styles as the earlier champlevé. So, there is a recurrence of the round minute tracks in English work and arcaded on the Continent. As cutting enamel was tricky and there would have been a high risk of chipping and cracking, so the date aperture became more frequently replaced by a central date indicator hand which extended to

[411] British Museum identification number 1958,1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

a track numbered through 1 to 31 painted and fired on the dial. This technical advance was developed to negate the issue of drilling or cutting enamel and would have posed a problem to watchmakers of the late eighteenth century when replacing the out-of-date champlevé for the contemporary enamel dial. In order to maintain functioning date work they would have had to locate and drill the replacement dial with a high level of accuracy to create a new aperture. Throughout the case study analysis of the sample group at the British Museum, there were numerous examples showing later replaced enamel dials which showed varying levels of modification to allow for dial alteration.

British Museum watch reference OA.403 by John Bolt, London, is an example of a watch having its dial replaced on at least one and possibly two occasions. The dial currently with the watch is unsigned and badly damaged. The dial plate is riddled with holes and has been finished to a very poor standard. There are painted black markings beneath the dial. However, the latest dial replacement has been fitted so poorly that rather than using taper pins to hold it in situ and allow for its removal and cleaning in service. The feet have been bent over permanently securing the two pieces together. As the enamel is badly chipped and unstable and the feet have been bent in place, and would require cutting or manipulating to manoeuvre them into a position that would allow removal, for conservation purposes the decision was made not to risk separating the dial from its plate. Still, as the dial is not original to the watch the marks would offer little indication about the origin of the watch.

Adding to the signs of numerous repairs over the centuries, a circular recess cut under the dial plate combined with what appears to be a snipped pillar which would have extended from the bottom plate implies that this movement might have been designed to carry date work. What is of note is that, the lack of concentric score marks around the cut pillar imply that this watch never functioned

with date work. So, the modification was, in all probability, made at the point of the first assembly rather than poor repair work at a later date.

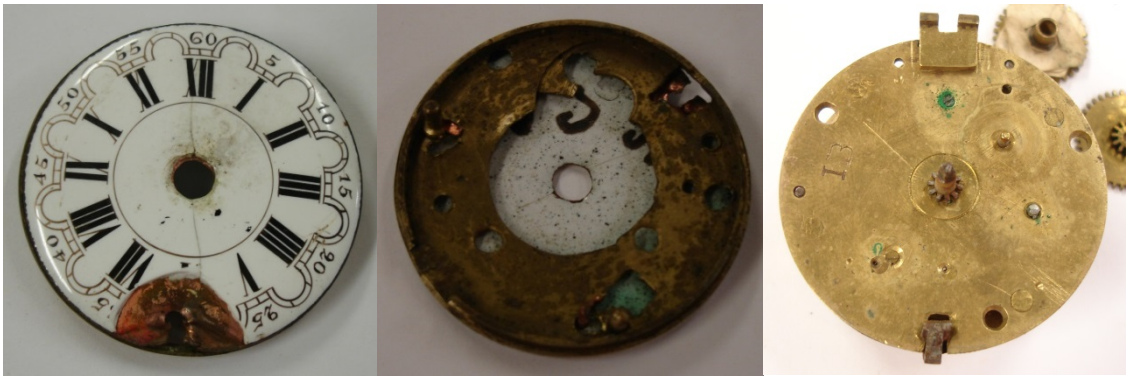


Figure 94: images of the enamel dial and dial plate, cut for date work on a watch signed J. Bolt, London, with Dutch-style arcaded minute track.[412]

Another example of dial replacement and date work modification can be found in a watch signed Tarts, London.[413] The unsigned white enamel dial is not original and the back plate has been milled to allow for date work and re-drilled to allow for the new foot placement of the later enamel replacement. The arcaded minute track is typical of the Dutch style commonly used on clocks made during the same period and has not been recorded as having ever been used by a known English watchmaker working in London. The underside of the dial has a red painted ink marking of 14 $^{3}/_{4}$ which is likely a reference to the size.

[412] British Museum identification number OA.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[413] British Museum identification number OA.455.

Figure 95: images an enamel dial on a watch signed Tarts, London, with Dutch-style arcaded minute track.[414]

Figure 96: the dial plate of a watch signed Tarts, London, cut and prepared for date work for the earlier original, most likely champlevé, dial.[415]

Beneath the dial concentric score marks on the back plate implies that this watch was once fitted with functioning date work which was later removed. It is probable that this watch would have originally had a champlevé dial similar to 1958.1201,772 or 1958,1201.1637. There are two possible reasons for the modification. The first is that the date work wore or became damaged to a point it was no longer functional and its removal was the most economically viable option (note it would have been repairable however the cost would have been greater). The old champlevé dial would

[414] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[415] British Museum identification number OA.455. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

have had a useless date aperture and was subsequently replaced. Reason two is the change in fashion. It was not unknown for people to voluntarily have the dial of their watch changed to keep up with the changing fashion from champlevé to enamel dials towards the end of the eighteenth century.

The two late eighteenth-century watches signed Chandler & Son, London, held in the collection at the British Museum share a striking number of similarities with their unusual painted enamel dials being the most obvious visual external example.[416] The white enamel dials of both watches are signed and appear to be original and again feature arcaded minute tracks which would be highly unusual for a legitimate English watch. Both dials are bordered with a scene of a courting couple, neither of whom appears to be wearing clothing which would be typical of the late eighteenth-century English style. Slight variations in the colour and position of the figures indicate that the scene is likely to be hand-painted or at least finished by hand rather than a print production. Transfer printing had been available in the production of ceramics and enamels since the mid-eighteenth century and would have been a cheaper method of manufacture. However, it is rarely seen in watch dials from this time.[417] While hand-painting would have been a more time-consuming and skilled process, the standard of execution is quite poor in contrast to finely painted enamel work in watches.

[416]British Museum identification numbers 1958,1201.815 and 1958,1201.33 respectively.

[417] Pioneered in the 1750s, notably by engraver John Brooks who petitioned for a patent for “printing, impressing, and reversing upon enamel and china from engraved, etched and mezzotinted plates and from cuttings on wood and mettle...” in 1751. By 1756, Brooks successfully patented a technique which in six hours could "print upwards of Twelve hundred Earthen Ware Tiles of different patterns ". At a similar time, by the mid-1770s the Worcester Porcelain Factory had perfected the art of printing transfers onto porcelain. Accessed online http://printedbritishpotteryandporcelain.com/when-was-it-made/earliest-transfer-printing-england-birmingham-battersea [viewed 21.06.2016].

Figure 97: images of two enamel watch dials, both signed Chandler & Son, London with Dutch-style arcaded dials, judged by this research to have been painted by the same hand.[418]

The following watch in the British Museum collection with case by London maker, John Leroux, demonstrates the level of skilled London enamel painting available in the late-eighteenth and early-nineteenth centuries, an art which would have been practised by a relatively small number of people.[419]

Figure 98: an English painted enamel watch by John Leroux, London, made 1777-8.[420]

[418] British Museum identification numbers 1958,1201.815 and 1958,1201.33 respectively. Photos ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[419] THOMPSON, D. *Watches*. London; British Museum Press, 2009, p. 88-89. Image ©British Museum.
[420] British Museum identification number 1979,0101.1.

A survey of the remaining examples of watches in the collection of the British Museum executed in the *Dutch-forgery* style found another example with a painted dial signed by May, London.[421] The painted white enamel dial is also signed and appears to be original. Again, is has a Dutch-style arcaded minute track which is surrounded by a scene of a courting couple, although this pair are in a different setting with the male character apparently depicted as a sailor leaving for sea with a ship moored in the distance. As with the examples signed Chandler & Son, the couple do not appear to be wearing clothing which would be typical of the English style of the time when the watch was produced (which in this case was the late eighteenth-century) and the flag on the ship is fictional. The style of execution, the attire of the female figure, the flock of birds and the numeric style all bear striking resemblance to examples signed Chandler & Son, and consequently, there is a high likelihood that all three dials were made by the same dial maker.

Figure 99: images of three dials signed Chandler & Son, London, and May, London, all with Dutch-style arcaded minute tracks and all judged by this study to be by the same hand.[422]

Further to these three examples found in the collection of the British Museum, this research has identified a further example which also appears to be by the same dial maker, signed Samson, London, and numbered 24,559. Although the scene is within the minute track rather than bordering it, the position of the male character is virtually identical to both Chandler & Son watches, as is his

[421] British Museum identification number 1958,1201.642.
[422] British Museum identification numbers 1958,1201.815; 1958,1201.642 and 1958,1201.33 respectively. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

costume, with the variation that the Chandler & Son watches feature a man wearing a blue jacket and red waistcoat, whereas the man on the Samson dial wears a red jacket and blue waistcoat. The bonnets of all female characters are very similar. Also, both the Chandler & Son and Samson dials have the same strange feature at the lower centre of the artwork (which might be a poor representation of a tree stump). As for the text, all signatures appear in the same capitalised format and the same layout. Additionally, the outer repoussé case of the Samson watch appears to be the same as 1958.1201,642 and also the second May watch analysed within this research, 1958.1201,643.

Figure 100; a further example of a painted enamel dial on a watch signed Samson, London: also with Dutch-style arcaded minutes and apparently finished by the same hand as the Chandler and May watches.[423]

As the dial of 1958.1201,643 has been identified as not original, there is a high chance that the original dial was in painted enamel as these similar examples show. For the first time, this research has demonstrated a proven link between watches made by Chandler & Son, May and Samson by their dial makers. As a result of the sheer quantity of these watches being manufactured in the latter

[423] Pieces of Time catalogue entry, *Silver Gilt Repousse Verge with Painted Dial, ref. A9024*, accessed online http://www.antique-watch.com/product-20-w1421.html [viewed 06/01/2016].

half of the eighteenth and early-nineteenth centuries, and their relatively poor survival rate, to find a batch of examples which share makers would imply that a relatively small number of manufactories are accountable for a high proportion of the *Dutch forgery* watches which were made.

Most dials associated with *Dutch forgery* watches were not painted. Indeed, many do not even bear a signature which would have been unusual for high-grade work from any watchmaker in Europe. As the dial represents the most visually apparent means by which to make known the maker's name and effectively brand the watch; to not sign the dial meant the only way to identify the watchmaker would be to open the watch and look for a signature on the concealed movement. While at the start of the eighteenth century, owning a piece by one of Europe's famous watchmakers was one of the ultimate representations of power, wealth and status, by the era being examined by this research it would appear that the symbolism of the watch had been so diluted that its mere presence in a person's attire was sufficient. This could have been for several reasons. As the watch was becoming more accessible as a practical means of timekeeping, perhaps it was being viewed as more of a functional object than a designer accessory (although this would not explain the level of decoration seen on many of these watches). Famous watchmakers were the equivalent of celebrity designers in their day and would circulate in the same networks as their clients in the aristocracy. It is possible that as watches became more available further down the class system, the names of great makers held less relevance as they would have been unknown to many of the new merchant classes. Finally, it could be possible that the removal of signatures from dials, and even on occasion on the movements themselves, could be a symptom of the changing production methods employed by the new merchant watchmakers. Without a signature, any dial could be paired with any case or movement without any obvious sign to the untrained eye that the watch had not always existed in its current form. It also leaves a space so that retailers and even watchmakers themselves could buy in unsigned watches and 'christen' them under their own names.[424]

[424] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 11.

This research examined a timepiece bearing the signature of a known and well-recorded clockmaker by the name of John Clifton who was based in Liverpool.[425] Although Clifton signed all of his clock dials, the white enamel dial of this watch is unsigned and appears to be original with the two additional vacant holes which have been drilled in the dial plate apparently acting as clearance for the case spring screws. Unlike Clifton's known English work, the minute track is arcaded as stereotypical of both Dutch watches and watches executed in the Dutch style. Although the movement survives without its case, the dropped bridge is a design characteristic of a slightly later movement dating it to the turn of the nineteenth century.

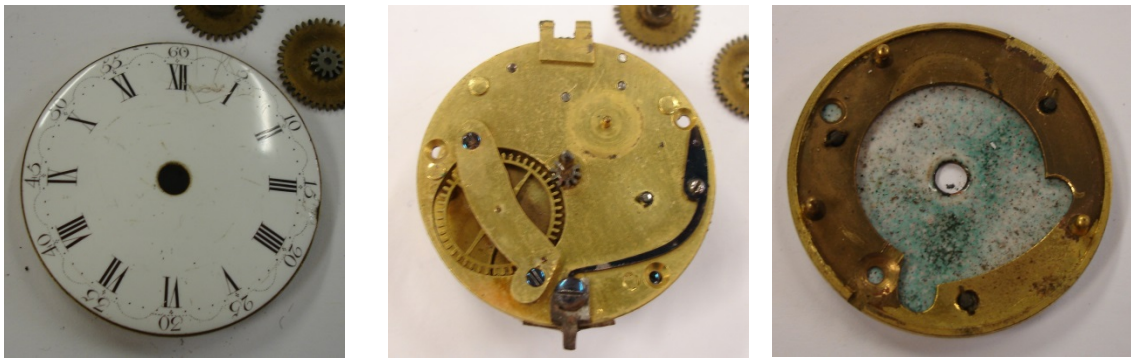


Figure 101: the enamel dial and motion work of a watch signed John Clifton, Liverpool, with Dutch-style arcaded minute track.[426]

It is, of course, possible that the real John Clifton was completely unaware of, or uninvolved, with the circulation of watches bearing his name. Trade directories were in common circulation across Europe at the time and it would not have taken much effort for a merchant on the Continent to find and copy a known English craftsman's name. Still, as a clockmaker based in one of England's busiest port cities, it is also possible that he was retailing cheap watches manufactured abroad under his own name as an additional source of revenue in what was fast becoming a very economically unstable period for the trade in luxury trade in Britain.

[425] British Museum identification number 1958,1201.34.
[426] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Another unsigned dial associated with a movement signed by a famous maker and examined by this research was an example whose movement is signed 'Duchene, London'.[427] Unlike Clifton, Louis Duchêne was a known maker based in Switzerland, manufacturing high and mid-quality watches in the late-eighteenth century.[428] Like Clifton, the known genuine surviving examples created in his workshop have signed dials which, more similar to the typical style of Britain, have round rather than arcaded minute tracks. It is not original as the dial plate has been re-drilled to allow for the placement of new feet. The replacement dial is arcaded in the Dutch style. This example is of a generally lower quality than other examples of watches made in Duchêne's manufactory which usually bear an open or circular minute track.[429] Additionally, many of Duchêne's watches were front winding, a technical advance which allowed for a new style of case, referred to as consular, making it possible to create slimmer watches. The watch at the British Museum is of the traditional pair cased back wound type. The underside of the dial has brown painted ink markings of I6 and ¾ which might be indications of the size.

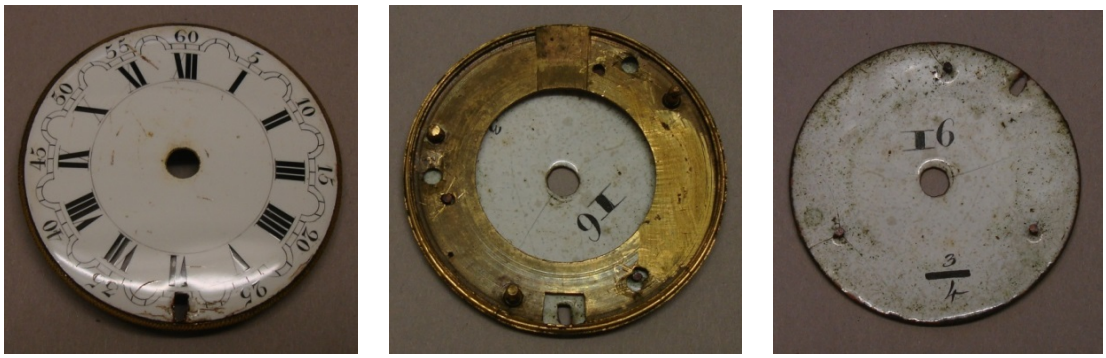


Figure 102: the dial of a watch signed Duchene, London.[430]

As Duchêne would have been working in proximity to the areas and manufactories associated with creating forgeries, it is unlikely that he would not have been aware of these watches being

[427] British Museum identification number 1889,0311.2. The name has been engraved without the circumflex accent over the first 'e', presumably to anglicise the name.
[428] The watch is signed 'Duchene, London' without the circumflex accent over the first 'e', however the known and well-recorded watchmaker wrote his name as 'Duchêne'. Presumably, this was neglected from the London signed watch in an attempt to anglicise the name.
[429] La Cote des Montres, catalogue entry referencing Antiquorum sale number 99, 16 November 1997, Lot number 45, *Duchêne & Compagnie, (Geneve), No. 16257, circa 1790*, accessed online http://www.lacotedesmontres.com/Enchere-No_25743.htm [viewed 19/12/2015].
[430] British Museum identification number 1889,0311.2.

produced. That this example ended up with the same type of dial as the forgeries, even as a later replacement, implies that this watch was circulating in the same market environment. Signing the watch Duchene, London, could have been an intelligent marketing strategy as employed in Germany at the time,[431] although the stylistic differences between this watch and genuine Duchêne examples strongly suggest they were not being made in the same manufactories. It is possible that Duchêne was commissioning watches "in the English style" for export.[432] This theory is supported by the presence of the same Dutch duty marks on its case as seen on many forgeries and the remnants of what might be forged hallmarks. As the Duchêne example demonstrates, even when a dial is not original, it can still give valuable information about the history of the watch.

An example with movement signed by Miller, London, sheds some light on the theories surrounding the functionality of date work on low-quality *Dutch*-type *forgeries*.[433] Although the unsigned white enamel dial is not original; the back plate shows evidence that it was milled to allow for date work before being re-drilled to allow for the new foot placement of the later enamel replacement which has no date display. The replacement dial is in the arcaded Dutch style, and the underside of the dial had a red painted ink marking which is now rubbed and indistinct.

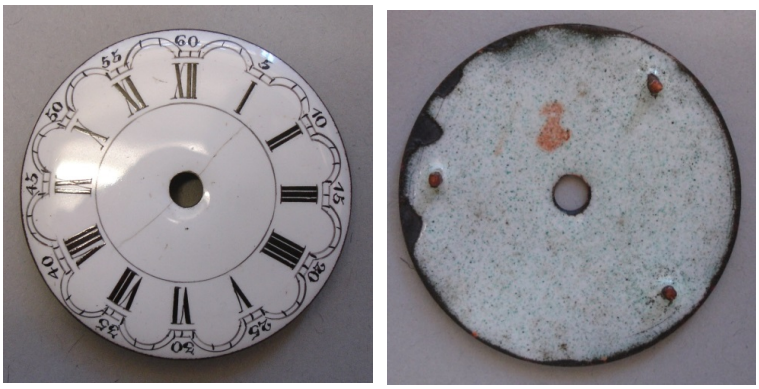


Figure 103: the front and reverse of an unsigned dial on a watch signed Miller, London, with Dutch-style arcaded minute track.[434]

[431] ARNOLD-BECKER, A. (2012).
[432] CHAPUIS, A & JAQUET, E. (1970).
[433] British Museum identification number 1958,1201.610.
[434] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Beneath the dial, concentric score marks on the back plate show this watch was once fitted with functioning date work which was later removed, similar to the earlier example OA.455.

Figure 104: the dial and bottom plate of a movement signed Miller, London, set up for date work, concentric score marks highlighted in first image show this was present and functioning when the watch was first created.[435]

As the fashion for watches moved towards creating slimmer timepieces, technical variations in the construction of the watch plates allowed for reductions in the height of the movement. One such advance was the removal of the dial plate altogether so that the dial engaged directly with the bottom plate of the movement. An example of this can be found in the British Museum within a watch signed Graham, London.[436] Although the cataloguing of this watch suggested that the watch was a fake, imitating the work of the celebrated, and by this time late, George Graham, the watch is merely signed Graham and does not attempt to copy his signature or bare any other resemblance to the work of George Graham. So it cannot be ruled out that there was another watchmaker or

[435] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[436] British Museum identification number 1958,1201.724.

merchant retailing watches under the surname Graham. If it was an attempt to imitate the work of George Graham, the dial is completely inaccurate as George Graham never used a white enamel dial with a Dutch-style arcaded minute track. The white enamel dial engages directly with the bottom plate and the position of the feet and corresponding holes strongly suggest that it is original. This style of dial mounting, along with the dropped bridge carrying the lower pivot of the third wheel, indicates that this watch is later in production than many *Dutch forgery* examples and dates to around 1800. The arcaded minute track is Dutch in style and the painting of the tracks, numerals and signatures have all been executed to a good standard. The back of the dial has been marked by hand in ink however the mark is indeterminable.

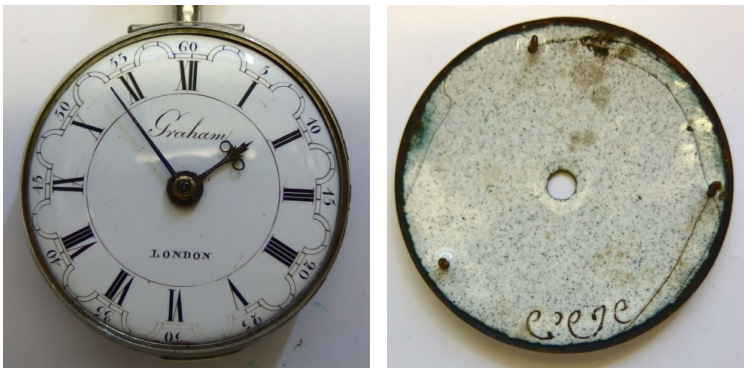


Figure 105: front and reverse of an enamel dial signed Graham, London, with Dutch-style arcaded minutes and maker's mark hidden on reverse.[437]

Yet another example of an unsigned dial was provided by a watch signed Tarts, London.[438] The dial itself bears a great deal of resemblance to the other unsigned examples. This demonstrates that without an apparent makers mark or signature these watches would have looked very similar to each other, which contrasts with the popular market amongst the upper classes in England for investing in the work of famous master craftsmen. The dial has been determined by this research as original, identified by the placement of the dial feet and drilling of the back plate, and the arcaded minute track is typical of the Dutch style. The underside of the dial had painted ink markings which

[437] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[438] British Museum identification number 1958,1201.473.

appear to have included the initial M but are now rubbed and indistinct. Beneath the dial there are concealed initials J.W. which have tarnished, implying these were a later addition by a repairer rather than a maker's mark. The scratched Roman number III is likely to represent the number of turns required to set up the mainspring when putting the watch back together after servicing and, again, is likely to be the work of a later repairer.

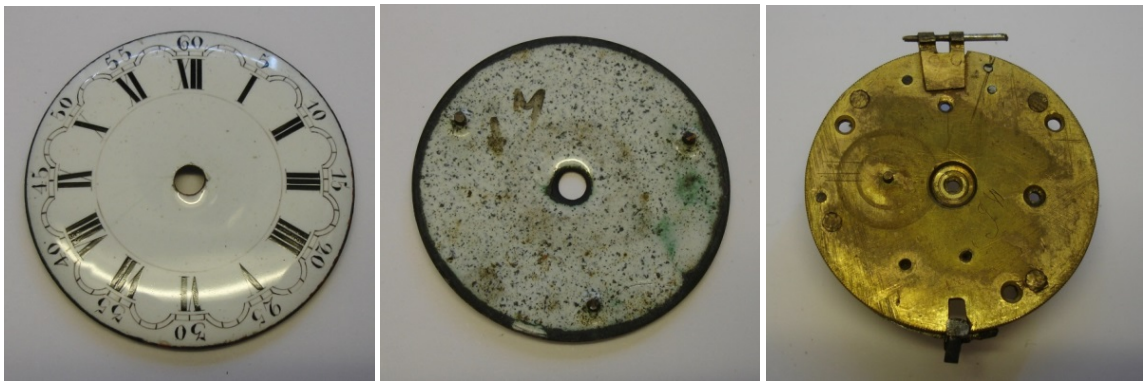


Figure 106: images of the dial and bottom plate of a watch signed Tarts, London, with Dutch-style arcaded minute track.[439]

The following example, signed Allen Walker, is unusual as most watch dials carry only the maker's surname and location rather than the maker's full name and no location.[440] While the signature would suggest the dial is original to the movement (which is also signed Allen Walker), the dial plate has been re-drilled leaving two unused holes. The lack of any marks around these holes indicates that they have never been used to secure a dial because the removal and replacement of the taper pins used to secure the feet results in scratches and requires filing a groove across the two edges of the hole. Consequently, this would indicate that the plate was drilled prior to the watch being built and in absence of the dial. This could have been a simple error on part of the finisher or an indicator that there was a lack of coordination between the dial maker and watch maker. The arcaded minute track is typical of both Dutch watches and watches executed in the Dutch style.

[439] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[440] British Museum identification number 1958,1201.305.

Figure 107: images of the dial and bottom plate of a watch signed Allen Walker, for the English market, with Dutch-style arcaded minute track.[441]

Not all watches associated with *Dutch forgeries* display the typical aesthetic design characteristic of a Continental arcaded dial. Some dials, together with their movements and cases are strikingly English in their design and construction, fueling the speculation of English watchmakers having some involvement in the trade of these forgeries.

Supporting the statement made in the *Petitions of the Watchmakers of Coventry* that John Wilter was a pseudonym under which an English maker was initially employed before manufacturing was moved abroad,[442] this example appears to have been made in England.[443] This watch, along with examples such as Wilter 1958,1201.383, would appear to confirm that theory. As established, enamel dials became the popular style in England, replacing champlevé by the third quarter of the eighteenth century. If the watchmaker producing Wilter watches could be identified with certainty from the hallmarks as working in London in 1783, that would suggest champlevé dial examples like 1958,1201.383 created after production had moved to the Continent were manufactured after the style had fallen out of fashion.

[441] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[442] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 67.
[443] British Museum identification number 1958,1201.387. Reference Appendix No 1.10 - 1958,1201.387.

The enamel dial appears to be original to the watch. However, the dial plate has two additional holes presumably drilled to allow the positioning of feet from a different dial. These do not appear to have been used at any time as there are no marks to indicate the fitting and removal of taper pins which are used to secure the feet. The dial is typically English in style and is as expected for the popular fashion in 1780s England.

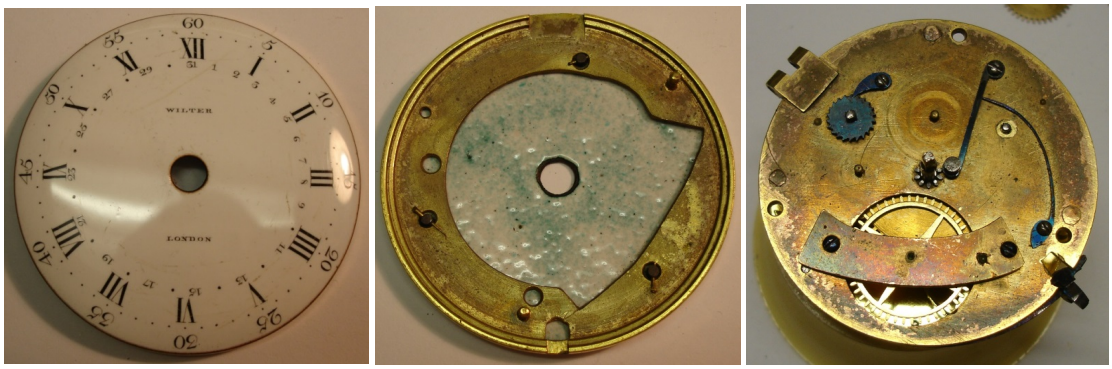


Figure 108: images of the enamel dial and bottom plate of an English watch signed Wilter, London; with English-style round minute track.[444]

Another example signed Thomas Nadroy, London, has an equally English-style dial which is unsigned and appears to be original.[445] On superficial inspection there is nothing about the style of the movement that would indicate that the watch was not of English manufacture. The back plate is stamped with the maker's mark IB which also appears on watches 1958,1201.498 and OA.403 that are signed by Samson, London, and J. Bolt, London, respectively. Although OA.403 is missing its case, the inner case of 1958,1201.498 also has apparently genuine London hallmarks belonging to case maker Thomas Carpenter. However, the date letter is too rubbed to be distinguished. Additionally, the name 'Samson' is commonly associated with *Dutch forgery* watches with no evidence of a

[444] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[445] British Museum identification number 1961,1102.4.

watchmaker working under that name in London at that time. The online record for the watch by J. Bolt describes it as a "Geneva forgery - the name most likely to be fictitious."[446]

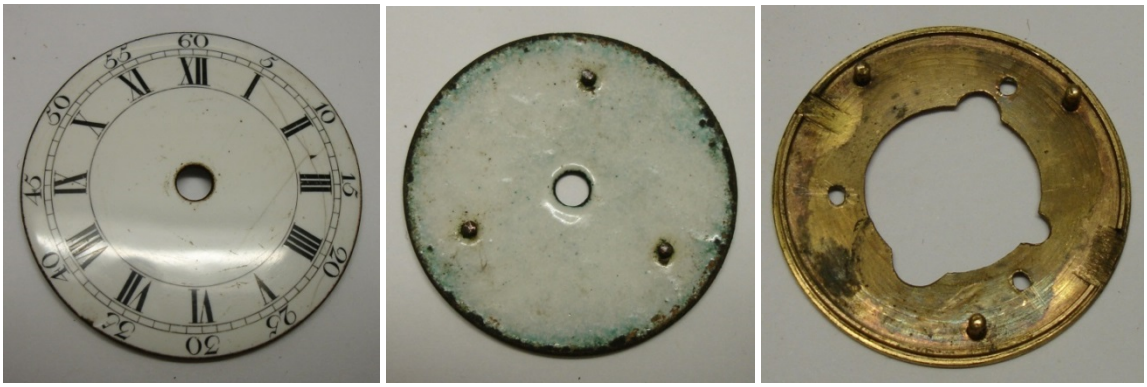


Figure 109: images of the enamel dial and bottom plate of a *Dutch forgery* signed Nadroy, London, with English-style round minute track.[447]

The dials of these watches paint an integral part of the picture telling us more about where these watches were made, how they were manufactured and the role these watches played in eighteenth-century society. The frequency with which they were upgraded and modified demonstrates that the watch was shifting away from being a highly coveted and valuable status symbol of the upper classes and was instead, becoming an accessory to a new type of wealth motivated more by fashion than famous makers' names. That some of them have had their date work removed suggests that the advanced technical complication meant less to the owner than how fashionable the watch was and how it would be perceived by the social group of the owner.

[446] British Museum, Collections Online, *Movement and dial of a verge watch*, http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=51894&partId=1&searchText=OA.403&page=1 [viewed 24/12/2015].
[447] British Museum identification number 1961,1102.4. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

5.3 The eighteenth-century watch case

As with any work of craft, the making of a watch takes a considerable amount of skill and many years of training. A traditional watchmaking apprenticeship was seven years, followed by a three-year journeymanship with many watchmakers continuing to work alongside their masters after completing their training. Any object which has required significant human effort to create becomes authored and will exhibit some degree of unique personalisation both in the subtleties of the finishing and the obvious fingerprints of the craftsman (such as signatures and maker's marks). With a trained eye, these marks can be read like a text. For too long the watch has been viewed by researchers as a scientific object, void of emotion or a personal identity. During the infancy of *établissage* even machine-made movements still required a great degree of hand finishing so while the finished article was ultimately a scientific instrument, it was human-made and subject to the same personal interaction as any other work of art or design.

Horological research of this nature has its challenges, as ultimately it takes the eye and skills of a trained watchmaker to identify the purpose and significance of the plethora of marks concealed within any handmade movement. The components must be stripped down, examined and reassembled. Many different craftsmen taking part in the production of a single watch; around thirty individuals were involved in the process by the end of the eighteenth century[448] who encompassed around 120 different skill sets, and makers' marks can be concealed throughout the entirety of the movement both inside and out. [449] Additionally, further information on the history of the watch can be ascertained by studying the later repair work and wear marks within the movement. The quality of the repairs gives us an insight into the wealth of the owner as it can indicate whether they were entrusting the service of their watch with a high-grade restorer or a lesser repairer. The degree of

[448] CHAPUIS, A & JAQUET, E. (1970). pps. 80-82.
[449] *Report from the Select Committee Appointed to Consider the Laws Relating to Watchmakers.* Ordered by the House of Commons, 18 March 1818, p. 4.

wear will also provide information on the regularity of wear and, consequently, another window into the world of its owner. If a person is in possession of a large collection of watches, the wear on an individual piece would be far less than that on a single watch used continuously by someone else. By the eighteenth century, the watch was becoming a more attainable symbol of status and wealth and consequently became subject to the same changes in fashion and trends as influenced the rest of design in Europe. We can assume an affluent watch buyer and such as a member of the aristocracy or gentry would have simply purchased a new watch once a new technical advance had been made, (for instance, the shift from gut line to chain fusees in the first quarter of the eighteenth century or a change in the fashion, say, from the Rococo influence in silver or gold chased and engraved champlevé dial to the minimal and restrained enamel dial which became popular in the century's last quarter). Instead, we see many watches of this period showing signs of modification and adaptation. Old gut line fusee barrels are re-cut to take chain and dial plates are re-drilled to take new enamel dials. The watch was being modified and upcycled rather than replaced which is an indicator of a frugal approach to collecting an object which had previously been little more than a toy accessible only to the most elite classes.

Many of the watches we can identify as being of the *Dutch forgery* type show extreme levels of wear, replacement dials and even cases (the replacement of a case would only normally be necessary if the original suffered extreme wear or damage, or had been scrapped at some time for money). Consequently, we as researchers must display a little more caution when judging the skill of the craftsman who created the original piece. It has been suggested that these cases were cast rather than stamped as a method of cost saving.[450] However, physical evidence remains that proves that at least some of them were being struck using the same technique as the fine English case

[450] THOMPSON, D. (2009) p. 80.

makers of the time.[451] Additionally, the high degree of wear that many watches of this type are subjected to can result in repairs further down the line. Each case must be assessed and studied in order to separate the work of the original craftsman from what might be a less than sympathetic repair. This following research demonstrated one such example by the notable medallist and watch case maker Daniel Cochin, one of the better-recorded individuals associated with *Dutch forgeries*. We know Cochin started his career as an engraver in Geneva in 1732, worked in Paris for a time in the 1740s, returned to Geneva and worked there again before his death in 1770. His name is associated with producing commissioned work for export to the Netherlands and he is also listed in Forrer's *Biographical Dictionary* as a medallist and engraver of Geneva (his signature is found on a medal of 1768) who worked for a time in Vitry, Champagne. [452] Engraving and medal making are very much associated skills to case making so, the interdisciplinary transition would have been a fairly natural one.

This research has identified seven examples of Cochin's *Abduction of Helen*, six of which are in their original watch-case form, one having been converted to a later consular watch case probably at some point in the first half of the nineteenth century. The last, in 18ct gold, appears in the lid of an Italian-attributed stone box. All seven examples are identical and in various states of wear, illustrating the detail of the original, the wear they are subjected to as a watch and also the poorly carved restoration to the raised rubbed detail which has, on occasion, been incorrectly viewed as evidence of poor case making rather than a poor restoration job further down the line. Additionally, in the examination of the two of these watches which are publicly available at the British Museum, no porosity or staining was found which would suggest these cases were cast rather than stamped.

[451] Two negative moulds at the Ashmolean depicting Aeneas and the Cumaean Sibyl which were used to manufacture a case associated with a *Dutch forgery* type watch by fictitious maker J. May, London. Reference EDGECUMBE, R. (2000) figures 4a,b & c.

[452] FORRER, L. *Biographical Dictionary of Medallists, Coin-, Gem-, and Seal-Engravers, Mint-Masters, &c. Ancient and Modern with Reference to Their Works. B.C. 500 – A.D. 1900.* 1904. Reprint by A.H. Baldwin & Sons Ltd, London. & Supplement published 1923, reprint by A.H. Baldwin & Sons Ltd.

Repoussé cases were exempt from hallmarking legislation as the fine detail on the chasing would have been damaged by the striking of marks. Still, of the 37 cases examined at the British museum 17 of them carried European import marks predominantly denoting imported small silver work into the Netherlands. It was the plain inner cases that should have been marked by UK law. However, many of the examples we see of the *Dutch forgery* type either display no marks at all or sponsors marks not associated with any of the UK assay offices. A number of these bore European duty marks. With close inspection, these cases again reveal a little of their history to us through the marks they bear. Of particular interest are examples such as 1958,1201.724.[453] Under magnification, a pattern emerges showing the sequence in which the watch was hallmarked. These marks were scratched out, leaving them virtually impossible to identify (although we can be certain they are not British), before being drilled to allow for winding and stamped again with the second set of initials.

Drilling the case after marking indicated that the watch and movement certainly did not start life together, unlike the British system of manufacture where watchmaker and case maker would work with one another. Additionally, the initial set of marks which were later scratched out implies this case needed to prove its content at a point of sale prior to it being a complete watch as there would be no other reason to mark before drilling the winding hole. The final sponsor's type mark tells us the person retailing the watch and the person who made the watch were two different individuals. This sequence of marks, erasing of marks, remarking and fitting would appear to show that this case was manufactured and marked to be sold as an unfinished, unfitted case to a merchant who wanted the purity of the metal guaranteed. This merchant would then have had the marks erased before drilling the back to fit a movement, then marked it with the new initials FB. Marking the case before fitting the movement would have been a very unusual move for anyone working closely with their case maker as it could have resulted in the partial obliteration of a mark and, yet, it is not an

[453] Reference Appendix No. 1.17 - 1958,1201.724.

uncommon sight on watches of the *Dutch forgery* type. 1958,1201.643 shows apparent London hallmarks from 1788 which have been drilled through.

Prior to the early manufacturing revolution in watchmaking, movements would vary so greatly in their proportions and layout that it would have been virtually impossible to manufacture cases in one area in bulk to fit a large proportion of movements made in another. We do, however, see a degree of movement standardisation introduced in Switzerland and the Franche-Comté in the second half of the eighteenth century which would have given a degree of consistency in the dimensions required for the cases. This technique was not mastered until well into the nineteenth century by manufacturers in the United States who perfected the art of mass consistent machine manufacture, meaning American companies like Waltham and Elgin were able to source watch cases from the likes of Dennison in Birmingham, England, capable of starting life thousands of miles apart and yet fitting together as though they had been produced in the same factory.

5.4 The cases of *Dutch forgeries*

Watch cases serve a dual purpose: the first is protecting the movement from damage by external elements like dust, dirt and water; the second is as aesthetic decoration. The popular case type in Europe over the duration covered by this research is referred to as pair cased, referring literally to an inner and outer pair of cases belonging to one watch. While the inner would be plain, the outer could be decorated with enamel or decorative repoussé scenes in the popular Classical style. Although cases in gold were popular, *Dutch forgeries* almost exclusively appear in silver or base metal.

Just like the movements they housed, watch cases provided an opportunity for later repairers to leave hidden marks and signatures either scratched into the metal or on removable watch papers.

Unlike the movements, watch cases have the potential to offer concrete evidence as to their location at certain times in their lifespan, as genuine hallmarks give us certified proof that a watch was at the stated assay office or within a specific country at the time of marking. Assuming the maker complies with the legal requirements. England operates the most stringent and thorough hallmarking legislation in the world, a system which has been maintained since the first assay laws were introduced in London in 1300.[454] Eventually, this would force all precious metal objects destined for retail to be tested and marked with their purity, the year of submission for assay and the initials of the person who made them. Marking legislation on the Continent was vaguer and less consistent. Countries such as France, for example, operated a highly complicated system whereby regions would have individual marks, referred to as discharge marks, as evidence they had been submitted for testing and duty had been paid. There are hundreds of these marks which are usually pictorial and stamped in minute sizes This makes differentiating between them extremely difficult, particularly after hundreds of years of wear. Holland, or the Dutch Republic as it was at the start of the period covered by this research, had a much more basic system which notified whether an object was homemade or imported and its minimum fineness. It, however, gave little indication of where in the country it was marked or in what year. The standards of precious metal were different from England too. Over the course of the eighteenth century, the English used sterling, then Britannia silver, the precious metal contents of which are 925 then 958 parts silver per thousand respectively, before later returning to sterling silver as standard. On the Continent, however, a lower standard of 800 parts per thousand was commonplace and, accordingly, Continental marks rarely give any assurance of fineness above that standard. Conversely, British makers had no legal obligation to hallmark fine or delicate work which could easily be damaged and included repoussé watch cases which appeared with frequency in the eighteenth century, leaving us with no indication at all as to whether they had been retailed in London. Continental assay offices would mark the flat

[454] The first laws regulating the hallmarking of precious metals appear in 1300, which in 1327 the Goldsmiths' Company were appointed to regulate. It was not until 1478 that the first formal assay office was founded in London.

and plain areas around the joint on repoussé cases with a small duty mark. A high proportion of the *Dutch forgeries* which survive complete with their cases are in the repoussé style. Of the collection of watches at the British Museum, fifty-three distinct *Dutch forgery* type examples were identified, twenty-one of which had plate marks, thirty-seven of which were cased and of those cased, seventeen had Continental marks.

Consideration must be made when analysing cases that the pair cases are original to the watch and to each other. This can be determined with a fair level of certainty by the fit of the movement to the case, whether the inner and outer cases sit together well, the fit of the joint work and positioning of the knuckles, and by checking that the style is in keeping with the style of the movement. Other factors such as the filling and relocating of winding holes give clues. Although it is possible to custom-make a later case to perfectly fit an earlier movement, the process is costly and, consequently, it is highly unlikely someone would have deemed a watch of low value to be worth the expense. Watch cases wear and are easily damaged if dropped; they can also be scrapped to liquidate the value held within their precious metal in times of need and replaced when the economy improves. Replacing precious metal cases would have been costly and, consequently, very much down to the perceived value of the watch to its owner and whether he or she felt it was an economically viable option. As a likely result of this, this research has discovered the replacement of cases on *Dutch forgery* watches was rare and those whose cases have been scrapped remain without cases.

Further caution must be exercised when examining the marks because not all are genuine. This research, along with the cataloguing at the British Museum, has identified several examples with forged marks and many with few or no marks at all. Fortunately, forged marks in watch cases are comparatively easy to spot in comparison to other silverware as the same economic incentive to let in marks from a smaller object to save on duty (which was costed by weight) did not exist. The

punches used by assay offices are highly consistent, intricately detailed and deep carved from steel which requires an incredible level of skill to execute with enough precision to appear authentic. This leaves many of the forged punch marks very clearly not authentic, as will be demonstrated on some of the examples discussed below.

One of the presumptions made about the repoussé outer cases commonly associated with *Dutch forgeries* is that they are cast rather than stamped or chased.[455] Although by the standard today, casting is considered to be a cheaper method of production, at the time in question casting was far more complicated and expensive a process than stamping and chasing. This research set out to determine the validity of this assumption using aesthetic and comparative examination, historical research, X-ray fluorescence (hereon referred to as XRF) and X-ray scanning. This scientific analysis will also be the first examination of its kind on *Dutch forgery* watches, providing new information on the types of metal being used in their cases and an insight into the techniques used to make them. There are a small number of the cases which include the name of their maker, allowing them to be placed by location of manufacture within the greater context of creation and dissemination of *Dutch forgeries*. Improving our understanding of the background of identifiable makers also serves to shed light on the interdisciplinary skills employed within the European watch trade. Finally, this research aims to identify key indicators of the industrialisation of watch case manufacture to gain insight on the manufacturing process from commission to completed object.

The first example examined within this research was an apparently English watch signed Bramley, London, whose inner and outer cases both bore identical fake hallmarks of three wheat sheaves for Chester or, possibly, a severely deformed London leopard's head.[456] The marks have been determined as fake in previous Museum cataloguing with which this research agrees. This decision

[455] THOMPSON, D. (2009) p.80; and auction catalogue of Bonhams Knightsbridge, Sale no. 23507, 23rd February 2016, Lot 4.
[456] British Museum identification number 1958,1201.854.

was made based on the distortion and illegibility of the marks which, even if rubbing is taken into consideration, do not resemble the marks of either assay office. The 'R' in a close-fitting cameo or any similar mark is not recorded as ever having being used by Bradbury at either the Chester or London assay offices.[457] An upper case R of a different font within a square cameo with canted corners was used by Chester in 1813, and within a shield cameo by London in 1812. The maker's mark TG within a rectangle could belong to Thomas Gibbard of 28 Clerkenwell Close which was registered with Goldsmiths' Hall, London, on 7th November 1812 or to Thomas Gaunt of 5 Bridgewater Gardens who registered the same mark on 14th May 1800. There are no possible makers registered at the Chester assay office at that time.

Figure 110: silver pair cases of a watch signed Bramley, London, with fake hallmarks and onion peel type degradation of the metal in the outer case.[458]

XRF scanning reveals that while the outer case returned a mean silver content of 927 (case back) and 935 (case front) parts per thousand, the inner case was of a significantly inferior quality silver and beneath the sterling standard at 867 parts per thousand. Both cases appear to be original to each other, a theory that is supported by the repetition of marks and the snug fit of the cases when put

[457] BRADBURY. F. *Bradbury's Book of Hallmarks*. Sheffield, Northend Creative Print Solutions, 2009 Edition.
[458] British Museum identification number 1958,1201.854. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

together. As a different repoussé worker making the outer case from the inner case was already customary, it is possible that the two cases were manufactured by two different case makers before being marked by the same sponsor. There would be no material advantage in varying the silver quantities between the inner and outer case, other than cost reduction. As it is also known that some case makers in England had historically produced lower grade silver cases for export, it is also possible that inner and outer cases were created in the same workshop from two standards of silver which the case makers might have had present.[459] Knowing that the marks would be forged, there would have been no incentive for the maker to maintain the standard throughout as the case would not be tested. X-ray analysis did not indicate any evidence of plating. Consequently, it can be assumed that the onion peeling to the surface is a result of the metal being overworked in the rolling process.

The next example signed Chandler & Son, London, has genuine London hallmarks on both inner and plain outer cases dating it to 1803.[460] Although the sponsor's mark is heavily rubbed, it appears to be WD. This could belong to William Dawson, registered at Goldsmiths' Hall between March 1778 and February 1819. It might also be a late mark in the production of William Day who first registered in April 1777.[461] Along with the London hallmarks, the front of the outer case joint has been struck with a dolphin in a triangle which was among the duty marks used to denote silver imported into Holland, proving that this watch was at some point retailed on the continent. The inner case also bears the boar's head marking imported silver in Holland after 1814.

[459] NEWMAN, R. 'New York Colonial Watchmaker John Wright, and the Discovery of America's Oldest Watch' in *NAWCC Watch & Clock Bulletin*, March/April 2014 pps. 115-126.
[460] British Museum identification number 1958,1201.815.
[461] PRIESTLEY, P.T. 'Watch Case Makers of England: A History and Register of Gold & Silver Watch Case Makers of England: 1720-1920', *NAWCC Bulletin Supplement*, 20, Spring, 1994, p. 142.

Figure 111: outer (left) and inner (right) cases of a watch signed Chandler & Son, London, with genuine London hallmarks dating to 1803.[462]

Figure 112: Continental duty marks on the outer (left) and inner (right) pair cases of the same watch denoting foreign silver small-work declared for assay in Holland after 1814.[463]

Ironically, despite being signed by known Dutch maker Gibb who was based in Rotterdam, the next example bears what appear to be genuine London hallmarks for 1778.[464] The outer white metal case is decorated with repoussé chasing and engraving depicting the *Abduction of Helen* and is signed by Daniel Cochin. This research has identified five further examples of identical scenes by Cochin in white metal on four watch cases associated with: Tarts, London; Wilter, London; Coulin, Geneva;

[462] British Museum identification number 1958,1201.815. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[463] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[464] British Museum identification number 1958,1201.772.

Johan Beitelrock, Augsburg and Cabrier, London; together with a gold example set in the lid of an Italian box that is possibly a later conversion from a watch case.

Figure 113: seven watch cases signed Daniel Cochin, with a repousse depiction of *the Abduction of Helen*; likely to have been struck from the same mould.[465]

[465] Images in order from top to bottom and left to right – *a watch signed Gibb*, British Museum identification number 1958,1201.772; *a watch signed Tarts*, British Museum identification number 1958,1201.473 [Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum]; *movement missing, signature unknown*, Christies Sale 1009, Lot 82; *a watch signed Wilter,* Bonhams auction catalogue, sale number 20747, sale date 11th June, Lot 48, accessed online, https://www.bonhams.com/auctions/20747/lot/48/ [viewed 12/02/2016]; *a watch signed Coulin*, Cogs & Pieces, catalogue accessed online www.cogsandpieces.com/pocketwatch.973.html [viewed 19/05/15]; *a watch signed 'Johan Beitelrock'* Cogs &

Cochin was a skilled and highly regarded medallist by trade, having been commissioned by Geneva to create a commemorative medal for *the 24 Commissioners of the Republic* in 1767.[466] Considering the level of trust required to employ individuals in the manufacture of medals, it would seem surprising that Cochin would seek involvement in the grey market for spuriously London-signed watches. Markets were a popular way for makers to disperse their goods either directly to the market or through merchants within Europe during the eighteenth century. So, it is possible that Cochin was retailing quantities of his cases without knowing what the end product would be. Two other possibilities are that Cochin's dies fell into the hands of persons involved with the trade of *Dutch forgeries*, or that these cases are also forgeries and that Cochin was not involved with their design or manufacture. The literary references give little reference to Cochin's personal life or apprentices and, if he had no successor, it was not unknown for workshop clearances to end up in the possession of pawnbrokers. If this is the case, it could easily explain how his dies and moulds ended up in the hands of those involved in the trade of *Dutch forgeries*. Given that Cochin was a highly regarded and known craftsman in his day, forging his name would have held a similar motivation to forging the name of any famous artist or designer.

Both 1958,1201.473 and this watch, 1958,1201.772, were submitted for XRF analysis to examine the similarities of the metal composites. This case returned very similar results to 1958,1201.473, with a silver content of 91.5% to 7.5% copper and 90% silver to 9% copper on outer back and outer front respectively. Similarly to all four of the repoussé outer cases, this example showed solder infilling revealing porosity on the X-ray and a reduced silver content of 73% in the areas of relief and a higher than expected content of 1% lead.

Pieces, catalogue accessed online www.cogsandpieces.com/pocketwatch.973.html [viewed 19/05/15]; *a watch signed Cabrier*, Robert Finan auction catalogue, sale date 12th July 2004, Lot 12, accessed online http://www.robertfinan.co.uk/images12062004/012.jpg [viewed 19/05/15].

[466] Baldwin's auction house, catalogue accessed online http://www.baldwin.co.uk/media/cms/auction-archive/auction-A115/BALDWINS%20Argentum%20Auction%20-%20Feb%202015%20-%2003%20-%20COMMEMORATIVE%20MEDALS.pdf [viewed 11/03/15].

For the Gibb watch, the inner case bears what are likely to be genuine hallmarks for London dating to 1778, although they are too badly rubbed to ascertain certain authenticity. The maker's mark TS is likely to be that of Thomas Sones, 5 Lilypot Lane, Nobel Street. Beneath these, there is a vacant diamond/lozenge which might possibly be the French duty mark used on silverware of foreign origin between 1819 and 1838. XRF scanning confirmed that the inner case is of a legal sterling standard with a silver content of 93.5%. The pendant was stamped, however, the mark is too badly rubbed to be identified. On English watches, pendant making was a separate craft and consequently pendant makers would often separately mark their work with different initials to the maker of the main body of the case. It is possible that the pendant could carry the maker's mark. However, it is also possible it could have been another import duty mark.

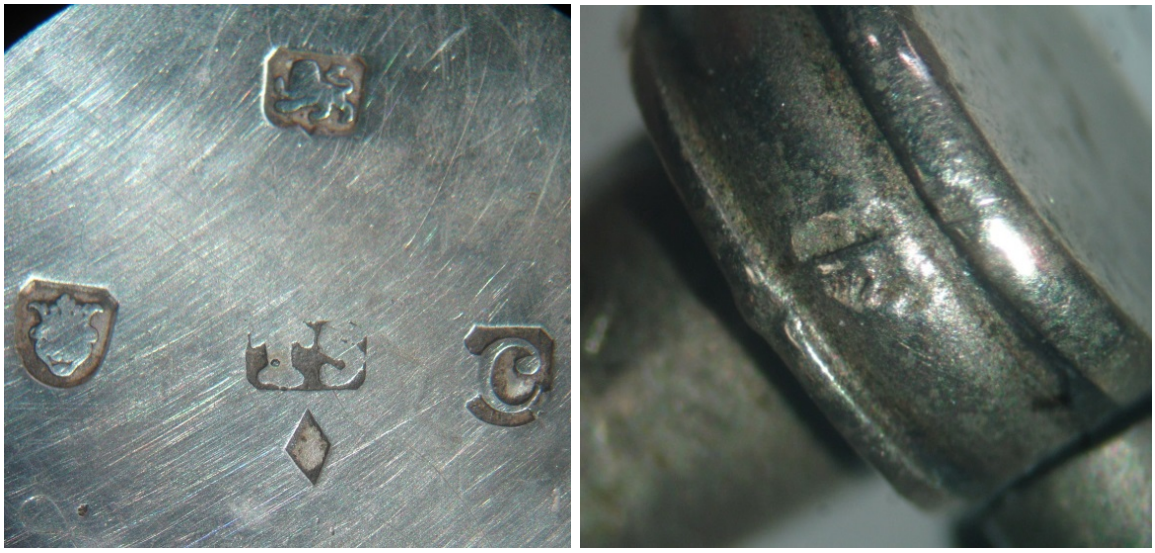


Figure 114: London hallmarks on the inner case of a watch signed Gibb, Rotterdam dating to 1778; along with a vacant lozenge mark, possibly a Continental duty mark (left), together with what appears to be a rubbed Continental duty mark on the pendant (right).[467]

The second example of Cochin's *Abduction of Helen*, on a watch signed J. Tarts, London, was also subjected to XRF scanning and X-ray to provide a comparison.[468] The front of the outer case joint has been struck with a stylised V duty mark which was used on gold and silver objects outside Holland

[467] British Museum identification number 1958,1201.772. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

[468] British Museum identification number 1958,1201.473. This watch had no conservation history listed that would influence XRF scanning or X-ray results.

but gives no indication of metal purity. The plain inner case has no hallmarks but is stamped with the maker's mark E.C beneath a coronet. This same mark appears on British Museum catalogue number 1958,1201.549. As both are original to the movements, this demonstrates a definite link between the persons behind the manufacture of Godfrey Poy and Tarts watches. XRF scanning shows the inner case, both back repoussé and front band, were likely made from 925 sterling silver standard, as indicated by their peaks in copper and silver measurements of 925 and 910 parts per thousand respectively. The inner case, however, was manufactured from lower purity silver, reading as 850 parts at the surface. This with the higher copper content implies the inner case was made from Continental silver. As was seen commonly throughout the XRF and X-ray analysis of the seven examples chosen from the sample group, the outer repoussé case was in-filled with silver solder, leaving a silver low of 85.5% composition showing through on the rubbed areas of relief compared to the 92.5% of the remaining material. The outer case of this example is so heavily filled that the inner back of the outer case appears almost smooth. An X-ray revealed similar air bubbles showing in black to 1958,1201.610 which is not uncommon in soldering.

Figure 115: X-ray photography of a repoussé watch case depicting Cochin's *Abduction of Helen.*[469]

Supporting the theory that these repoussé cases are, indeed, stamped and chased rather than cast are the details XRF results from the external surface of the inner case that reveal clear peaks for

[469] British Museum identification number 1958,1201.473. Photo ©H. White. Taken courtesy of the Trustees of the British Museum. Reference Appendix No. No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum.

mercury and lead. The composite if typical of that used in silver solder during the eighteenth and nineteenth centuries.

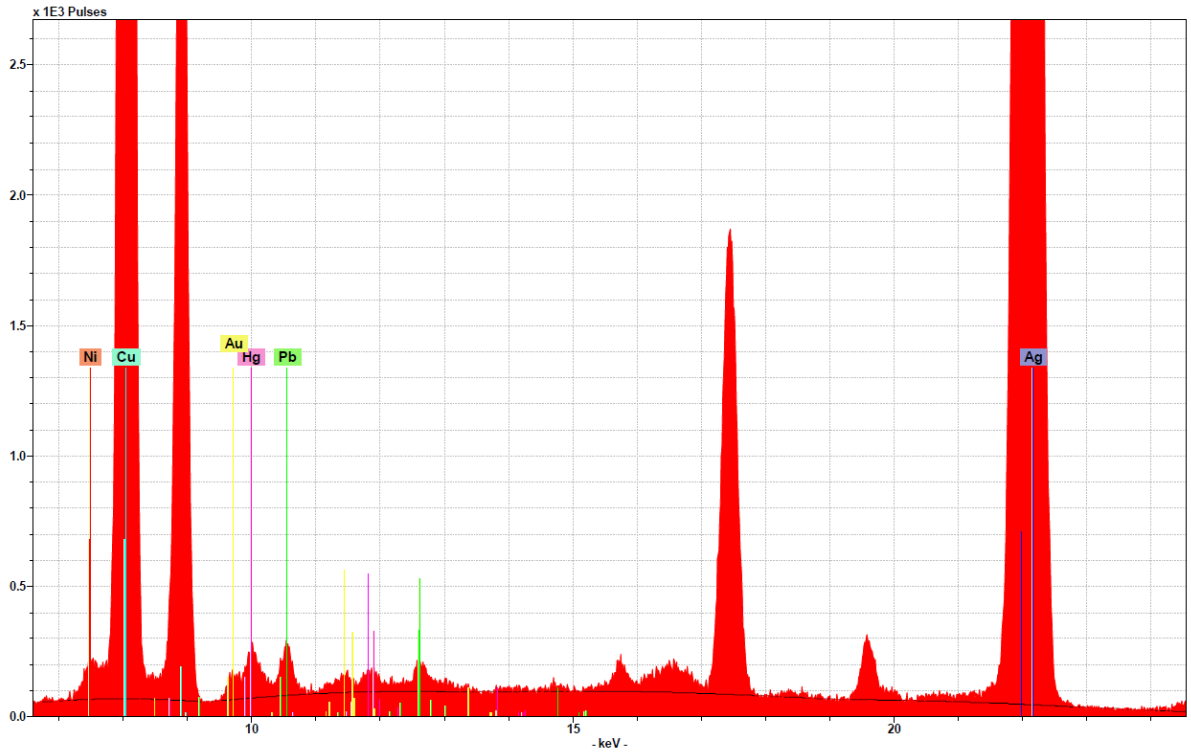


Figure 116: XRF spectrum from the external surface of the inner case of pair 1958,1201.473 showing peaks for mercury (Hg) and lead (Pb).[470]

[470] British Museum identification number 1958,1201.473. Photo ©H. White. Taken courtesy of the Trustees of the British Museum. Reference Appendix No. No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum.

Figure 117: detail of the outer case of a watch signed Tarts, London, case signed D. Cochin and bearing a Dutch duty mark for imported silver to the front of the case joint.[471]

Daniel Cochin was clearly in international demand across Europe during the latter half of the eighteenth century. His work also appears on the outer case of an example with movement signed Duchene, London, which is a watch whose inner case has full genuine London hallmarks for 1779, although the tight fit of the inner case within the outer raises the possibility that it is not original to the watch.[472] The outer case is decorated with repoussé chasing and engraving possibly depicting a scene of *Darius before Alexander*. The front of the outer joint has been struck with a cursive V, indicating this case paid duty in Holland sometime after 1814. The inside back of the outer case

[471] British Museum identification number 1958,1201.473. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum

[472] British Museum identification number 1889,0311.2.

appears smooth, similar to those examined by XRF scanning and consequently it can be assumed likely that it has also been filled with silver solder either to reinforce the chasing or to artificially weight the case.

Figure 118: the outer case of a watch signed Duchene, London in detail, signed Cochin and bearing a Dutch duty mark for imported silver to the front of the case joint.[473]

[473] British Museum identification number 1889,0311.2. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Similar to his depiction of *the Abduction of Helen*, Cochin's *Darius before Alexander* also appears in nearly identical forms on examples signed Bergh, Rotterdam, and Wilter, London.

Figure 119: signed Bergh, Rotterdam (left) and Wilter, London (right).[474]

Although the repoussé cases used in *Dutch forgeries* have historically been described as poor quality, finding multiple sets of examples such as these demonstrates that what had been assumed as inferior craftsmanship is actually a result of wear, and that the skill of some of the chasers and engravers working on the Continent and employed within the market for forged watches was on a par with English work. The Cochin example that passed through Bonhams, which belonged to a watch signed Wilter, is of a very high standard. It should also be noted that, although this watch was not physically examined, within the photograph documented there is a Continental Dutch duty mark struck on the lower section of the case joint.

[474] Bonhams auction house, sale number 21920, Lot 4, catalogue accessed online, https://www.bonhams.com/auctions/21920/lot/4/ [viewed 12/02/2016] and Bonhams auction house, sale number 20747, Lot 47, catalogue accessed online, https://www.bonhams.com/auctions/20747/lot/47/ [viewed 12/02/2016].

The inner case of the watch signed Duchene, London, carries a series of marks which are too rubbed to be distinguished, but have the placement and quantity that one would expect to see in full genuine Swiss or possibly French hallmarks. A Dutch boar's head, indicating the inner case also paid duty in Holland sometime after 1814 next to the winding hole, survives relatively unscathed and consequently was likely to have been applied at a later date to the remaining marks.

Figure 120: marks found within the inner pair case of a watch signed Duchene, London, with indistinguishable hallmarks and the Dutch boar's head duty mark for imported silver.[475]

[475] British Museum identification number 1889,0311.2. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The last example of a watch case by Daniel Cochin belonged to a watch signed Samuel Weldon, London, with fake London hallmarks on the inner case that possibly purport to 1750.[476] The repoussé outer white metal case depicts *Solomon and the Queen of Sheba,* signed D. Cochin, and carries no other hallmark, duty or sponsor's mark. Only one other example of Cochin's *Queen of Sheba* could be located on another watch signed by the notorious Wilter, London, which passed through auction at Bonhams in 2013.

Figure 121: repoussé depictions of *Solomon and the Queen of Sheba* signed D. Cochin on watches signed Samuel Weldon, London (left) and Wilter, London (right).[477]

The style of the cameos surrounding the hallmarks on the inner case was never used in such an exaggerated form as those on this watch, indicating they are not authentic. A similar shield was used with the date letter P in 1750, although the lion passant should appear in a rectangular cameo with canted corners. Similarly, the leopard's head is distorted and of too poor a quality to be genuine. The maker's initials TL incuse was used by Thomas Lawrence of George Court, St. John's Lane, who was

[476] British Museum identification number 1958,1201.403.
[477] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum; and Bonhams auction house, sale number 20977, Lot 73, catalogue accessed online, https://www.bonhams.com/auctions/20977/lot/73/ [viewed 12/02/2016].

registered at Goldsmiths' Hall from 15th November 1748, before last entering registration on 29th November 1770.[478] Within these forged London marks is the Dutch boar's head showing this watch was imported into Holland sometime after 1814 and paid duty. As Thomas Lawrence was apparently strict in his practice of registering and updating his records to a high level of detail with Goldsmiths' Hall, it is highly unlikely he would have risked his reputation by forging hallmarks; (particularly as the one of the punishments for this crime at the time would have been transportation to the colonies). What is far more likely is that, upon seeing Lawrence's genuine hallmarks on earlier watches, this too was copied by forgers.

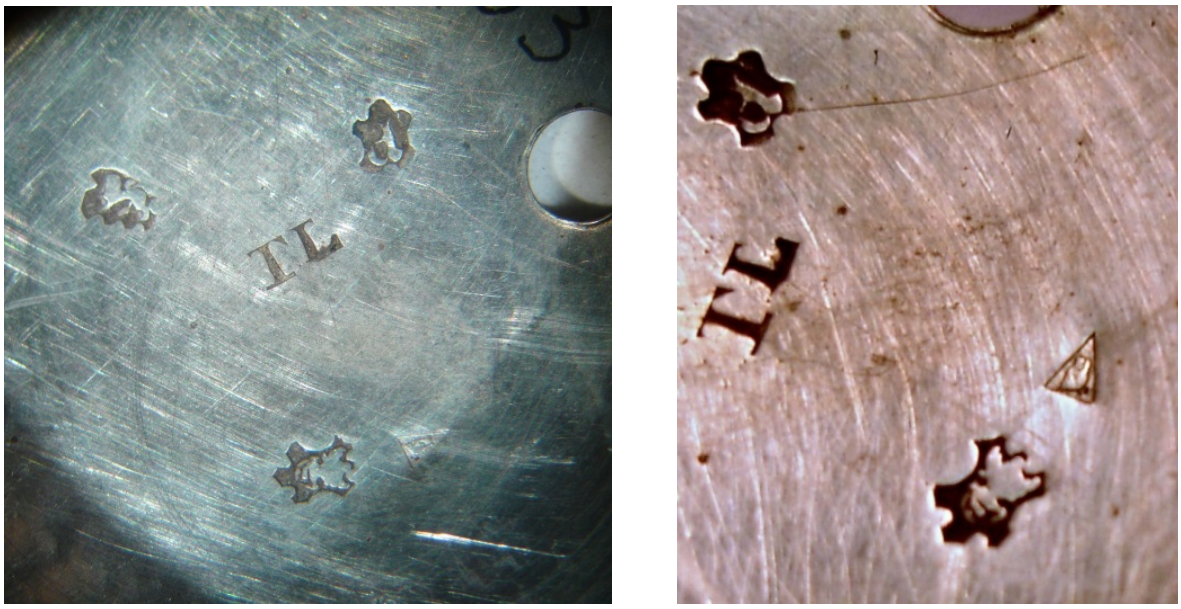


Figure 122: details of the marks found in the inner case of a watch signed Samuel Weldon, London, with fake London hallmarks and Dutch boar's head duty mark for imported silver.[479]

Being named, it is easier to trace and examine the Cochin examples and thereby to assess patterns in their production and discover the forger's names with which they are associated. There are two more watches with similar cases within the collection at the British Museum which have been subject to previous research by Richard Edgecumbe.[480]

[478] PRIESTLEY, P.T. (1994) p. 138.
[479] British Museum identification number 1958,1201.403. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[480] This watch is referenced in EDGECUMBE, R. (2000) pps. 11-12 and figure 4b.

Both watches are signed under the name May and are decorated with a repoussé scene depicting *Aeneas and the Cumaean Sibyl*.[481] The outer case of the first is unmarked.[482] The depiction has been identified by Edgecumbe as similar to the second May watch in the British Museum collection (1958,1201.643), to a cast copper alloy mould held at the Ashmolean Museum, Oxford, and also by this research to a watch by Samson. While the bulk of the design was struck and consequently standardised, the detail of the repoussé would have been chased freehand making every case unique.[483] The bezels of the May cases are different in decoration and technique, with 1958,1201.642 chased from in front, whereas the bezel of 1958,1201.643 is both chased from in front and embossed. The back of the outer cases also show differences around the outside of the cartouches and the scrolling which descends lower above the seated figure's head in 1958,1201.643 than it does in 1958,1201.642. Edgecumbe suggests that these differences do not make the cases unrelated and could be explained by freehand finishing which would be expected with all cases, except those struck from dies.[484]

[481] British Museum identification number 1958,1201.642 and British Museum identification number 1958,1201.643 respectively.
[482] EDGECUMBE, R. (2000).
[483] Ibid p. 11.
[484] Ibid p. 12.

Figure 123: a cast copper mould and examples in silver for the outer pair cases of watches signed Samson and May.[485]

[485] From top to bottom and left to right - EDGECUMBE, R. (2000) Figure 4a; British Museum identification number 1958,1201.642 and 1958,1201.643. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

His measurements also show strong similarities between the two cases and the model from the Ashmolean, charting measurements between three corresponding points as follows:

Table 3: comparative measurements for the scene on a negative model, J. May 2292 and May 811 (mm.).[486]

Object	Measurement 1	Measurement 2	Measurement 3
Model	20.8	27.0	23.7
J. May 2292	20.9	27.1	25.0
May 811	20.5	27.1	25.2

With differences of between 0.1mm and 1.5mm, it is Edgecumbe's opinion that:

> Given the methods of working with lead punches, this seems compatible with the use of the mould to make the watchcases, but there are objections. There is a difference in detail between the mould, which has been cast from a case of some quality, and the relatively crude chasing of the cases. In addition, there is one substantial difference between the watch case scenes and the mould: the robe of the sibyl extends beyond the pedestal rather than following its line downwards as in the mould. It might be argued that the Ashmolean mould was used only to achieve the rough embossing of the figures, which were then chased . . . . However, the fact that the line of the sibyl's dress is closely similar on both watchcases suggests that any mould used for them had the same line. It is therefore unlikely that they were made with the Ashmolean mould, but they could have been made from another mould, or the later case could have been made from a mould made from the earlier.[487]

[486] EDGECUMBE, R. (2000) p. 12.
[487] Ibid.

The inner case is hallmarked London 1790, the sponsor's mark is heavily rubbed but appears to be (indistinct)D and is similar to the mark in 1958,1201.815 which likely belonged to William Dawson, registered at Goldsmiths' Hall between March 1778 and February 1819. It might also be a late mark in the production of William Day who first registered in April 1777.[488] The case is also stamped with the movement number 811 which ties the case and movement together as original.

Figure 124: detail of the inner case of a watch signed May, London, with London hallmarks for 1790.[489]

The inner case of the second of the May watches is hallmarked London 1788 and has the sponsor's mark W.B beneath a crescent belonged to William Blake, registered at Goldsmiths' Hall from 18th February 1778 at 5 Staining Lane before moving to 28 White Cross in 1781.[490] Blake continued to use his initials beneath a crescent until 1800 when he reduced his mark simply to WB incuse with his last registration made in November 1802.[491] The hallmark is accompanied by the head of George III which was only used as a duty mark on watch cases and was applied between 1784 and 1798.The

[488] PRIESTLEY, P.T. (1994) p. 142.
[489] British Museum identification number 1958,1201.642. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[490] British Museum identification 1958,1201.643.
[491] PRIESTLEY, P.T. (1994) p. 141.

case is also stamped with the movement number 2290 with 2 then 3 above. This could suggest a series of movements with three serial numbers were designed to fit this same case which would not have been a practice implemented in Britain where each serial number was unique to the watch. This level of standardisation was more commonplace in Switzerland and along the Swiss-French border where *établissage* was more common practice.

Figure 125: detail of the inner case of a watch signed May, London, with London hallmarks for 1788.[492]

There are two years in between the production of the two May watches examined by this research which offers an explanation as to the slight variations in finishing between the watches as it is likely different craftsmen in each workshop worked on the different watches. The later watch is of a lower quality which perhaps indicates a drive towards reducing costs by dropping the standard of finishing over time.

An example of a watch signed Debaufre, London, with a silver repoussé case signed Mauris fecit at the Museum of London shares similarities in the apparent manufacture of its case and bears unusual maker's or sponsor's marks within the inner case. Loomes describes Mauris as "probably a watch

[492] British Museum identification number 1958,1201.643. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

case maker" who was working in early eighteenth-century London.[493] The back of the outer case appears to have been filled in with solder to reinforce the relief and add weight, although this watch was not subjected to X-ray scanning air bubbles can be clearly seen within the case back which are not consistent with porosity but are common in large quantity solder infills. The scene appears to depict *The Departure of Hector*, although it is heavily worn and indistinct.[494]

Figure 126: outer case of a watch signed Debaufre, London with case signed Mauris fecit.[495]

The inner case has been struck with the initials LKG beneath a coronet which has not been seen on any other examples examined by this research.

With no further case maker's work identified, a selection of other repoussé watch cases was examined to pinpoint the extent of the similarities in production to the first series of examples. The first, signed Miller, London, is decorated with repoussé chasing and engraving depicting a scene by

[493] LOOMES, B. (2006) p. 520.
[494] Scene content suggested within Museum of London catalogue description, as edited by David Thompson.
[495] Museum of London catalogue number 34.181/64. Images author's own ©R. Struthers and ©Museum of London.

an unknown maker.[496] The inner case carries full genuine hallmarks for London 1779 and the rubbed sponsor's mark (indistinct).T. XRF scanning reveals that both inner and outer cases meet the sterling 925 parts per thousand standard at 935 and 940 respectively. The variation might have been caused by inconsistent silver depreciation. However, a purer silver alloy would have given greater malleability in the repoussé process. High relief areas show deviation to purity of 763 with a higher than average lead content, indicating that the outer case has been infilled with silver solder. This is further supported with the X-rays which show obvious white sections where this infilling has taken place. Using solder within the recesses of the case would have served several intended purposes. It is possible that it was done at the time of manufacture to weight the case and make the precious metal appear heavier. It could also have reinforced thinly stamped repoussé work or it could be a later repair to rebuild the worn relief of the case. The latter seems unlikely as an area of the bowing gentleman's head survived a rubbed-through hole in it which would have been filled by the repairer, although it might exist as a result of the maker or watchmaker building the final watch and not ensuring that the solder had run fully into the relief leaving air bubbles. These black air bubbles show up in the X-ray of both this watch and 1958,1201.473.

Figure 127: X-ray photography of a repoussé watch case by an unknown maker.[497]

[496] British Museum identification number 1958,1201.610. This watch had no conservation history listed that would influence XRF scanning or X-ray results.

[497] British Museum identification number 1958,1201.610. Photo ©H. White. Taken courtesy of the Trustees of the British Museum. Reference Appendix No. No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum.

The effect the filling gives to the back of the case by levelling it out might be where the myth originated that these cases were cast because a drop stamped case would have shown a perfect concave version of the outer image. This research has demonstrated conclusively for the first time that the repoussé watch cases associated with *Dutch forgeries* were stamped rather than cast.

Figure 128: detail of the pair cases on a watch signed Miller, London, with London hallmarks for 1779.[498]

[498] British Museum identification number 1958,1201.610. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The outer case of the next example signed Thomas Nadroy, London, is decorated with repoussé chasing and engraving depicting a scene by an unknown maker.[499] The chasing work is badly worn and has been re-carved at a later date to a very poor standard, making it difficult to judge the quality of the work. The inner case carries full genuine hallmarks for London 1772 and an illegible rubbed sponsor's mark. Both inner and outer cases have been struck with the Dutch cursive V denoting silver imported into Holland after 1814.

While this watch cannot be defined as typical of a *Dutch forgery*, this research has demonstrated with certainty that the plate maker who created the base for this movement was also working in the market for *Dutch forgeries* and the Dutch import marks prove this watch did spend time on the Continent. The lack of any evidence supporting the existence of a watchmaker by the name of Thomas Nadroy in London at that time, or indeed in Britain at any time, suggests that this watch was manufactured with a different intended market to the common market for London watches (and this is supported by the Continental duty marks). The genuine London marks also prove components of this watch spent time in London. It is suggested by those employed within the watch trade in contemporary interviews that there was a link between London watchmakers and European merchants making parts for forgeries both in London and on the Continent and that London makers themselves played a part in the manufacture of *Dutch forgeries*.[500] This watch would appear to be an example of one of those Dutch-style hybrids with components made in the UK for a watch intended for retail on the Continent.

[499] British Museum identification number 1961,1102.4.
[500] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 55.

Figure 129: the repoussé outer case of a watch signed Thomas Nadroy, London.[501]

Figure 130: details of the hall and duty marks on a watch signed Thomas Nadroy, London, with Dutch duty mark on the front of the outer case joint (left), and London hallmarked within the inner case for 1772 (right).[502]

[501] British Museum identification number 1961,1102.4. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[502] British Museum identification number 1961,1102.4. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The last repoussé example subjected to XRF scanning is signed Godfrey Poy, London, and has an unmarked outer white metal case which is decorated with repoussé chasing and engraving depicting a scene of *Diana and Endymion*.[503] XRF scanning shows that the outer case front and back have a silver composite of 92.5% and 95.5% respectively defining them as sterling silver. The inside of the outer case has been filled with silver solder with the purity dropping to 85.5% silver in the rubbed areas of relief. The plain inner case has no quality marks but is stamped with the sponsor's mark EC beneath a coronet. Priestly does not list any case makers in London working during the time in question or at any other time between 1720 and 1920 who had their mark registered as an EC beneath a coronet.[504] This mark is repeated on several watches associated with forgeries of London watches including 1958,1201.473.

Figure 131: silver pair cases of a watch signed Godfrey Poy, London, the outer with a repoussé scene depicting *Diana and Endymion* (left), and the inner with maker's mark EC beneath coronet (right).[505]

What is most intriguing about this watch and the example discussed before it is the similarity of the movements.[506] Both winding holes are drilled in the inner cases in the same place and the cases

[503] British Museum identification number 1958,1201.549. This watch had no conservation history listed that would influence XRF scanning or X-ray results.
[504] PRIESTLEY, P.T. (1994)
[505] British Museum identification number 1958,1201.549. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum

appear identical. While the bridges and signature plates have been finished differently, once the visual distraction of the top plate furniture has been stripped back both movements also appear technically identical. Additionally, the XRF report returned a similarity between the metal composite used in both 1958,1201.473 (85% silver and 13% copper) and this watch (88% silver and 10% copper) This is strong new evidence demonstrating that the manufactory involved with making watches under the name of Tarts also created watches under the name of Godfrey Poy.

Another technique employed on some of the watches examined within the case studies was the application of a central enamelled plaque within a repoussé border. The outer case of this example signed Wiet, London, is decorated with repoussé chasing and engraving and houses a central enamel panel with a painted depiction of a courting couple sat beneath a tree in rural surrounds.[507] The back of the outer case joint has been struck with a boar's head duty mark indicating that it has a silver content of at least 0,800 and was manufactured outside Holland but passed through, and paid duty, there sometime after 1814. The outer case of this watch was manufactured from a purity of 90% (outer front) and 94% (outer back) silver, this pattern has been seen in a number of the watches examined in this study and is likely due to the malleable nature of high-purity silver, making it more suitable for repoussé work.

[506] In comparison to British Museum identification number 1961,1102.4

[507] British Museum identification number 1958,1201.1637. This watch had no conservation history listed that would influence XRF scanning or X-ray results.

Figure 132: the outer case of a watch signed Wiet, London, decorated with a central painted enamel plaque. The case joint and bow both bear Dutch duty marks for imported silver.[508]

The plain inner case is also stamped with the same boar's head for 0.800 silver imported into Holland after 1814 and does not carry any identifiable maker or sponsor's mark. While the outer case is not hallmarked, XRF scanning reveals the composition to be 89% silver which supports that

[508] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

this was a Continental silver case which was at some point after 1814 transported through the Netherlands. The pendant was stamped, however, the mark is too badly rubbed to be identified. On English watches pendant making was a separate craft and consequently pendant makers would often separately mark their work with different initials to the maker of the main body of the case. It is possible that the pendant could carry the maker's mark, however, it is also possible it could have been another import duty mark.

While this watch is not of the highest quality either in terms of aesthetic execution or precision, it is a perfectly functioning and durable timepiece and would have kept reasonable time when new in comparison to its contemporary English examples.

Figure 133: detailed images of the Dutch boar's head duty mark within the inner case of a watch signed Wiet, London.[509]

Executed using similar techniques are two examples signed John Wilter, London, one at the British Museum and the other at the Museum of London, both of which also have repoussé outer cases.[510]

[509] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[510] British Museum identification number 1958,1201.879 and Museum of London identification number A9873 respectively.

The first has a scroll border and an applied central enamel panel depicting a courting couple, one of whom is playing what appears to be a guitar, and the skill of the painting has been executed to a good standard.[511]

Figure 134: the outer case of a watch signed Wilter, London, decorated with a central painted enamel plaque.[512]

The inner case is stamped D.G in a clover beneath a star and above a crescent. There are no case makers registered at Goldsmiths' Hall with the initials D.G, nor are there records of a D.G being registered at Birmingham or Chester.[513]

Figure 135: detail of the inner case maker's mark on a watch signed Wilter, London.[514]

[511] British Museum identification number 1958,1201.879.
[512] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[513] PRIESTLEY, P.T. (1994).
[514] British Museum identification number 1958,1201.879. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

The second example, also signed Wilter, has a repoussé scroll work border this time with scallop shells. The Museum of London watch is stylistically different from the British Museum watch, meaning it is likely that the two were finished by different craftsmen and were certainly from different moulds. The central enamel plaque is decorated with a scene of a young woman thwarting the attempts of a male admirer.

Figure 136: the outer case of a watch signed Wilter, London, with central painted enamel plaque.[515]

The outer case knuckle and the pendant are struck with a Dutch boar's head duty mark for imported silver, suggesting this watch was not made in Holland but did legally pass through Holland at some time after the introduction of this mark in 1814. The inner case is stamped with the initials J.FV beneath a crescent.

Figure 137: details of Dutch duty marks denoting imported silver on the outer case joint (left) and pendant (centre) of a watch signed Wilter, London, together with maker's mark for the inner case (right).[516]

[515] Museum of London identification number A9873. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

Returning to examples in plain pair cases, the style, which succeeded repoussé, is possibly an indicator that these watches were made slightly after the more ornate examples. This first watch, signed by John Wilter, London, is without hallmarks and that would have made it illegal to retail as silver in Britain at the time it was manufactured.[517] The front of the outer joint is struck with a duty mark which appears to be the French provincial guarantee for silver small-work used between 1809 and 1819.[518] While this does not guarantee the watch case was made in France, or, that it was made between these years, it does prove that it was retailed in France at some time between 1809 and 1819.[519]

Figure 138: duty mark, possibly French, on the outer pair case joint of a watch signed John Wilter, London.[520]

The plain inner case is stamped with what appears to be the initials TC beneath a coronet. There was only one case maker operating in London at the time using the initials TC; however, he was not

[516] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[517] British Museum identification number 1958,1201.383.
[518] TARDY. *International Hallmarks on Silver, 5th Edition*, reprinted 2000, publisher not identified, p. 192. The mark depicts a *fasces*, which was a common mark in post-revolutionary France – it is an axe within a bound bundle of sticks and is a symbol from ancient Rome representing strength in unity.
[519] Guarantee marks were applied before precious metal goods could be legally retailed, consequently, while this could be immediately post-manufacture it could also be many years later on an older item which has only recently been imported into a different country for resale.
[520] British Museum identification number 1958,1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

registered using the coronet and initials incuse.[521] What is of note, is that there is an example examined within these case studies at the British Museum signed John Wilter and bearing genuine London hallmarks by Thomas Carpenter who used his initials TC within a rectangular cameo with canted corners (as it was registered at Goldsmiths' Hall).[522] This raises the possibility that the same case maker was making legitimate cases to be sent for genuine London marks, as well as cases intended for illegal export to the Continent; illegal because legitimately exported cases would also have required hallmarks. The TC beneath a coronet could have been Thomas Carpenter's mark which he struck himself in his workshop before selling cases wholesale to a European merchant.

Figure 139: the outer (left) and inner (right) cases of a watch signed John Wilter, London, with makers mark TC beneath what appears to be a coronet.[523]

The next example signed John Wilter, London, bears the apparently genuine maker's mark of Thomas Carpenter along with London hallmarks for 1783.[524] Thomas Carpenter was registered at Goldsmiths' Hall on 27th September 1775 to his address at 5 Islington Road, before moving to 9

[521] PRIESTLEY, P.T. (1994) pps. 136-137.
[522] British Museum identification number 1958,1201.387.
[523] British Museum identification number 1958,1201.383. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[524] British Museum identification number 1958,1201.387.

Islington Road in 1797 under his last registration. Carpenter used a number of different variations of his mark, registering the TC seen on this case, along with a TC beneath an axe, TC incuse and TC in italics within the 22 years of his active registrations.[525]

Figure 140: detail of the hallmarks within a watch signed John Wilter, London, for London 1783.[526]

There is nothing in the aesthetic or mechanical design of this watch which would suggest it is anything other than English in manufacture and the standard of work would have been perfectly acceptable within London watchmaking at the time. Referring back to the contemporary account made by a watchmaker claiming to have known the watchmaker in London commissioned to create

[525] PRIESTLEY, P.T. (1994) pps. 136-137.
[526] British Museum identification number 1958,1201.387. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

watches under the pseudonym John Wilter, these two cases again support the written evidence suggesting that, now familiar with the London case maker Thomas Carpenter, the merchant commissioning and trading these watches chose to copy his initials on later work manufactured on the Continent. However, if the plain cased examples were manufactured before the repoussé contrary to previous assumptions then, it raises an issue with the active dates of Daniel Cochin. There is little trace of Cochin being active into the final quarter of the eighteenth century. We know he was received as a burgher on 15th April 1732 so, assuming he was an adult at that time, it would place Cochin in his sixties or possibly even seventies by the end of the 1770s. With these plain watches hallmarked in the 1780s, there is little chance Cochin would have been active in the decades afterwards to supply the market for *Dutch forgeries*. This could be explained by the earlier suggestions that Cochin's dies might have fallen into the hands of another maker, or that Cochin himself had fallen foul of forgers. It could also be explained if Cochin had been retailing large quantities of these cases to merchants and they had been in storage, possibly being traded between merchants for some time before being finished into watches. Consequently, the conflict in dates is more a mitigating circumstance which could easily be explained by a number of other means.

The last example in this chapter which was subjected to further XRF scanning of the case to investigate the legitimacy of spurious rubbed and erased marks found on the inner case, is triple cased and signed Graham, London.[527] The outer of the three cases is in tortoiseshell and white metal and is unmarked. The plain middle case is stamped on the front of the case joint with a chevron mark which bears a strong resemblance to the duty mark for Neuchâtel and is stamped 275. The inner case is stamped 55275 and has at some point been struck with what appears to be forged London hallmarks which were later erased and are now barely legible. The burr around the winding hole which partly obliterates one erased mark indicates that the case was stamped then scraped to obliterate the marks before finally being drilled to allow winding. The sponsor's initials which appear

[527] British Museum identification number 1958,1201.724. Conservation which could influence XRF results: Verdigris on bezel of inner case removed using Goddards Silver Foam (1993).

to date to the same time as the first forged markings read JDB in an oval cartouche. The case is then clearly separately stamped with the initials FB. This series of marks and erasure indicate that the case was sold marked but without a movement and that the movement was fitted later by a person who did not want an association, for whatever reason, with the original case maker. There are no case makers with the initials JDB or FB recorded by Priestley as working in the period these watches were made and using the same style of mark. [528]

Figure 141: detailed images of the marks found on the pair cases of a watch signed Graham, London, displaying a series of deliberate marking and erasing, together with what appears to be the duty mark for Neuchâtel on the outer case joint (last image).[529]

[528] PRIESTLEY, P.T (1994) pps.121 and 104 respectively.
[529] British Museum identification number 1958,1201.724. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

XRF scanning confirms that any attempted English hallmark, in this case, London, is imitation as both inner and outer case are Continental silver returning compositions of 88.5% silver to 10.5% copper for the inner case and 88-88.5% silver to 10-10.5% copper for the outer case. The strong similarities in the composition of both inner and outer cases indicate the high likelihood that they were both manufactured at the same time in the same workshop.

The XRF scanning alone sheds new light on the metal composites used by the manufacturers of *Dutch forgeries*, supporting contemporary references to the trend towards the depreciation of precious metal content and placing the watch trade firmly within the scenario being faced by the allied jewellery and silver industries over the course of the Industrial Revolution. What is also significant and key to our understanding of these watches is the new X-ray evidence which proves beyond reasonable doubt that the watch cases examined by these case studies were stamped and chased, and not cast as past research has suggested.

Chapter 6 : Where were they made?

6.1 Introduction

The earlier chapters of this thesis have cast doubt on the honesty of the purported places of manufacture engraved on these watches. This chapter will identify the true origin of *Dutch forgeries*.

As this research has already demonstrated, these watches could not have been made in London as there simply was not the capacity for the scale production seen with the emergence of *Dutch forgeries*.[530] In the period covered by this study England, and in particular London, went from being one of the most successful global centres for watchmaking to the brink of ruin.[531] The situation had become so desperate that the Clockmakers' Company and parish communities had to rally together to relieve the now starving unemployed watchmakers who were estimated to number around 20,000 in London alone.[532] There can be no doubt that it was the war with France that presided over this decline in the industry. A watch, as one trader put it to Parliament in 1817, "being in general the first article put off in times of distress, and the last put on again when distress is removing."[533] Any trade in luxury goods will ultimately suffer during times of war and recession. This chapter will shed light on the rising centres of watchmaking and, consequently, the new regions with the capacity to be the source of *Dutch forgeries*. The approach will be two-fold, firstly exploring the details concealed within the watches themselves which give a more genuine indication of their origin. Secondly, this chapter will explore the how the British government acted to support or hinder the

[530] As discussed in Chapter 4.
[531] "The illicit introduction into this Country of Foreign Clock and Watch Work has obtained to an extent ruinously injurious to the British Manufactory", quoted from a letter from the Company of Clockmakers to the Goldsmiths' Company, undated, circa 1818; located in the Goldsmiths' Company archive.
[532] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 15.
[533] Ibid.

trade, contrasting it to the reaction on the Continent. In conclusion, this chapter will pinpoint where England failed and other European countries succeeded.

6.2 Watchmaking in England 1750-1820

As outlined earlier in Chapter 4, despite being the world renowned centre of fine watchmaking, it is clear that England was not responsible for manufacturing the watches known as *Dutch forgeries*. There are clues, such as in those found within spelling mistakes within the signatures of these watches which might give some indication as to their true origin.

In light of the quality of British manufacture during the period in question, can information be derived from some of the anomalies found in *Dutch forgeries*? One such anomaly is the spelling or misspelling of the proclaimed watchmaker's name. Engraving was, and still is, a separate art from watchmaking. Watchmakers would work closely with their engraver who could be in-house or working within proximity and the skill level required was considerable. Due to the educated and professional nature of a number of these trades, it can safely be assumed that a master watchmaker supervising the manufacture and finishing of watches within his workshop would make sure they left with his name correctly spelt on both the dial and movement.[534] Yet, there are watches dating back to the late eighteenth century bearing simple spelling mistakes of common English names. The British Museum holds an example a Jonh Wilter,[535] and interestingly a John Vilter, both of which appear to be attempting an attribution to the fictitious watchmaker John Wilter.[536]

[534] To preserve the sometimes elitist nature of watchmaking, guilds were known to limit the nature of apprentices eligible for recruitment. In Geneva for example, watchmakers could only accept the sons of burghers for apprenticeship (14th February 1700) and were forbidden from training their own children (2nd July 1701). Source: CHAPUIS, A & JAQUET, E. (1970) p. 75.
[535] British Museum, catalogue reference 1958,1201.381, pictured; and Christie's sale number 8212, lot 27.
[536] Christie's New York, 4th-5th February 1981, lot 546.

Figure 142: A *Dutch forgery* watch signed Jonh Wilter [sic].[537]

Further examples can be found in the forged watches bearing the names of famous watchmakers. Although these watches cannot be described as *Dutch forgeries* (as this research will outline later), they do fit into the same pattern and, consequently, it is possible that they had similar origins. The name Windmills represented a London-based father (Joseph, active from approximately 1671 to 1723), succeeded by his son (Thomas, active from approximately 1685 till his death in 1735) who to this day are respected for producing some of the finest mechanical timepieces of their era. Watches bearing the name Windmills demanded a premium in the same way a Rolex would now. Consequently, there are a number of contemporary forgeries surviving to this day manufactured by craftsmen to an inferior standard that cashed in on the Windmills name. Identifiable by their poor quality, what makes some of these watches particularly interesting is the types of spelling mistakes they display. Windmills is an unusual name and more complicated to relay than the already Germanic sounding Wilter.

The collection of The British Museum contains a 'Wintmills'[538] and a 'Jos Windemiels'[539]. Antiquarian horologist Neal published a short list of what he describes to be "Dutch-style items, of which some

[537] Catalogue registration number 1958,1201.381. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[538] British Museum Reference 1958,1201.211.
[539] British Museum Reference 1958,1201.380.

at least are considered to be not English exports but of Continental make, either Dutch or Swiss",[540] bearing the spellings 'Vindmill', 'Wintmill', 'Windemill' and 'Vindemill'.[541] It is possible that these mistakes are clues indicating a language barrier between the commissioner and the forger. The switching of 'W' and 'V' sounds is a Germanic trait shared by the Dutch and German languages contrasting with the pronunciation of Latin languages such as French. The French-speaking areas of Switzerland and bordering areas with France had both the means and the manpower to produce large quantities of low-quality watches. It could be argued, therefore, that these spelling mistakes could be phonetic and support the evidence that Dutch-speaking merchants were commissioning watches from manufactories on the French-speaking Swiss border.

Figure 143: A forgery signed Wintmill, imitating a watch by Windmills.[542]

[540] NEAL, J.A. *Joseph & Thomas Windmills; Clock & Watch Makers; 1671 – 1737*. Suffolk; St Edmundsbury Press, 1999, p. 109.
[541] Ibid. p. 306.
[542] Catalogue registration number 1958,1201.211 Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

6.3 The Dutch Republic

The long reputation for watchmaking in the Dutch Republic dates back to the late sixteenth century and represents a small, yet successful, group of talented watch and clockmakers creating low numbers of high-quality timepieces. In the era this research covers, the scale of the watchmaking trade in the Dutch Republic made virtually rules it out as having played any significant part in the manufacture of *Dutch forgeries*. However, as these watches were commonly executed in the Dutch style it would suggest that the Dutch played some part in their creation and dissemination.

By the eighteenth century, structural changes to the economy of the Dutch Republic resulted in a shift from labour intensive and capital goods production, or the mother trade, to a new combination of intercontinental trade and hinterland distribution. By the start of the eighteenth century, the Golden Age of the Republic had been eroded by war, France mercantilism and the Revocation of the Edict of Nantes. By 1713, the investment of 200 million guilders in the public debt had caused the concentration of wealth to shrink into an ever decreasing group of hands, Yet, the fiscal system which supported this debt endured the Republic remained a high-cost economy which poured annually nearly 14 million guilders (after tax) into the hands of a small group of bondholders.[543] De Vries argues that it was this environment which shaped the remainder of the eighteenth-century economy of the Republic.[544] The Dutch Republic was aided by opportunistic growth in the shipping periods of the European war, most notably during the Seven Years' War (1754-1763).[545]

The Republic became a centre for international finance and investment (by 1770 foreigners were paying Dutch investors annual interest payments of around 15 million guilders which doubled by

[543] VRIES, J.D. & WOUDE, A.V.D. *The First Modern Economy; Success, Failure and Perseverance of the Dutch Economy, 1500-1815*, New York; Cambridge University Press, 1997, p. 681.
[544] Ibid.
[545] Ibid.

1790).[546] This resulted in a diminishing of domestic demand and reduction in exports, however, the increased value of the guilder in foreign exchange markets led to an increased capacity for importation which acted to diminish the demand for Dutch manufactured goods further.[547] With so little motivation to incentivise industrial manufacturing in the Republic, productive investment of the large capital fund generated by the economy in the period was all but non-existent.[548] Compared to the rapid industrial growth experienced in Britain during the same period, the modern Dutch economy was formed around trade and international banking as opposed to Britain's manufacturing.

By the second half of the eighteenth century, the Dutch Republic was in a slow state of economic decline after its peak a century earlier. Between the mid-seventeenth century and 1780, the Republic had maintained a fairly consistent merchant fleet of 2,000 vessels with a shipping capacity of approximately 400,000 to 450,000 tonnes.[549] As late as the 1730s the Republic's two main trading rivals, France and Britain, had still not managed to surpass this volume. However, just fifty years later the French fleet is reported to have reached a capacity of 700,000 tonnes and the British over one million tonnes.[550] The Fourth Anglo-Dutch War (1780-84) would cripple the Republic's intercontinental trade. A few brief booms caused by grain shortages in France (1788-92) and a brief pause in the wars (1804-05) were followed by deep depressions, resulting in an almost total cessation of trade in 1807-08 and again in the years of incorporation in the French Empire, 1811-13.[551] Real wages had frozen for 150 years since their peak in 1650 and the population was in a state of decline.[552] Whilst no statistics exist on the figures for unemployment, de Vries suggests that the sign-up rate to the Dutch East India Company (the Vereenigde Oost-Indische Compagnie, or VOC) and increasing gender imbalance might suggest it was an issue among lower unskilled and

[546] Ibid.
[547] Ibid.
[548] Ibid.
[549] Ibid.
[550] Ibid.
[551] Ibid pps. 491-493.
[552] Ibid p. 570.

semiskilled workers.[553] As the male population drained from the Republic there was a fall in the issuing of marriage licences and a decline in birth rate that exacerbated the fall in population.[554]

Table 4: Assumed household income distribution in the cities of Holland, 1750-1800. Highlighted figures estimated.[555]

Description	Income class (guilders per year)	%	Average income	Total	Average annual income for all
Het grauw (proletariat)	200-300	15	275	4,125	
Working class (unskilled/semiskilled)	300-350	30	325	9,750	
Working class (semiskilled/skilled)	350-400	15	370	5,550	
Working class (skilled)	400-500	12	440	5,280	
Lesser burgerij (lower middle class)	500-600	8	540	4,320	
Burgerij (middle class)	600-1,000	13	All incomes under 600	29,025/80=	362.81
Grote burgerij (upper middle class)	1,000+	6			
Hoge burgerij (upper class)	5,000+	1			

There was a greater level of distribution in the localisation of skilled craftsmen in the Republic than in England at the time. "Big-city" specialities were seen as scarce in the Republic's small cities, meaning that those with occupations such as jewellers, silversmiths, watch and clockmakers were able to make a similar living both in rural and city locations.[556] This more even distribution suggests a broader and more uniform demand for specialist goods and the absence of economies of scale in their operations.[557] These highly specialist operations relied heavily on centralisation with key hubs in Rotterdam, Haarlem and Amsterdam.

[553] Ibid.
[554] Ibid.
[555] Ibid pps. 562-564.
[556] Ibid p. 571.
[557] Ibid.

In terms of their design, the Dutch style can be defined and identified through the scalloping of the minute track, as opposed to the circular track on English and often French dials as illustrated in previous chapters. The Dutch would still work in the popular designs of the era, commonly using silver or gold champlevé dials, detailed repoussé pair-cases decorated with classical and Biblical scenes and ornately pierced and engraved gilt movements with verge escapements. However, what again separates them from English work is their preference of the balance bridge over the balance cock and the proportions of the top plate furniture which often looks considerably oversized in comparison. Mock pendulums were popular in the second half of the eighteenth century, as were ornate pierced and engraved decorative caps sometimes seen in brass or contrasting silver for the pillars, as opposed to the simpler square baluster style preferred in England at the time. The use of silver in the detail of the decoration is not uncommon, particularly as the material for the balance bridge and dust cover or band (if present).

What is noticeable, when studying the aesthetics of Dutch watchmaking, is that there appear to be two very different levels of skill and finish. This occurs to such an extent that a number of Dutch watches seem to have a great deal in common with *Dutch forgeries* and do not appear to match the standard of known authenticated Dutch work. Some examples even bear similar spelling mistakes to the forgeries of English watches. Similarly to the issue of imitation English watches, this could point to a number of conclusions. These watches could have been imported for under the counter use by legitimate watchmakers to cut their production costs, or they could have been out and out forgeries of which the watchmaker named on them had no knowledge. What is curious is that, unlike *Dutch forgeries* of English watches bearing totally fictitious names, the forgery-type watches signed with Dutch city names almost universally exist under the names of known makers.

There are other similarities between these watches and *Dutch forgeries*. The most obvious, as well as being the easiest to identify, is the use of the same repoussé case makers. The names of Cochin

and Mauris appear both on *Dutch forgeries* and Dutch watches. Between 1730 and 1786, Cees Peeters' catalogue *Hollandse Horloges* lists sixty-three cased watches; five can be attributed with certainty to Daniel Cochin and three to Mauris.[558] Other examples are listed as being marked with the initials IR which also appear on *Dutch forgeries*. The Museum of London holds one example of a watch signed Debaufre, London with a case signed Mauris.[559] While a number of the watches listed do not make mention of the case maker or list an image, so there might be more attributable watches than counted above the eight watches identified demonstrate that there must have been some link between the trade in *Dutch forgeries* and the trade in Dutch watches over the period in question.

6.4 Eighteenth-century Swiss watch market.

In the period running up to the war, the statistics would support Smith and later Ellmers suggestion that British watch and clockmaking was leading the way in reducing the cost of manufacture and setting the standard in Europe for industrialisation of the trade.[560] While there are numerous references to the growing competition with Continental markets, it is not until we compare directly the quantities of watches being made in Britain to those made in Switzerland, and in turn the quantity of the population involved in the manufacture of those watches that a very different picture is painted. While the 20,000 watchmakers of London were responsible for the manufacture of 15,084 watches for export in 1793, in 1790 Chapuis estimates that Geneva's population of 1,800 watchmakers were responsible for exporting around 14,000 gold and 45,000 silver watches

[558] PEETERS, C. (2012) pps. 186-294.
[559] Museum of London catalogue number 34.181/64.
[560] SMITH, ADAM, *The Wealth of Nations Books I-III*, St Ives; Clays Lts, 1999 and ELLMERS, C. The Impact of the 1797 tax on Clocks and Watches on the London Trade in *Collectanea Londiniensia*, London and Middlesex Archaeological Society.

annually.[561] Additionally, those 20,000 London watchmakers were part of the city's population of one million inhabitants representing around 1/50th of the population, whereas Geneva's watchmakers represented around 1/12th of its 20,000 inhabitants.[562] While the total production for watches passing through London's Goldsmiths' Hall totalled over 190,000 in 1796, the 1793 export figure of 15,084 makes it clear that the majority of these watches were destined for the home trade and consequently London was trailing behind Geneva in the export market for watches in Europe.[563]

Yet, this study argues that contradictory to previous assumptions, it was the Jura mountain region along the Swiss-French border and not Geneva that was responsible for the creation of *Dutch forgeries*.[564] Although Geneva's export market was clearly booming, it was still small in comparison to the sheer volume of production and rapid expansion seen in the manufactories outside of the Swiss capital. In 1793, according to the account of Monsieur Marius Fallet, the firm of Japy in Neuchâtel supplied 'not less than 40,000 movements for the manufacturers of the Mountains'.[565] The volume of watch movements being produced in the region makes it a primary area for investigation in answering the question of where *Dutch forgeries* were being made. Exact censuses in Neuchâtel only exist from 1750 when between Le Locle and La Chaux de Fonds around 180 workers were employed in the watch trade compared to 464 in the canton of Neuchâtel. The production of the two valleys in 1764 was 15,000. The watch industry in Switzerland's mountain and valley regions which merged with the border of France grew dramatically in size over the next 50 years and an essay by Sandoz-Rollin suggests that by 1818 there were 130,000 watches being exported from the Mountains and Val-de-Travers alone, one-ninth in gold cases and the rest in silver or imitation gold.[566] During the time in question, the entire population of Switzerland was in the

[561] CHAPUIS, A & JAQUET, E. (1970) p. 72.
[562] Ibid.
[563] Ibid.
[564] Such as the those made by CUSS, T.P. (1976) p. 309.
[565] CHAPUIS, A & JAQUET, E. (1970) p. 79.
[566] Ibid.

region of 1.5 million. The sheer quantity of movements being created strongly suggests the Swiss watch industry was geared towards the export and international markets.

The dynamic shift in watch production techniques seen by the end of the eighteenth and early nineteenth centuries began nearly a century earlier. Daniel JeanRichard is credited with being the first to attempt *établissage* manufacturing in Switzerland as early as 1712, dividing labour between a number of skilled craftsmen, including: finishers, chain makers, spring makers and goldsmiths. He bought in spare parts from Geneva for assembly in the Mountains, before shifting complete production.[567] Prior to JeanRichard, there had been little production outside of Geneva. However, by his death in 1741 several hundred watchmakers were based Le Locle and La Chaux-de-Fonds.[568] By 1756, the total production in these villages alone was around 15,000 watches in gold or silver cases a year.[569] It is this population that flourished, changing the dynamic shift from low-quantity high-grade production in Geneva to high-quantity low-grade production along the mountainous Swiss-French border capable of producing the sheer volume of watches seen by the end of that century.[570] *Etablissage* will become an integral part of the revised definition in the conclusion of this research as it provides the means to produce the volume of Dutch forgeries being manufactured over the period in question. It also narrows the region of production to the area it was pioneered and practiced with the greatest success, in and around the Alpine mountain range along the Swiss-French border.[571]

[567] Ibid p. 49.
[568] Ibid.
[569] Ibid.
[570] Ibid.
[571] There is no record of *établissage* being practised elsewhere in the world to the scale seen along the Swiss-French border until early-to-mid nineteenth century when the first standardised production was achieved in North America.

6.4.ii Supply and demand, courtesy of the European market

The Industrial Revolution provided the opportunity for a distinct change in consumer behaviour and that in turn, fuelled the proliferation of forgery. If consumption is the logical end to production then, as Appleby suggests, the "latent consuming capacity of the public at large might become an engine for sustained growth" and society is "an aggregation of self-interested individuals tied to one another by the tenuous bonds of envy, exploitation and competition . . . . dangerous levelling tendencies lurked behind the idea of personal improvement through imitative buying."[572]

Landes has argued that, "technological change is never automatic. It means the displacement of established methods, damage to vested interests, often serious human dislocations."[573] It would appear that the established English market, with the golden age of London watchmaking still in living memory, was not as willing as Switzerland to embrace wholeheartedly dramatic compromise in order to achieve competitive technological change. Complaints made by English watchmakers make frequent mention of the inferiority of foreign work, yet they themselves were not willing to embrace the demand for large-quantity low-quality production possibly as a result of their established pride.

Landes isolates two key circumstances needed to ignite such change, the first being opportunity identified as a response to the inadequacy of prevailing techniques, or, a need for improvement created by autonomous increases in factor costs.[574] The second being that the superiority of these new methods covers the costs of change; the latter only being possible when the users of older methods who might attempt to survive by reducing the cost of human factors are still outpriced by the new progressive methods of production.[575]

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[572] APPLEBY, J. 'Ideology and Theory: The Tension between Political and Economic Liberalism in Seventeenth Century England', *The American Historical Review*, vol. 81, no. 3 (June 1976) pps. 507-11.
[573] LANDES, D.S. *The Unbound Prometheus; Technological Change and Industrial Development in Western Europe from 1750 to the Present*. Cambridge University Press, New York, 1969.
[574] Ibid p. 44.
[575] Ibid p. 44.

Under Landes proposition it could be suggested that English watchmakers were not failing as a result of their technical competency but, instead, as a result of their inability to subscribe to the prevailing techniques and, of course, as the result of a total lack of financial investment during the war. Of another contemporary industry experiencing vast technological change, the cotton industry, Landes suggests that "local artisans [were] not in a position to know or exploit the needs of distant customers so merchants begin to direct the market."[576] If we apply this theory to the watch market, we see an established local cottage-type industry struggling to reorganise itself sufficiently to compete with a new merchant-led production in Switzerland during a period of intense financial difficulty. While England was one of the great trading hubs of Europe it was used to setting the standards for design around the world. Switzerland, on the other hand, was situated in the perfect location on a major trans-European trade route with Dutch, French and English merchants passing through on a constant basis as they made their way through the mountains from the River Rhine and on to the River Rhône which acted as an almost perfect natural transport link between the Baltic Sea in the north and Mediterranean in the south. The frequency at which watch manufactories (marked on the map in red) appear in the linking land route between the two rivers is a strong indicator of a booming merchant-directed industry in Switzerland. This theory is supported by contemporary references in competitions, company ledgers and primary accounts of witnesses to the Swiss style of watchmaking in the late eighteenth and early nineteenth centuries. In conclusion, it is highly probably that the Rhine/Rhone trans-European trade route was the primary means by which Dutch forgeries were disseminated from their place of manufacture.

[576] Ibid p. 44.

Figure 144: map of Europe from 1789 depicting the Rhine/Rhone trade route from Holland to the south of France in blue; together with the centres with the capacity to manufacture watches at quantity marked in red.[577]

While it had the capacity for horological excellence, the Swiss watch industry of the eighteenth century was largely built on the production of these commercial watches. In 1852, French historian of watchmaking Pierre Dubois writes:

> During the whole of the eighteenth century, France was predominant for the excellent of its products; but Geneva had the privilege of being able to produce cheap watches, and cheapness, as we all know, always attracts customers. Genevese

[577] Map sourced from http://www.emersonkent.com/map_archive/central_europe_1789.htm, credited to University of Texas at Austin. From The Public Schools Historical Atlas edited by C. Colbeck, 1905. Rhine/Rhone trade route as suggested by CROOK, M. 1991. *Toulon in War and Revolution From the 'Ancien Regime' to the Restoration, 1750-1820 (War, Armed Forces and Society).* Manchester University Press, 1991, p.18, and watchmaking centres by CHAPUIS, A & JAQUET, E. (1970) pps. 43-68.

> manufactories were already injuring France considerably, but the injury became even greater with the outbreak of the political and commercial revolution of 1789.... Not only did this town compete with us abroad, but we actually became its tributaries, for the greater part of the watches which we sold had been brought into France by Swiss watch-makers.[578]

By the end of the eighteenth century, many signatures on Geneva-made watches represented no more than a trademark and gave little indication of the original maker.[579] The Swiss were also the first to start introducing a degree of standardisation in ébauche manufacture, implementing a relatively small number of sizes which would have made ordering and separate case and dial manufacture a new possibility. In previous centuries, and at that time on the rest of the Continent, watchmakers had been forced to work with a greater level of proximity in collaboration with the allied crafts of watchmaking to cater for a more bespoke, hand-crafted product. These early attempts at standardisation were the first stages towards the mass manufacture which was perfected in North America and prevailed over the nineteenth-century watch industry.

The strict official approach of the Swiss in protecting their watchmaking industry in Geneva contrasted starkly with the more flexible social and collaborative approach taken by the rest of Europe's craft centres. In 1700, it was decreed that master watchmakers could only accept the sons of burghers as apprentices. In 1701, foreigners were forbidden to "work at watches", and it was not until the same year that some flexibility was introduced into the legislation allowing watchmakers to work outside of Geneva's city walls, providing it was in the town of their journeymen and apprentices, and that they did not train their children as watchmakers.[580] Chapuis suggests that "little by little, the authorities were forced by circumstances to allow the industry to go beyond the

[578] Referenced ibid p. 76.
[579] La Patrie, 1852, Cit. ibid.
[580] CHAPUIS, A & JAQUET, E. (1970) p. 75.

walls of the town."[581] It could be suggested that the authorities inevitably caved into ineffective restrictions which would have been near impossible to police and suffocating to the progression of an industry in the early modern economy. Such severe restrictions might well have encouraged sections of the watchmaking industry in Switzerland to go underground outside of the watchful walls of the city, making their activities more complex to document. In 1746 there were 550 master watchmakers recorded as working in Geneva, rising to 800 in 1760.[582] Later figures suggest the numbers could have been as high as 2-4,000 in all branches and skill levels of watchmaking. By 1788, statistics show the population involved in watchmaking in Geneva as 6,423, which can be broken down into 1,095 watchmakers, 475 case makers, 204 engravers, 113 spring makers, 111 jewellers, 106 goldsmiths, 78 workers in precious stones, 72 enamellers et al.[583] Chapuis estimates that by 1790, the Genevese Manufactory was exporting some 14,000 gold watches and 45,000 silver watches, and quotes Sandoz-Rollin's 1812 *Essai de Statistique sur le Canton de Neuchâtel*, which found that the Mountains and Val-de-Travers "exported 130,000 watches annually, one-ninth part of which had gold cases and the rest silver or imitation gold cases . . . The watches are so varied in price that they range from 7 to 600 Livres. It is interesting to see the assortment of watches of a merchant in the Mountains, and to hear, among the fir-trees of the Jura, dissertations on the taste of nations. They know the taste of the Swedes, the Danes or the Russians as well as the daily caprice of French fashions."[584]

The process of *établissage* is recorded in Switzerland as early as the beginning of the eighteenth century, at a time when watch manufacturers in England were still operating as relative independent houses. Records of Thomas Tompion's first London workshop made in the 1670s indicate he was in occupation of a premises two stories high, with garrets, five hearths[585] and eleven windows,[586] which

[581] Ibid.
[582] Ibid.
[583] Ibid p. 76.
[584] Ibid p. 89.
[585] St Bride's parish records, CLRO, Hearth Tax, Assessment Box, 25.9/18 cited in EVANS, J. Thomas Thompion at the Dial and Three Crowns. East Sussex; The Antiquarian Horological Society, 2006.

was by no means a small one-man workshop. Still, the size of his workshops implies many of Tompion's watchmakers and related craftsmen were operating under one roof. Where the Swiss *établissage* method separates from the English approach is in that the master-watchmaker would operate between a number of independent craftsmen within their district. As the century progressed, the importance of relationships between colleagues not only in neighbouring districts but as far afield as Paris and London, intensified and so the meaning of the term *établissage* evolved in character to define the new approach of Swiss watch manufacturer. The master watchmaker was no longer content with commissioning work from various small independent workshops which were then finished and delivered to merchants; they became merchants themselves. Records show this new generation of merchant-watchmakers would even furnish the workshops they outsourced to with the raw materials they required for their special orders, taking a greater commercial control over the production process. In the mid-eighteenth century, there were four main categories of worker; the maker of ébauches (or rough movements), the finisher, the case maker and the worker specialising in the manufacture of accessory parts.[587] By the end of the eighteenth century, there were workshops across Switzerland with centres in the Faucigny and the Gex country, the Vallée de Joux, the Doubs region, the Neuchâtelois and Berenese Jura. Despite the rapidly expanding force of labour, these workshops were still unable to meet with production demands and so greater industrialisation was introduced towards the close of the eighteenth century.

The 1791 inventory of Josué Robert & Fils of La Chaux-de-Fonds describes a "special workshop" or "laboratory" for the manufacture of movements.[588] Among the equipment, there is mention of a roughing-out lathe for watch movements, a machine for cutting the flat wheels, another roughing-out lathe, and a tool for cutting fusees.[589] Inventories from this period also identify some of those

[586] Ibid.
[587] CHAPUIS, A & JAQUET, E. (1970) p. 78.
[588] Ibid.
[589] Ibid p. 79.

commissioning movements from the region. Chapuis identifies the firm of Robert & Fils[590] as among those ordering movements and describes commissions in 'the English style' from watchmaker Frédérick Japy who ran a manufactory in Beaucourt which had financial links with merchants from Neuchâtel.[591] In 1793, Japy supplied approximately 40,000 movements for manufacturers in the Swiss Mountains.[592] Unhappy with relying on a French manufactory for such a high volume of movements, the same year saw the founding of a new movement manufactory in Fontainemelon.[593] By 1800, this factory had grown considerably in size, supplied by a large number of skilled workers in the local area and financed by the large volume of commissions coming from both home and abroad.[594] Their earliest clients were predominantly local, and catalogues show the most popular styles commissioned by these fellow Swiss companies were given interesting names such as "superfine English" and "French styles".[595] The production method was highly successful, and the factory was acquired by Jacob Robert-Tissot in 1821. By 1880 it employed 400 people manufacturing 240,000 movements a year and was re-named *Fabrique d'Horlogerie de Fontainemelon*.[596] FHF, as it is now known, is still in operation as an ébauche manufacturer to The Swatch Group Ltd, the largest of the modern Swiss horological confederations.

The increasing scale of production over the period covered by this research and century after not only demonstrates the success of the *établissage* method, but, that there was a clear demand these watches were supplying. The advertisement of watches in the "English" and "French" styles is also very telling about the type of work being produced by specifically pinpointing the imitative production seen in *Dutch forgeries*. These two factors combined with the location of these

[590] Likely to be silversmith Walter Robert (active 1786-1797) and son Isaiah Robert (active 1795-1822) of Bishopsgate, London. Ref. *Britten's Old Clocks & Watches and their Makers* (1982) p. 583.
[591] CHAPUIS, A & JAQUET, E. (1970) p. 80.
[592] Ibid.
[593] Ibid.
[594] Ibid.
[595] Ibid.
[596] Source http://wansor.vs120138.hl-users.com/Uhrenseite/Unterseiten/Subseite_FHF.php [viewed 27.06.2015].

manufactories along the Rhine/Rhone trade route illustrated previously further support the argument that *Dutch forgeries* were being manufactured on and around the Swiss-French border.

6.5 Franco-Swiss relations in the border regions.

For the purposes of this research, it is important to judge the social and economic climate along the Swiss-French border by eighteenth-century standards. Previous research has set boundaries around the city of Geneva to define the area responsible for the production of *Dutch forgeries*. However, trade and social movement at the time in question was far freer than the city and national boundaries of today. There was no passport control, no border guard and consequently trade and migration could move with relative ease and little regulation between the sister French-speaking towns and villages which stretched along the border. Sandoz described the Franco-Swiss border as a "permeable frontier", and history certainly supports this description.[597]

Written in 1787, an essay by Englishman Josiah Tucker gives some insight into the trading practices of France right in the heart of the era when *Dutch forgeries* were being manufactured.[598] He suggested that "They [the French] reap unspeakable advantage by the permission and encouragement given to foreign merchants and manufacturers to settle among them. By this good policy, the price of labour is always kept sufficiently low. A competition and emulation are raised, who shall work, and sell the cheapest; which must turn out greatly to the national advantage."[599] Tucker goes on to discuss French policy as being "particularly gentle and indulgent with foreigners", and of course international trade had played an importantrole in the establishment of the *Ancien*

[597] SANDOZ, C. (1904).
[598] TUCKER, J. 'A brief essay on the advantages & disadvantages which respectively attend France and Great-Britain, with regard to trade', P. Byrne, 108 Grafton Street, Dublin.
[599] Ibid p. 18.

Régime.[600] Exploitation of a large, poor population sourced both from France and from her neighbouring countries provided a large workforce which was welcomingly absorbed by the army or manufacturing. Tucker describes the Rhône river as "so easy and cheap a conveyance, for swarms of inhabitants bordering on the lake of Geneva, that so small a sum as one shilling, or eighteen pence each person, will bring them to the chief manufacturing town in the kingdom", before suggesting that, in the city of Lyon, "there are said to be no less than ten thousand Swiss and Germans employed in that city."[601]

Tucker's account is unquestionably tainted by Anglo-French relations and must be tempered accordingly. However, the importance of France's exploitation of poor populations both at home and abroad was fundamental element of the *Ancien Régime*. It was, in part, this abuse of human labour that triggered its downfall with the French Revolution beginning just two years after the writing of that essay in 1789. The close relationship between France and Switzerland was demonstrated by the interactions between the ordinary people living on both sides of the border during the French Revolution. The fallout in Europe caused by the civil war was vast. Switzerland politically sided with the French aristocracy, while numbers of Swiss nationals, watchmakers included, supported the Revolutionaries. An incident in 1789, when a group of watchmakers from Le Locle and La Chaux-de-Fonds with connections to the Jacobin Society of Morteau publically danced the *Caramagnole* (a revolutionary song and dance), resulted in their expulsion from Switzerland by the Neuchâtel government. The group found refuge over the border in Besançon, contributing to the development of the watch industry in the Franche-Comté.[602] The speed and ease with which these watchmakers resettled en masse in a nearby French town with a residing population of watchmakers suggests that, in all probability, the two groups were already known to each other and had a working relationship. There is no evidence to suggest these Swiss watchmakers in France were made

[600] Agrarian law prevented monopolies by placing limitations on land ownership.
[601] TUCKER, J. (1787) p. 24.
[602] CHAPUIS, A & JAQUET, E. (1970) p. 89.

anything other than welcome, merging into the local population as colleagues rather than competition.

6.6 Friedberg

While the main culprit for the mass manufacture of watches falsely proclaiming London origin is commonly believed in literature to be Switzerland, the German city of Friedberg had a known history of manufacturing London-signed watches.

Many of these watches would bear the genuine maker's name in reverse making them simpler to identify than the *Dutch forgeries* which commonly took completely fictitious names. The makers of Friedberg's London watches were acting more as marketers than forgers, cashing in on the London premium over the course of the eighteenth century. This approach has been described both as an "intelligent marketing strategy"[603] and "ingenuity in a biased market"[604] despite still technically being a forgery. Johan Heckel (active from around 1720) would sign his name Lekceh, London; Joseph Spiegel (active between the 1730s and 1750s) as Legeips, London; and Brossey (active 1732-41) as Yssorb, London. Other makers would make slight alterations to feign a more English-sounding name such as Jacob Strixner's (active 1740s) pseudonym Stringer, London. This technique was predominantly employed by the watchmakers of Friedberg rather than elsewhere in Europe. Of particular note is the aforementioned Joseph Spiegel whose surname translates from the German to English to literally mean mirror or miroir in French. Spiegel is also associated with watches signed Mirroir à Paris and there are other similar examples known bearing names such as Mirair, London and Miroir, London which might well be from the same source.[605]

[603] ARNOLD-BECKER, A. (2012).
[604] WHITESTONE, S. A Minute Repeating Watch Circa 1715 Friedberg's Ingenuity In A Biased Market. *Antiquarian Horology.* Vol.21, No.02, p. 53.
[605] THOMPSON, D. (2009) p. 72.

While these watches were generally of a superior quality and greater level of complication (Friedberg was known for its repeating mechanisms) to those believed to be manufactured in Switzerland and across the border with France, there is still significantly less recorded material on their makers and production than on the London watches they were imitating. Sebastian Whitestone comments on the many likely reasons for the lack of information, with the most obvious lying in the nature of Friedberg's activity. The city partnered with Augsburg which cased the movements with "finest gold and silversmithery."[606] Friedberg principally supplied the trade of Europe and trade rarely attracts publicity. Whitestone suggests that "much, if not most, of Friedberg production, bore either bogus foreign signatures or retailers' names. Thus Friedberg itself is similarly neglected in contemporary literature, despite the fact it was probably Germany's principle supplier of pocket watches in the mid-eighteenth century." [607] Europe's vast trade routes and populous cities would have made an easy way to disperse these spuriously signed watches with little to no trace at all. And as Whitestone also points out, it is unlikely watches signed with a name like Lekceh, London, would have been taken particularly seriously by commentators of the era.

Whitestone also offers a useful calculation in deducting the numbers of these watches being made by using known makers' survival rates, referencing Thomas Tompion in particular, in comparison to their archived production. While Tompion has a 30% survival rate with around 2,000 of his watches made in the late seventeenth and early eighteenth centuries known of in circulation to date, he was one of the most famous watchmakers in British history and consequently will have benefited from a disproportionate survival rate. Whitestone suggests the figure for the Friedberg forgeries is likely to be closer to 5%.[608]

[606] WHITESTONE, S. A Minute Repeating Watch Circa 1715 Friedberg's Ingenuity In A Biased Market. *Antiquarian Horology.* Vol.21, No.02, pps. 145-158.
[607] Ibid.
[608] Ibid.

Although a handful of Friedberg's watchmakers were unquestionably engaged in some rather dubious marketing techniques, their watches are very stylistically different to *Dutch forgeries*. Additionally, Friedberg's watch industry reached its peak by around 1760 and was in a steady state of decline by the end of the century, which is the era in which we see *Dutch forgeries* reach a peak in production.[609] In combination, these two issues rule out Friedberg as the source of the watches being examined by this research.

6.7 Conclusion

Where previous researchers have pinpointed the city of Geneva as the city of origin of *Dutch forgeries*, this study has demonstrated that their true origin lies along the Swiss/French border. The region was both geographically and economically ideal and had ample access to cheap labour and the Alps acting as a natural veil to shroud the legally grey manufacture of imitation watches. Strategically located on one of the busiest trans-European trade routes, spanning the area connecting the Rhine and Rhone rivers, the location would have been highly convenient for merchants placing and collecting orders whilst attending to business between the Mediterranean and the North Sea. After extensive research and examination of the state of European watchmaking between 1750 and 1820, this study concludes that there was nowhere else in Europe at the time with the capacity to manufacture the sheer volume of low-value watches seen in the trade of *Dutch forgeries*.

[609] Ibid.

Chapter 7 : Where were they distributed?

7.1 Introduction

> Gold and silver, like all other commodities, naturally seek the market where the best price is given for them; and the best price is commonly given for everything in the country which can best afford it. Labour, it must be remembered, is the ultimate price which is paid for everything; and in countries where labour is equally well rewarded, the money price of labour will be in proportion to that of the subsistence of the labourer. But gold and silver will naturally exchange for a greater quantity of subsistence in a rich than in a poor country; in a country which abounds with subsistence, than in one which is but indifferently supplied with it.[610]

As the previous chapter demonstrates, Switzerland's historic neutrality, strong trading links, close ties with France and its geographical location, sitting perfectly alongside the trade route between the Rhône and Rhine rivers, made the towns and villages along the French-Swiss border the ideal location to manufacture large volumes of watch movements for export. The previous chapters have established the area of origin for *Dutch forgeries*. By analysing this evidence alongside archival accounts, legal and taxation incentives and hidden clues found within the watches themselves, this chapter will establish the most likely routes to market for these watches.

[610] Adam Smith, as referenced by Ricardo in *The Principles of Political Economy and Taxation*, Dover Edition, 2004.

7.2 Stage 1 – Crossing the first border

While the previous chapter has already demonstrated the ease with which watches could be transported in bulk along the well-trodden Rhine/Rhone trans-European trade route and the concrete supporting evidence such as that of the Swiss watchmakers migration to Besançon, there are more elaborate tales about the measures merchants would take to smuggle watches away from the Swiss border and into neighbouring countries.

An account came to light in the research of Alun Davis, who discovered an extract from the *Saturday Magazine* in 1842 which describes the use of dogs to smuggle watches out of Switzerland and across the French border.[611] The account of the "chien fraudeurs" was written significantly after the event and must be treated with a certain degree of scepticism. [612] While it is entirely possible that this technique might have been used, is it highly unlikely it could have been employed on a scale which would account for the hundreds of thousands of watches leaving Switzerland each year. Additionally, with many of the centres for ébauche manufacture being in the mountain towns, there would have been countless opportunities for carts on little trodden mountain passes to shift large quantities of watches into the rest of Europe, not to mention the ships and merchants trading across Switzerland between the mouths of the Rhône and the Rhine. What we do know, however, is that this account was published in a weekend magazine during the height of the Victorian gothic era. While not impossible, it is likely the Victorians would have enjoyed the tales of feral, wild and dangerous smuggling dogs tearing around the mountains of central Europe.

[611] DAVIS, A.C. Swiss Watches, Tariffs, And Smuggling With Dogs. *Antiquarian Horology*. No. 3, Volume 38, September 2016.
[612] Ibid.

7.3 Stage 2 – All roads lead to Holland

The amount of traffic using the cross-European Rhine/Rhône route would make isolating the merchants of which nation fuelling the demand for unsigned low-quality watch movements, along with their nationality, challenging were it not for the frequency with which these watches, when present with precious metal cases, carry Dutch import marks. This concrete evidence, combined with Holland's established reputation as one of the greatest trading nations in the world at the time, suggests that it was Dutch merchants frequenting this trade route who were purchasing and disseminating these watches to jewellers, the makers and retailers of clothing and even other watchmakers. This, in turn, offers an explanation for the prolific use of fictitious names, as the European retailer could not plausibly offer watches for sale signed with their own name on a London watch if they were based in Holland, Sweden or anywhere else other than London. The idea of picking an English-sounding name from a hat would have been an attractive one. To copy the name of a known maker might attract unwanted interest and suspicion. There were a high number of legitimate watchmakers practising in London with only a minority making fame and fortune. In an era without the invaluable research tool that is the internet and with trade directories in their infancy, the existence of these watchmakers would have been more difficult to verify. Plus, the notion that your average middle-earning Continental watch buyer would not have heard of the majority of legitimate London watchmakers anyway would have made his or her acceptance of fictitious ones even easier.

The suggestion that Dutch merchants were behind the dissemination and distribution of *Dutch forgeries* is supported by economic theory. Referring back to Landes sentiment that "local artisans [were] not in a position to know or exploit the needs of distant customers so merchants begin to direct the market", this would support the theory that the same merchants responsible for *Dutch*

forgeries were also heavily involved in Dutch trade.[613] Moreover, there is also archival evidence of the involvement of Dutch merchants in the watch trade in the contemporary accounts of London makers' exchanges with them. By 1817, there were reports that Dutch merchants were approaching London watchmakers in a recruitment drive to establish their own manufactory in Rotterdam. One witness quotes:

> That there were two persons from Holland who had come to him purchasing watch hands, and had stated that the sale of English watches could very much be forwarded, if they could procure English movements to be manufactured in Holland,..... and getting French finishers, of whom they could have enough, they could send anywhere watches with English movements to any quantity.[614]

There are other accounts of English dial hand and even movement makers supplying English parts to order for Dutch merchants for use on the Continent. In fact, all parts but the cases as one witness presumes "they have case makers . . there, who can make them, and they can purchase the metal cheaper."[615] The watchmakers who operated within the Dutch Republic are generally well recorded with many examples of their work surviving today. Dial maker Richard Symes discusses making "Dutch arch-dials, with minute figures all round," adding "I sold them one gross of Dutch-arch dials at six and sixpence and seven shillings."[616]

While the accounts and evidence all indicate that Dutch merchants were leading the trade in *Dutch forgeries*, they also implicate English watches in the creation of forgeries of their own work. This would also offer an explanation as to why some of the cases found with these watches carry genuine English hallmarks. However, aesthetic components aside, this study has found no evidence to

[613] LANDES, D.S. (1969) p. 44.
[614] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 52.
[615] Ibid p. 54.
[616] Ibid p. 55.

suggest the movements themselves were manufactured in any way in England. Furthermore, if the trade in English-made dials and cases had been successful the industry would not have been in such a depressed state by the *Report* of 1817.[617] Consequently, the most likely explanation is that Dutch merchants used English manufacturing while they assisted with the building of manufactories on the Continent with the capacity to make the same goods at a far lower price, then dropped the English makers once this was achieved. What started as a more scattered way of production, refined by the start of the nineteenth century to create the organised *établissage* method which relied exclusively on the Swiss/French border region for production, and on Dutch merchants for dissemination.

7.4 Stage 3 - Dissemination

The sheer prevalence of Dutch duty marks is not the only means by which we can gain some insight into the lives these watches led after their creation along the Franco-Swiss border. During the late eighteenth and nineteenth centuries, watch papers became a popular way for watchmakers to leave advertising within the watches they had repaired or sold. Even with the vast advancements made in case design and the chemicals used in lubrication, modern watches require servicing every three to five years. The pair case watch, which was popular at the time and is the most common associated with the so-called *Dutch forgery*, would have offered the fragile movement within little protection from the elements. The design of the pair cased watch, with a separate outer shell housing the inner case which contained the movement, perfectly suited to the inclusion of a paper insert which could sit within the inside back of the outer case. Watch papers served three main purposes, firstly as a reminder to the owner, advertising their previous watchmaker's services should the owner want their watch servicing again in the future. The second as a note to themselves with the date they last serviced the watch, which is useful information when trying to establish whether the watch should

[617] Ibid.

be covered by any guarantee and if they had serviced that particular watch in the past. Lastly, to protect the inner case from rubbing the inside of the outer case and causing wear.

A degree of caution must be exercised when analysing watch papers as a source of information about the history of a watch, as by their nature they can be removed or replaced with ease and give no guarantee of who the original retailer was only of which watchmaker might have handled it over the course of its working life. Rather than treat watch papers as any form of concrete evidence as to the history of the specific watches being analysed by this research, these case studies instead aim to use them as a suggestion as to where in the world each watch might have spent portions of its existence and which markets it appears to have passed through. Watch papers are statistically scarce in the watches examined by this research. This might be because paper is delicate in its nature and susceptible to damage by tearing or the elements. Some watch papers display a high level of printed decoration with detailed engraved scenes making them works of art in themselves. The collection of these papers has become a hobby in recent years to some individuals, which might in part explain why so few watches from the period in question survive complete with papers. Still, for the few that do, they give us a small insight into the secrets these watches hold. Out of the thirty watches analysed by this research in detail at the British Museum, seven were complete with watch papers.

7.4.i Watches for the Dutch market

Not all *Dutch forgeries* were destined for foreign markets; some it would appear remained in Holland for many years. The British Museum's reference 1958,1201.815, a silver pair cased watch signed Chandler & Son, London, and hallmarked by London assay office in 1803 contains four watch papers.[618] While the watch itself states it was made and marked in London, three of these papers were left by Dutch watchmakers, suggesting that not only did this watch pass into Holland, but that it stayed there for many years and was serviced on three occasions. The earliest appears to be English, belonging to a watchmaker on Downing Street. The later three end with a paper which has been numbered. Due to the ageing of the paper, it is difficult to read with certainty but the number appears to be 18 above 52. The four watch papers read:

1. [. . .] UTER WATCH & CLOCK Maker Downing St Fam[. . .];
2. H. WESTRA te Rinsumageest, herstelt allé soorten van KLOKKEN HOROLOGIEN, enz. (H. Westra of Rinsumageest , repairs all types of clocks, watches, etc.);
3. VERKOOPT ALLE SOORTEN VAN HOROLOGIEN, KLOKKEN ENZ MET DE ZON IS GAAUWER F. ZOUTMAN, Horologie- en UURWERKMAKER DOCKUM (Seller of all kinds of watches, clocks etc. With THE SUN IS F. Gaauwer Zoutman and Son, clockmaker and watchmaker, Dockum);
4. JOHs. VEENSTRA Horologii Maker Tus [. . .] Koningstraat [.....] Kalbrug Leeuwarden [obverse] and A.A Jongsma 52 [reverse] (Johs. Veenstra, watchmaker [. . .] King Street [.....] Kalbrug, Leeuwarden).[619]

[618] British Museum identification number 1958,1201.815.
[619] British Museum, Collections Online, http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?searchText=CAI.0815&ILINK|34484,|assetId=217788001&objectId=57887&partId=1 [viewed 28/12/2015]

Figure 145: watch papers found within the outer pair case of a watch signed Chandler & Son, London.[620]

The case of this watch has been struck with Dutch duty marks which support the theory that this watch was in England before being exported to Holland sometime after 1814. No record of the watchmakers listed on the legible papers could be found.

The Museum of London's watch that is signed John Wilter contains a single watch paper in Dutch, this time from "R.H. Tiedens Horologie – en Uurwerkmaker te Oude Beerta – Met de Zonigauuwer."[621] The outer case and pendant of this watch are struck with Dutch import marks, proving with a high level of certainty that this watch was traded through and spent time in Holland at some point in its life.

[620] British Museum identification number 1958,1201.815. Images ©British Museum.
[621] Museum of London catalogue number A9873.

Figure 146: the watch paper found within the outer pair case of a watch signed John Wilter, London.[622]

Reference 1958,1201.642 signed May, London is a silver pair-cased watch hallmarked by London assay office in 1790.[623] The outer case contains watch papers which have been roughly hand-cut from a printed text in Dutch. There is no handwritten annotation, which suggests the purpose of these papers was nothing more than to prevent wear between the cases. The paper appears to date to the second half of the nineteenth century supporting the argument that this watch was intended for the Dutch market and spend considerable time in circulation there.

[622] Ibid. Image author's own ©R. Struthers and ©Museum of London.
[623] British Museum identification number 1958,1201.642.

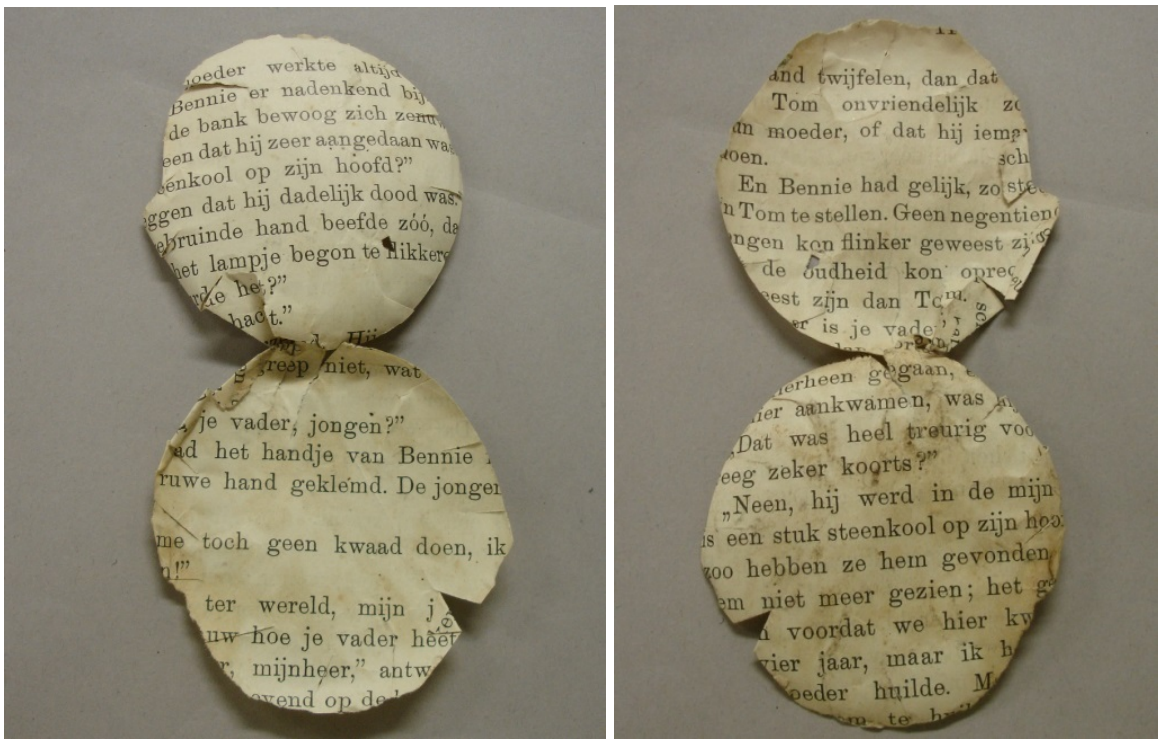

Figure 147: watch papers from a Dutch text found within the outer pair case of a watch signed May, London.[624]

Hidden signatures within the mechanism itself also give some indication of where these watches lived out their days. It is not uncommon for watchmakers servicing movements to leave their initials, signature or another mark familiar to them, often with a date or coded date, so that if the watch is returned they will be able to identify it as having passed through their hands. It is often virtually impossible to distinguish which of these signatures are original and which are later, making them of little use for detecting the possible names of the legitimate makers. They do, however, give us an idea of the countries and nationalities through which the watch has travelled. Names such as Vemeef (possibly Vereef) [625] and Vangastel[626] are not particularly common in England, implying the watch was more likely to have spent its time in countries with a native Teutonic language.

[624] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[625] British Museum identification number 1958,1201.403, signature Vemeef (possibly Vereef, text is scrawled and barely legible) concealed beneath the dial on a watch signed Samuel Weldon, London.
[626] British Museum identification number 1958,1201.383, signature Vangastel concealed within the bezel of the inner case of a watch signed John Wilter, London .

The final piece of the puzzle might be offered within the testimonies made in *the Petitions of the Watchmakers of Coventry* to The House of Commons in 1817.[627] A Mr J. Bartholomew suggests that the state of depression of the British watch trade in 1817 was "aggravated by the illicit importation of foreign watches"[628] and that "a very great number proportion of which there is reason to fear they have never paid duty" or in other words, smuggled.[629] Mr William Nadauld goes as far as claiming that he has "seen 500 at a time that have been offered to [him] for sale."[630] As to the state of completeness these watches were arriving in English ports, Mr. Robert Stoddart suggests they were "smuggled into this country in great numbers, and in every state of manufacture" implying that it was a combination of bare movements, parts as well as fully finished watches, inferring in turn that English watchmakers much have been involved in the trade to complete examples in the other "state[s] of manufacture".[631]

While the information provided within these accounts is unquestionably valuable, it must also be treated with caution and consideration of the political and social tensions of the era. The dialogue is markedly Francophobic, with numerous comments made about heavy taxes and licences being applied to imported watches, "particularly in respect to French watches".[632] There are also suggestions that these French watches have "greatly contributed to reduce the demand for our own manufacture."[633] With watchmakers like Mr James Hodgson Bidlake and Mr William Cozens go as far as referring to the watches that became almost universally referred to as *Dutch forgeries*, as "French watches".[634] Considering the Parisian watch industry was relatively small and high in quality compared to other European markets and had also suffered greatly during the French Revolution as watchmaking was traditionally associated with elitism and aristocracy, it is highly unlikely that these

[627] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817).
[628] Ibid p. 6.
[629] Ibid p. 8.
[630] Ibid p. 31
[631] Ibid p. 18.
[632] Ibid p. 9.
[633] Ibid p. 15.
[634] Ibid p. 21 and p. 22 respectively.

makers posed any real threat to English watchmaking. These assertions could be the result of the national feeling towards France in the post-war era although it is possible that they could also point towards watchmakers in another region of France, the only other area in France manufacturing watches in any substantial amount were situated along the Swiss-French border.[635] This theory could be supported by watchmakers such as Mr Peter Upjohn, who contradicts these other accounts stating that in his opinion "that what are commonly referred to as French watches, are watches manufactured in Switzerland".[636] Mr Thomas Archer supports when asked "Are the generality of foreign watches of inferior manufacture?" he answers "The generality of Swiss ones are."[637] Could these lines be so blurred because the centres of production spanned across both sides of the border?

Perhaps most importantly, the interviews shed light on the nature of the watch market at the time in question. Far from the cottage-industry style of production practised a century earlier, now we see accounts of London watchmakers "execute[ing] the orders of merchants".[638] While many of the interviews are generally vague on this subject a few, such as the account made by Mr Joseph Hogan give a great level of detail of their first-hand experience with these merchants.[639] He discusses at length the approaches of Dutch merchants with the intent to establish a manufactory in Holland with the aid of British watchmakers. He names other watchmakers who had also been approached by these Dutch merchants who claimed that "English watches could be very much forwarded, if they could procure English movements to be manufactured in Holland" where they would get "French finishers, of whom they [had] enough."[640] Mr Richard London Symes names Daniel David Leo "and another person by the name of Davis" as a pair of Dutch merchants purchasing the services of London watchmakers for manufacturing watches in Holland. When questioned by the Commons

[635] Such as Besançon and Ferney-Voltaire.
[636] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 34.
[637] Ibid p. 36.
[638] Ibid p. 27.
[639] Ibid p. 52.
[640] Ibid.

"Did you understand that these Dutch Jews intended to have the articles made up into watches, and then smuggle them into this country, and dispose of them as British manufacture?" Symes responds "I do not think it at all unlikely that they might."[641]

Interpreting these accounts requires a great deal of historical contextualisation and reading between the lines, but the accounts as a whole describe an atmosphere of a rising class of merchant watchmakers, largely Dutch, reorganising the European watch industry in a more productive manner. These watches, it would appear, were first made along the Swiss-French border, before these merchant's sights were set further afield with attempts to establish manufactories in Holland. Furthermore, the depressed state of British watchmaking was contributing to an exodus of skilled watchmakers to America, who would become the nation to eventually perfect the art of standardised mass manufacture in horology.[642]

7.4.ii Watches for the British market

Accounts of these watches being seen in shop windows and "sold by dress-makers in the west end of town [London]" do not go unsupported by the evidence.[643] Reference 1958,1201.403, which has been signed Samuel Weldon, London, is a silver pair-cased watch which features a date display.[644] Fake London hallmarks appear to imply an assay date of 1750, although the format is unlike any date letter used by Goldsmiths' Hall. Within the outer case, there is a watch paper dating to the mid-nineteenth century belonging to a repairer and retailer by the name of Stuart Lamont in Port Glasgow, Scotland. While no trace of a jeweller by this name was found, Port Glasgow was a busy shipping town and would have seen a large amount of passing trade at the time. It is possible that

[641] Ibid p. 55.
[642] Ibid p. 17.
[643] Ibid p. 36.
[644] British Museum identification number 1958,1201.403.

the watch spent time in Scotland. However, it is also possible that it belonged at some point to a merchant or trader who was passing through.

Figure 148: watch paper found within the outer case of a watch signed Samuel Weldon, London.[645]

As in the example signed May, the paper in watch 1958,1201.879 signed John Wilter, London was found in an un-hallmarked silver pair-cased watch and has been roughly cut from printed text which this time is English.[646] The paper and nature of the text suggest the papers date to the end of the nineteenth century. This, combined with the lack of Continental duty marks on either inner or outer case implies that watch was destined for retail in England where it remained. What should be noted is that, if this was the case, to retail a watch as silver in England at any time since this watch would have been created without hallmarks would have been illegal under UK law. The retailer would not have been able to openly sell the watch, and would have risked hefty fines or a prison sentence if caught with the watch on site.

[645] Ibid. Image author's own ©R. Struthers and ©British Museum.
[646] British Museum identification number 1958,1201.879.

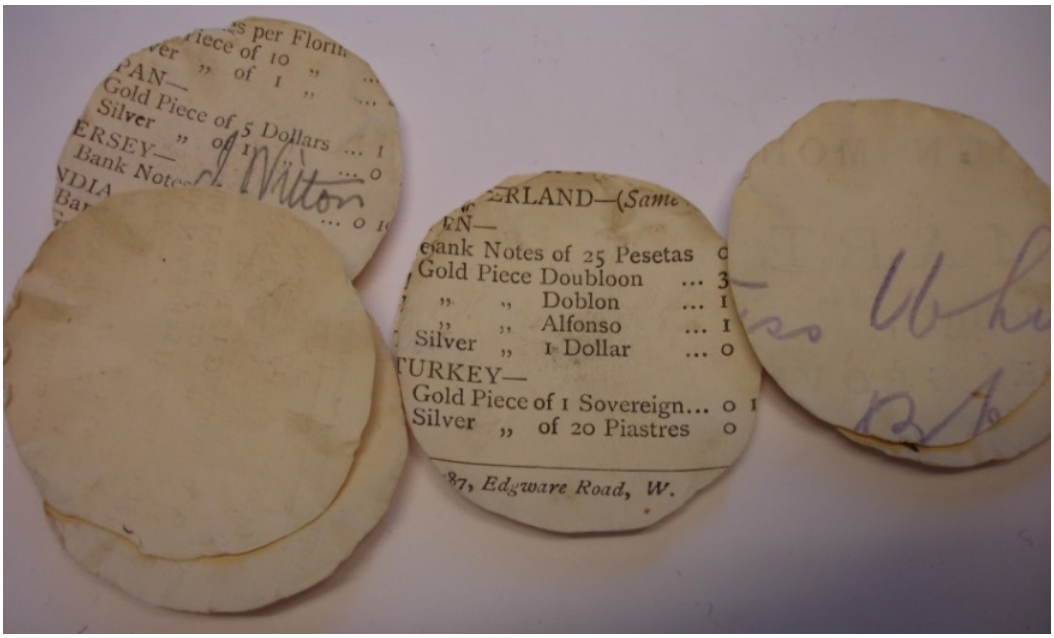

Figure 149: watch papers found within the outer pair case of a watch signed John Wilter, London.[647]

British Museum reference 1958,1201.549 signed Godfrey Poy, London, is a silver pair-cased watch with date display which lacks any hallmarks or duty marks which might have provided a date.[648] The watch paper inside belongs to a watchmaker and jeweller by the name of C. H. Cowie, based in Station Square, Aboyne in Aberdeenshire, Scotland. The full text of the paper reads "watches and jewellery of every description carefully repaired" in a garter surrounding the shopkeeper's name. The back of the paper has the date 5th March '89 written in ink, which will either be a date of repair or a date of sale, indicating that this watch was in Scotland in March 1889.

[647] Ibid. Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.
[648] British Museum identification number 1958,1201.549.

Figure 150: watch papers found within the outer pair case of a watch signed Godfrey Poy, London.[649]

Reference 1958,1201.772 signed by Dutch watchmaker Gibb, Rotterdam is a silver pair-cased watch with date display.[650] The roughly cut and purple ink stamped paper in the outer case back belongs to a "T. W. Willis 19, River Street, Myddleton Square, London, E.C." While there is no mention of this individual in the associated London trade directories at the time, the area was known as a centre of watchmaking with a number of repairers, makers and importers registered as working locally.

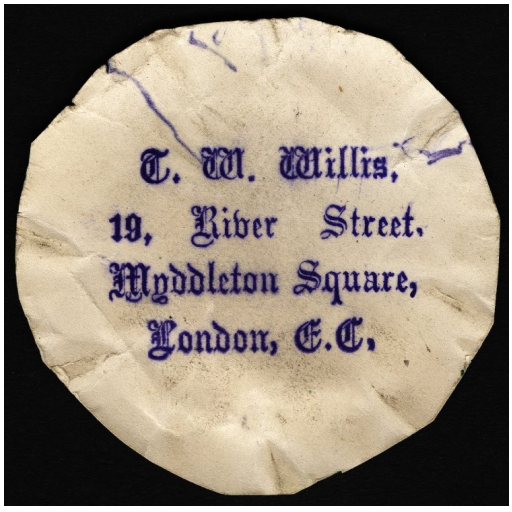

Figure 151: watch paper found within the outer pair case of a watch signed Gibb, Rotterdam.[651]

[649] Ibid. Image ©British Museum.
[650] British Museum identification number 1958,1201.772.
[651] Ibid. Image ©British Museum.

Finally, reference 1958,1201.1637 signed Wiet, London, is a silver pair-cased watch with date display which carries Dutch duty marks used on imported silver after 1814.[652] The watch paper within has been created by hand-pinpricked white paper, a popular technique in Victorian paper art which appears to have the words “Love without...” (the last word illegible) in its centre. It is unlikely that this paper was left by a watchmaker and it is far more likely to be a keepsake and love token given to the owner of the watch. This sentiment is reinforced by the painted enamel scene of two courting lovers which decorates the outer case. It is possible that the watch was a memento to a gentleman who was travelling and might have provided him with a gentle reminder that he had a loved one back home every time he checked the time.


Figure 152: sweetheart pierced watch paper found within the outer pair case of a watch signed Wiet, London, the outer case with enamel scene of courting lovers.[653]

It is important to recognise that the evidence provided by watch papers is hugely speculative and by no means gives any guaranteed answers regarding the history of the watch with which they are partnered. What watch papers do give us, however, is a few clues as to the places these watches

[652] British Museum identification number 1958,1201.1637
[653] British Museum identification number 1958,1201.1637; (left) image ©British Museum, (right) Photo ©R. Struthers. Taken courtesy of the Trustees of the British Museum.

travelled through and what, if anything, they might have symbolised to their owner. The prevalence of Dutch texts and watchmakers' adverts within these watches again suggests a large number were spending time in Holland. With watches from this period needing servicing every few years, the appearance of Dutch papers appear in succession demonstrates that the watch in question did not just pass through Holland, but remained there for a significant portion of its life. That said, examples of the watches previously referred to as *Dutch forgeries* have been found in collections and auction houses in Germany, Denmark, Czech Republic, Sweden, Austria and even the United States of America, so their intended markets were clearly much vaster than just Holland. What is, therefore, likely is that these watches, once out of Switzerland, made their way up to Holland through Germany. Once in the ports of Holland, dissemination both in Europe and globally would have been simple. As the economic effect of the Industrial Revolution spread, the emergence of these watches was timed perfectly to supply an ever increasing clientele of middle earners that was fuelled by a desire for luxury which had previously sat outside of their financial capabilities.

7.4.iii Watches for Sweden

Although the examples identified by this study demonstrate that *Dutch forgeries* were almost exclusively proclaiming London origin, other examples exist. Jan Kraminer suggests that England was not the only watchmaking nation suffering from competition[654] Kraminer sets some initial boundaries for what he defines "Swedish forgeries" and references Cuss in suggesting that the likely origin of manufacture for Continental watches signed with Swedish names was Switzerland and possible the French Jura.[655] Mechanically and aesthetically these watches can be identified as appearing in the latter period covered by this research implying that once the demand for *forgeries* of London watches was proven, merchants expanded the trade to other nations. The style of the

[654] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, pps. 330-334.
[655] Kraminer's theory is significant, in that is supports the case that these watches were being made in the same locations as *Dutch forgeries* of English watches. Source ibid.

movement, case and dial of these "Swedish forgeries" suggests that they were most prevalent between 1800 and 1820.[656]

Similar to the *Dutch forgery* of English watches, "Swedish forgeries" were commonly made using fictitious names and executed in a far inferior quality to those being legitimately manufactured in Sweden. Unlike *Dutch forgeries,* Kraminer suggests the intention of these watches was to exploit Sweden's vast market network which covered Norway, Finland, areas of the Baltic and some of the north German ports. Many of these watches date to the early nineteenth century, coinciding with the stalling of the rest of Europe's watch industry as a result of the Napoleonic Wars. Analysis of the language used on some of these watches gives further clues to the location of manufacture, as in the case of watches signed Wallerius i Norrköping. Not only was there no watchmaker by that name recorded in Sweden, Wallerius in Norrköping as it translates was not a format used by Swedish watchmakers, with the i for in instead corresponding with the French à which was more commonly used on French and Franco-Swiss watches. [657]

In common with the *Dutch forgeries*, "Swedish forgeries" are also commonly housed in base metal or silver cases, although the Swedish examples almost exclusively feature white enamel dials, while the *Dutch* are a more varied mix of enamel and champlevé. We can consider this division further skewed becuase the watches analysed in the appendix of this thesis demonstrate a fair proportion of the *Dutch* watches examined in this study had later, non-original, enamel dials fitted, presumably to increase the re-saleability of the watch after the popular fashion moved away from the classically inspired eighteenth-century champlevé style. It could be possible then to conclude that "Swedish forgeries" followed *Dutch forgeries* as a response to their success in the European market. By the era of the "Swedish forgery", movements were of such low quality that they survive without gilding, either because they had never been gilded or because the quality was so poor that it has since

[656] As determined by the experience of the author.
[657] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, p. 330.

entirely disintegrated, unlike the *Dutc*h. Supporting the theory that these "Swedish forgeries" were made at a slightly later date than *Dutch forgeries*, they commonly featured garnet or glass-set coquerets (an advancement to improve oil retention in the upper balance pivot bearing) unlike the cheaper and less durable *Dutch* brass bushes. This was a development seen in the late eighteenth and early nineteenth centuries, at least fifty years after the first emergence of the *Dutch forgery*. The "Swedish forgeries" typically had more contemporary cylindrical pillars, as opposed to the more ornate *Dutch* pentagonal baluster pillars which were being phased out by the end of the eighteenth century. Lastly, these "Swedish forgeries" typically employed a more advanced extended Bosely-type regulation, rather than traditional key operated racks which was the most common set-up used throughout the eighteenth century. When combined, all of these stylistic and technical differences support the theory that the "Swedish forgeries" were made after the *Dutch forgeries*.

Kraminer goes further to suggest that the earlier *Dutch forgeries* or London-signed watches could to have been destined for the Swedish market, referencing examples signed John Ward, London.[658] Regulation to increase or decrease the speed at which the watch is running is marked on English watches as an F for fast and an S for slow unlike the French A for avance and R for retard. Swedish watches, coincidentally, also feature an F and an S only on this occasion the English fast translates to the Swedish fort and slow to sent, which would have been convenient for Swedish watchmakers repairing or regulating *Dutch forgeries*.[659] The coincidence is not evidence enough to conclude that *Dutch* watches were being retailed on the Swedish market. However, in examples of watches signed John Ward, London, Kraminer identifies key design aspects within the decoration of the movement's balance bridge which are clearly aimed for the Swedish market and were pierced and engraved with the initials GR, as was the style of Swedish watches made under the reign of Gustav III or Gustav Rex.[660] Additionally, there are examples signed John Ward, Fore Street London, which are pierced

[658] Ibid.
[659] Ibid.
[660] Ibid p. 331.

with the Roman III.[661] While Kraminer acknowledges the theoretical possibility that "GR III" could be in tribute to George III, this style of decoration would have been virtually unknown in England although it was highly popular in Sweden; a theory which this research supports. Among the *Dutch forgeries* signed John Ward which were probably destined for the Swedish market are other unusual quirks such as the repetition of serial numbers which were unique to the movement as a form of identification on English watches.[662] There is an example of a movement whose balance bridge is decorated with a later-applied silver crucifix which was not uncommon in Swiss-made watches.[663]

G.H. Baillie lists John Ward as being active in Fore Street from 1784 until 1799,[664] to which Kraminer proposes two possibilities. Either John Ward was a legitimate maker of watches which were then forged on the Continent, or, John Ward was himself involved in the manufacture of these movements using the reduced cost of employing labour on the Continent to increase his profits while retailing these foreign-made watches as his own.[665] While both these theories have grounding, the method is flawed becuase Baillie, along with other horological dictionary biographers such as Loomes and Britten, understandably did not have the time to physically inspect watches made by every one of the thousands of makers listed in their books. They relied upon the inventories made by museums, auction houses and archives to accurately document these watches and know that the watch they were looking at was of English or Continental manufacture. The small sample group examined in this research has already highlighted a spelling mistake in museum cataloguing which has consequently been inaccurately documented in later literature.[666] The frequency of these watches appearing incorrectly archived, in large part due to the lack of literature on the subject

[661] Ibid.
[662] Ibid.
[663] Ibid p. 332.
[664] BAILLIE, G.H. (1972) p. 334.
[665] Ibid p. 331.
[666] Ref. British Museum reference 1961,11-2.4 watch signed Thos. Nadroy catalogued as Thos. Nadrow, mistake repeated in LOOMES, B. (2006) p. 563.

previous to this research, means caution must be exercised in taking too literally dictionary references to historical watchmakers.

Alongside watches signed John Ward, Fore Street London, there are also watches signed John Ward, Courtelary which is a small town in Switzerland. There was no watchmaker by that name recorded in that area at that time and Kraminer suggests the possibility that this relocation could have been a result of trouble with the real John Ward discovering the use of his name.[667] What is also possible, as was given in evidence to the House of Commons in the 1817 Petitions of the Watchmakers of Coventry, is that English watchmakers were being contracted by Continental merchants to manufacture watches under fictitious names which they believed were destined for export, only to lose these contracts to cheaper Continental manufactories further down the line and see watches of an inferior quality with the same name signed appearing in the *Dutch forgery* style, as was the case with John Wilter.[668] This relocation could have, in fact, been a sign of the changing market over that era rather than a legal issue with a genuine watchmaker. This theory is supported by the evidence at the start of this research which demonstrated how lacking intellectual property was in the eighteenth century for the protection of craftsmen. Ultimately, there would have been very little John Ward could have done to stop the forging of his name if, indeed, he ever existed.

Other links between the *Dutch* and Swedish markets for imitation watches can be found in a collection of examples signed Helmstine, Stockholm (also Helmstin, Stockholm and Helemstine, Stockholm) or Helmstine, London. There is another group signed Hovenschiöld, Stockholm, Hofvenschiold, Stockholm or Hovvens Köld i Stockholm.[669] Similarly, we have groups of London makers with varied spellings such as John Wilter, London, who also appears as Wilter, London, Vilter, London and Wilders, London; with forgeries of known makers such as Joseph Windmills appearing as

[667] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, p. 332.
[668] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 67.
[669] KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, p. 332.

Windemills, Windemeils and Vintmill. Unlike the watches imitating them, genuine Swedish watches were almost exclusively housed in silver or gold cases and always hallmarked in accordance with Swedish law. There were very few case makers in Sweden at the time and most of these operated in Stockholm making their work relatively straightforward to identify. Unlike the English, French and Swiss tradition, Swedish watchmakers would sign their Christian names as opposed to full or surnames. Unlike many of the other watchmaking nations in Europe, Sweden also made relatively few pieces and this low production meant serial numbers rarely went above the hundreds. During the first half of the eighteenth century, Sweden legitimately imported watch movements from the English and in the third quarter of the century from France. It is possible that it was this successful market which inspired merchant entrepreneurs to seek English and subsequently Swedish movements from more cost effective sources, such as the huge volume of low-quality ébauches being manufactured in the mountains on the Swiss-French border.[670]

Whilst widely claiming to be of English, and very occasionally Dutch or Swedish origin, these watches travelled far further than the nations they were purporting to herald from. This study has found a number of examples in museums and collections in the United States as well as other European countries such as the Czech Republic and Belgium.[671] With so few surviving, and the many that are existing in private collections or lacking detailed photography and descriptions in their cataloguing, the reach of *Dutch forgeries* is likely to be far wider. Dutch merchants traded across the Middle and the Far East, where there were also strong markets for English watches.[672]

[670] Ibid p. 333.
[671] Reference Appendix No. 5, *List of Dutch forgeries identifies by this research.*
[672] English watches made for the Middle Eastern market were referred to as Turkish dial watches, as rather than the typical Western Arabic or Roman numerals, the dials indicated the hours Turkish-Ottoman numerals.

7.5 Impact on the British trade

Considering the thriving state of London watchmaking at the beginning of the period covered by this research, it is hard to understand how such a strong and commercial industry could be brought to its knees in a relatively short space of time.[673] Inspecting the history of taxation on watches and clocks over the time in question sheds some light on the challenges the industry in England was up against. A letter from the Company of Clockmakers to the Goldsmiths' Company written in around 1814 gives criticism in retrospect of the increase in taxation on the duty for foreign imported watches introduced in 1787:

> That in the year one thousand seven hundred and eighty seven a Duty of 27% for Custom was imposed on all Foreign Clocks and Watches imported into this Country which Duty has subsequently from time to time been increased, and now amounts to 75 per centum.
>
> That in consequence of the want of provisions adequate to the collection of such import Duties the illicit introduction into this Country of Foreign Clock and Watch Work has obtained to an extent ruinously injurious to the British Manufactory, and the advantages derived by the smuggler having increased in proportion to the increase of the Duties, the illicit Trade is now so regularly systematized that the Importers will undertake the safe conduct and delivery of Foreign Clock and Watch Work (without payment of Duty) on this Country for ten per Cent on its value, thus affording the illicit Trade a premium of sixty five per Cent, which enables him to undersell the British Manufacture, and to the great injury of the Public Revenue.

[673] As outlined in Chapter 4.1.

> That this facility with which the Foreign Clock and Watch Work is illicitly imported into this Country is one of the principle Causes of the declining state of the British Manufactory.
>
> [Later]
>
> That foreign Clocks and Watches so illicitly imported are openly exposed for sale in all parts of the Kingdom and that in order to obviate any impediments which National Preference joined to the acknowledged superiority of English work might oppose to the sale of Foreign Watches they are illicitly imported in an uncompleted state and being made to resemble in their exterior appearances English Watches and sold as English to the great injury of the Public and the ruin of your petitioners.[674]

Despite the obvious resentment of inferior "Foreign work" competing with the "superiority of English work", the watch and clockmakers who wrote this petition could clearly see that rather than acting as a deterrent, increased taxation on imported goods was proliferating smuggling.[675] The nature of the items makes them exceptionally easy to transport through shipyards undetected. There is little contemporary literature on how many smuggled watches were found and seized by Customs, but it is not hard to imagine the challenge of identifying a single chest of another legally imported good such as linen, which could conceal dozens of watches, among the thousands of packages entering and exiting ports in the south of England at that time.

[674] A letter from the Company of Clockmakers to the Goldsmiths' Company, undated, circa 1818; located in the Goldsmiths' Company archive.
[675] Ibid.

The eighteenth-century English watchmaker was not just up against the challenges of competition from Europe and issues with the taxation and smuggling of foreign watches, but also taxes imposed by the British government on home-produced watches had a worsening effect on the competitiveness of British makers over the second half of the century. The 1787 increase in duty on foreign work had actually been a response to the introduction of a duty of eight shillings per ounce on wrought gold and sixpence per ounce on wrought silver on English work in 1784 which damaged the competitiveness of the British watch trade. We have already established that this duty backfired in many respects as, rather than act as a deterrent to import or equal out the value of British and Continental watch work, it merely fuelled the market for "Clandestine importation" as watches continued to be smuggled through Britain's ports.[676]

The impending war with France had a significant impact on the home watch industry from the early 1790s, not only due to the difficulty in now trading with the Continent but as a result of increased taxation introduced by William Pitt to raise funds for the war effort. Any benefit of the sudden removal of French competition in the British watch market was overshadowed. His budget in June 1797 included the doubling of the duties already charged on wrought gold and silver, bringing the total duties to 16 shillings and 1 shilling per ounce respectively.[677] A month later, this was extended to a new taxation on the owners of clocks and watches[678] which he had calculated would raise a further £200,000 per annum.[679] The taxes imposed were ten shillings on each gold watch, five shillings on each clock and two shillings sixpence upon each silver or base metal watch. Exemptions from the tax included for households possessing one watch or clock, who were then exempted from window tax, as were wooden clocks of a value no greater than twenty shillings and those employed as servants or in farming. The tax did not apply to the stock held by watch and clock makers

[676] *Report from the Select Committee Appointed to Consider the Laws Relating to Watchmakers.* Ordered by the House of Commons, 18 March 1818, p. 6.
[677] Act 37 Geo. III, Cap. 90 s.16, 17, 18 (22 June 1797).
[678] Act 37 Geo. III, Cap. 108 (19th July 1797).
[679] THOMPSON, E. P. 'Time, Work-Discipline, and Industrial Capitalism' *Past and Present,* issue 38, 1967, p. 67

themselves. However, they were subject to a personal tax of two shillings and sixpence per annum in London and one shilling elsewhere.[680]

To prevent the possibility of "an immediate and total stagnation of the trade", the Clockmakers' Company allied with the trade to draw and present a petition to Pitt criticising: the double-duty charged on plate; the fear caused by the threat of the new taxes leading to cancelled orders; and the selling off of household clocks and watches creating a stockpile which was causing a state of great distress among the city's 20,000 craftsmen drawing their livelihoods from the clock and watch trade.[681] The decline of the home trade combined with the loss of markets in Spain, Italy, Turkey, the Netherlands and America as a result of the war. In a series of exchanges with Pitt over the course of 1797, the watch and clockmakers made a number of suggestions which they believed would help support the declining trade and included the reduction of the gold standard from 22 carats to 18 carats placing Britain in line with the Continent and increase British competitiveness. They give examples of comparative prices of English and Swiss gold cases to demonstrate the price war they were fighting:

pair-case gold watch made in Switzerland
2oz. of Gold 18 carats fine at 66s 3d per oz
£6 12 6

Or as was more likely:

1oz. 10dwts. of gold 18 carats fine at 66s 3d per oz.
£4 19 4½
Pair-case gold watch made in England

2oz. of Gold 22 carats fine at 81s per oz.	£8	2	0
Duty at 16s per oz.	£1	12	0
	£9	14	0[682]

[680] ELLMERS, C. (1978) p. 390.
[681] "*An act to repeal the duties on Gold and Silver Plate used in Watch-cases*." 38 Geo. III. C. 24. 1798. Cit. DE CASTRO, J.P. (1926) p. 130.
[682] Guildhall Library MS 2710/5, Clockmakers' Company Court Minute Book 1778-1804, pps. 346-348.

While Pitt was receptive to the idea of reducing the 22 carat standard for gold to 18 carats, a later request to reduce the standard further to 14 carats fell flat.[683] As the impact of the increased taxes took hold, the figures of the Goldsmiths' Hall assay office demonstrate the decline in London case making in the years before and after the tax.

Table 5: Number of watch cases in silver and gold declared for assay at Goldsmiths' Hall in the six months from May 1796 and May 1797. Source: Guildhall Library MS 2710/5, Clockmakers' Company Court Minute Book 1778-1804, ff. 346-348.

1796	Gold	Silver	1797	Gold	Silver
May	442	12,692	**May**	318	14,801
June	533	16,172	**June**	302	13,608
July	557	16,341	**July**	335	13,198
August	603	15,358	**August**	268	12,389
September	577	16,179	**September**	168	10,780
October	589	16,734	**October**	169	9,543
	3,301	93,476		1,566	74,319

Individual watchmakers also opened their accounts to demonstrate the personal impact of falling sales resulting from the rising taxes, with records at the Guildhall Library giving the following figures:.

i. Richard Bayley, watchmaker, Red Lion Street, Clerkenwell

	1795	1796	1797
Jan 1 – June 30	1,886	1,725	1,900
July 1 – Dec 30	1,984	1,908	1,040
	3,870	3,633	2,940

ii. Smith and Upjohn, Watchmakers, Red Lion Street, Clerkenwell

	1795	1796	1797
Jan 1 – June 30	N.G	1,452	1,360
July 1 – Dec 30	N.G	1,936	947
		3,388	2,307

iii. Benjamin Webb, Clock and Watch Manufacturer, St. John's Square, Clerkenwell

[683] FORBES, J. S. (1999) pps. 233-234.

	1795	1796	1797
Jan 1 – June 30	N.G	1,220	1,088
July 1 – Dec 30	N.G	1,190	565
		2,410	1,653

iv. Charles Smith, Watch Manufacturer, 118 Bunhill Row, St. Luke

	1795	1796	1797
Jan 1 – June 30	N.G	2,081	1,938
July 1 – Dec 30	N.G	2,159	1,088
		3,633	3,026[684]

These figures can be broken down further, as the sliding scale of taxation between silver and gold cases caused a vastly disproportionate reduction in the sales of gold watches compared to silver. Richard Bayley, for example, was quoted to have said that, whilst he normally sold between 200 and 300 gold watches a year, he had sold only 5 since the passing of the act. Benjamin Webb's sales fell from 100 to 200 a year to only four or five.[685]

It took a further year of petitioning and negotiations before, on 10th May 1798, an Act was passed to repeal the tax on ownership of watches and clocks with further promises made to extend the relief to plate duty in the near future.[686] The Act prevented the total annihilation of the British watch and clock trade, and the industry gradually regained some of its earlier market, although the tax had dealt a disastrous blow from which the trade would never fully recover.

A Report from the Select Committee appointed to consider The Laws relating to Watchmakers. Ordered by The House of Commons in March 1818 identified key sources and causes of the declining state of the watch industry.

[684] Guildhall Library; *Commons Journals* 53 (1797-1798) 326-336.
[685] ELLMERS, C. (1978) p. 396.
[686] Act 38 Geo. III, Cap. 40 (10 May 1798).

These included:

- the dishonest practice of forgery of names of watch and clock makers, especially upon base and bad work, bad clocks and bad watches . . . . . in direct breach of the 9th and 10th William 3d, cap. 28;[687]
- the absence of provident regulations, whereby masters of the art of clock and watchmaking may be legally known and their reputation as artists protected;
- the clandestine introduction of an immense number of foreign made clocks and watches and their appendages . . . . . ; also watches made to resemble English watches and bearing forged names of English makers and forged marks of the English Goldsmiths' Hall on the cases, expressly for the purpose of being re-exported as English watches to those markets principally supplied by the English manufacture. [688]

The report defined these issues as having escalated "within the last twenty years" which times perfectly with the increasing duties on both home and foreign work combined with the financial depression resulting from the war in Europe with France.[689] The following charts of the weights of gold and silver watch cases entered for assay and the weight broken for inferior metal content at Goldsmiths' Hall during this period also give an interesting insight into the state of British watchmaking. Provided to the Company of Clockmakers by request prior to the 1817 petition, they show the rapid take-up rate of the new 18ct gold standard. The difference is dramatic, reducing the entries of cases at the previous 22ct standard from 1,307 between 1795 and 1798 to just 37 compared to 4,262 the new standard between 1809 and 1812.

[687] Regulating the Exportation of Clocks and Watches, 'and that none shall be made unless with the real name and place of abode of the maker, and that no other name or place engraven or put thereon. Source *Report from the Select Committee Appointed to Consider the Laws Relating to Watchmakers* (1818) p. 9.
[688] Source ibid p. 135.
[689] Ibid.

Table 6: Series of charts drawn from the inventory of the Goldsmiths' Company archives, Guildhall Library, London. Dates listed accordingly.

Weights of gold cases entered between 29th September 1795 and 29th September 1798 (prior to new allowance):

Weight	lb	oz	dw	grs
Entered	1307	4	4	19
Broken	13	5	19	8
Balance	1293	10	5	11

Weights of gold cases of the old standard entered between 29th September 1809 and 29th September 1812:

Weight	lb	oz	dw	grs
Entered	37	8	7	23
Broken	3	2	5	10
Balance	34	6	2	13

Weights of gold cases of the new standard entered between 29th September 1809 and 29th September 1812:

Weight	lb	oz	dw	grs
Entered	4262	2	4	7
Broken	61	2	6	4
Balance	4200	11	18	3

Weights of gold cases assayed:

Dates	lb	oz	dw	grs
28th May 1813 – 28th May 1814	1446	-	17	20
28th May 1814 – 28th May 1815	1440	4	19	7
28th May 1815 – 28th May 1816	1198	7	15	20

Weights of silver cases assayed:

Dates	lb	oz	dw
1st Jan 1811 – 31st Dec 1811	12,759	10	16
1st Jan 1812 – 31st Dec 1812	11,378	7	1
1st Jan 1813 – 31st Dec 1813	12,541	-	8
1st Jan 1814 – 31st Dec 1814	15,258	10	-
1st Jan 1815 – 31st Dec 1815	13,500	11	-
1st Jan 1816 – 31st Dec 1816	9,290	8	4

The desire to consume was by no means a novelty, it was the ability to do so which drove the consumer revolution in eighteenth-century England.[690]

[690] MCKENDRICK, N; BREWER, J; PLUMB, J. H. (1982) p. 2.

The problem continued well into the nineteenth century. A report by the Clockmakers' Company printed in 1881 describes instances of clandestine importation in the 1830s as follows:

> Foreign watches . . . . . are now commonly sold as an article of commerce by Jewellers, Haberdashers, Milliners, Dressmakers, Perfumers, French Toy-shops. &c.; and are even hawked about the streets.

Continues:

> They estimate the number of Gold Watches brought into this country by various channels during the last four years to average not less than 25,000 each year, giving a total of 100,000 Gold watches. Now taking £7 as the average value of each Watch, the total amount will be £700,000. The number and value of the Silver Watches imported is much less in proportion than that of Gold Watches, they may be estimated at 10,000 Watches each year, at an average value of 15s. each, which gives a total of 40,000 Watches, value £30,000, making the total value of Gold and Silver Watches £730,000. The value of Clocks previously estimated at £200,000 making the total value of Clocks and Watches brought into the country the last four years £930,000, upon which the sum, had Duty been enforced, it would have amounted to £232,500, whereas the Duty paid has only been £25,634 12s. 0¼d.[691]

The first interview in a report on the Petitions of the Watchmakers of Coventry details the living conditions for some watchmakers by 1817 as follows:

[691] ATKINS, S.E. and OVERALL, W.H. *Some Account of the Worshipful Company of Clockmakers of the City of London*. London; East & Blades, 1881, p. 302.

> I have seen some with hardly a rag to cover them, and children without shoes or stockings, and in want of bread. I visited a family by the name of Britten, a watch-case maker, who had been employed at Coventry; he had a wife and five children. I found the wife and children in a room without a fire, in the month of January last. Rolled up, in one corner of the room, was something in the shape of a bed on the floor; I believe only a bundle of straw in a cloth without sheets, and a thin sort of cotton covering, which was all the whole seven had to sleep on.[692]

7.6 Conclusion

The evidence found by this research demonstrates beyond reasonable doubt that *Dutch forgeries* made on the Swiss/French border were being manufactured to satisfy the orders of Dutch merchants who were then transporting these watches along the Rhine River back to Holland. Some of these watches remained for the Dutch market where they were declared for import hallmarks, paid their duty and were legally retailed. Others made their way to England, Sweden and the rest of the world and of these many were either smuggled or imported in part and paired with genuinely hallmarked cases in the destination country.

[692] *Report from the Committee on the Petitions of Watchmakers of Coventry* (1817) p. 5.

Chapter 8 : Conclusion

This study set out to explore the horological trade climate in Europe between 1750 and 1820 which gave rise to the *Dutch forgery* and its implications for the Continental watch industry by tackling a nexus of problems implicated in the identification and definition of imitation watches produced in the period. The conclusion will first outline the key challenges this definition must overcome, and then present a novel and relevant statement. The new definition must provide substantial rigour to pinpoint the exact nature of the watches being described, whilst exercising sufficient flexibility to overcome the design and technical anomalies discovered in the case studies. With the definition established, the conclusion will proceed to buttress the new definition with a detailed discussion of the socio-economic significance, locations of manufacture and routes to market of this newly defined set of watches. These expanded details draw on the combination of new knowledge and understanding of the Product and Consumer Revolutions of the eighteenth and early nineteenth centuries. The in-depth analysis and reflection defining the exact nature of the watches previously referred to as *Dutch forgeries* is in itself a contribution to knowledge, providing new insight into one of the least researched areas of European horological practice from the eighteenth century. This final chapter will close with reflections upon the implications of this research and scope for future research.

8.1 Forging a new definition

After rigorous interrogation, this study has demonstrated that the term *Dutch forgery* is redundant. The forging of a new definition for the watches previously referred to as *Dutch forgeries* must navigate three key challenges, which are listed and discussed as follows:

1. The historic misuse of terminology

The first, which has been created by historic misuse of terminology, contemporary perceptions of authenticity and the false connotations suggested propagated by the incorrect usage of terms. Both the inference of *Dutch* origin and of the illicit nature implied by *forgery* has made the analysis of contemporary literature less informative for the purposes of this research as they make the assumption that these watches were being made with the same purpose as modern forgeries. With many of the names appearing on them fictitious, these watches were not using the name of a famous maker to command a premium, consequently any attempt to categorise them as such white washes the wealth of socio-economic factors which led to their creation. Anyone unfamiliar with the term would draw the conclusion that a *Dutch forgery* is a forgery of an object or work created entirely in the Netherlands. This in itself highlights the complexity of establishing a new term, as all current research suggests that not only were these watches not made in any real scale within the Netherlands or preceding Dutch Republic, but also that they cannot be accurately defined as forgeries. This challenge was surmounted by conducting primary research into the watches themselves and providing new knowledge to counter established views and shed light on their true origin.

2. Inconsistent design characteristics

The second challenge is presented by the very nature of the watches themselves. As London-signed watches designed with the visual aesthetics of a Dutch watch, they are a contradiction within themselves. The challenge is therefore to create a new and accurate definition that is broad enough to cover all variables but specific enough to place, for the first time, parameters around exactly which type of watches are being referred to under the heading previously known as *Dutch forgery*. Additionally, not all parts of all watches are original, so caution must be exercised when examining dials, mainsprings and cases.

3. A broader geographical impact than previously evidenced

The final challenge is in deciding whether watches fitting the same design characteristics as well as made in the same manufactories as *Dutch forgeries* and proclaiming to be made in England should be included within the definition, and in presenting a rationale to support this decision.[693] What is certain is that they cannot be ignored. This research has for the first time found evidence to demonstrate that the same manufactories were supplying both the market for accepted *Dutch forgeries* and watches signed by other makers with falsely proclaimed countries of origin.

8.1.i Rationale for a new definition

In terms of the title *Dutch forgeries*, this research has identified that the watches in question cannot be accurately defined as imitation, forgery, fake, replica or copies of English watches as they are manufactured in the Dutch style. In terms of their origin of manufacture this research has demonstrated that no one location was responsible for their production. Consequently, they cannot be described as Dutch, Swiss, French or English in origin and certainly cannot be attributed to Geneva as previously thought. Finally, this research has demonstrated that *Dutch forgeries* were not only imitating English watches but also Dutch and apparently Swedish. While it could be argued that the sheer volume of watches falsely declaring to be of English origin as opposed to any other country places them in a category of their own, the evidence supplied by the watches themselves, that they were being manufactured by the same individuals as those destined for markets elsewhere in Europe, means they must all be considered as one and the same.[694] Consequently, these watches cannot be defined as fake English either.[695]

[693] For example, those signed Gibb, Rotterdam and Swedish examples cited by Jan Kraminer (KRAMINER, J. Swedish Forgeries. *Antiquarian Horology*. Vol. 29 No. 03, pps. 330-334).
[694] Such as Allin Walker, signing watches Allen Walker which were produced in the same manufactory as the movements signed Harry Potter, London.
[695] PENNEY, D. (2014).

Within the body of the definition, the description must treat the origin or nationality of the individuals involved in the trade as open to a degree of flexibility so as to allow the inclusion of anomalies. Although all evidence points to Dutch merchants being responsible for the commissioning and dissemination of these watches, archival evidence and the watches themselves indicate that the components were being made at different locations with the movements being manufactured in the Swiss-French mountain regions of the Jura, Le Locle, La Chaux-de-Fonds, Valleé de Joux and towards Besançon. The dials were on occasion manufactured in England. The cases were manufactured in Switzerland or France. Consequently, it is not possible to succinctly describe the location or origin beyond Central and Northern Europe. Similarly, the definition must not generalise these watches as imitating London or even English manufacture, as although the majority of these watches proclaim to be made in London, not all of them do. Consequently, it would be more accurate to describe them more generally as proclaiming a false country of origin.

The definition must set parameters around what is covered by the term, including ruling out watches imitating known makers not fitting the same design and manufacturing characteristics, this being already an issue at the time of the emergence of the *Dutch forgery*. Copying the name of a famous maker has an obvious financial incentive, whereas using a fictitious or unknown name supplies a different kind of demand. Consequently, barring irrefutable evidence in the design or concealed maker's marks, they must be excluded from the definition as a separate type of forgery. Unless a forgery of a known maker can be proven as being made in the same manufactories as *Dutch forgeries*, they should neither be included in the definition nor relied upon for evidence on the subject. These three challenges need to be tackled in order to set the parameters, creating a description in the short and succinct manner befitting a dictionary definition that is specific enough to pinpoint the exact nature of these watches whilst being general enough to acknowledge that some flexibility must be used in their identification.

If these watches cannot be described as fakes, forgeries or imitation, another suitable term must be identified. One term which was considered by the author as being more representative of the nature of these watches was counterfeit. Although the term can hold legal meaning, unlike fake or forgery, counterfeit can also be applied more loosely to represent an object which is a sham, or pretending to be something it is not.[696] Those buying counterfeit goods might or might not know the object they are purchasing is not what it proclaims to be, unlike fakes and forgeries which are more typically manufactured to deceive. Additionally, it covers variations in design from the object it is imitating. There are many instances in contemporary counterfeiting of watches where the watch shares nothing in common with the current ranges offered by that brand apart from the name on the dial in common with the current ranges offered by that brand, with the model itself being entirely fictitious.

These watches could be defined as an act of false or deceptive advertising, although this was not illegal at the time in question. The current definition of false advertising of goods in the European Union covers advertising which is:

- contrary to the requirements of professional diligence
- false or deceptive practice in relation to a specific list of key factors
- lacking in material information (unclear or untimely information)
- aggressive practice by harassment, coercion or undue influence.[697]

After exhaustive consideration, it was decided that despite the more applicable terminology that 'counterfeit' too had implications of an illicit nature not representative of the creation of these watches. Consequently, the definition presented was inspired in part by a literal descriptive term of *établissage* first applied by Sandoz who was a French researcher of watchmaking on the Swiss-

[696] OED.
[697] Regarding the *Consumer Protection from Unfair Trading Regulations, 2008.*

French border working at the turn of the twentieth century.[698] This term was not intended as a definition and was not influenced by Anglo-centric negative interpretations caused by the damage these watches rendered to the English watch trade.

Furthermore, this research has demonstrated that not only is the term *Dutch* no longer suitable to describe these watches, but also they cannot be pinpointed to any singular source of origin as they watches were being created in numerous locations around northern and central Europe, including England. Furthermore, they are not universally signed as London made. The only common factor about in all the watches identified as fitting the type in question is that they falsely proclaim their country and/or city of origin and are executed in the Dutch style It is the conclusion of this research that the term *Dutch forgery* is redundant and that these watches were nothing more than the predecessor to the ébauche.[699] There is no evidence to suggest the manufactories responsible for their creation were driving the market, rather they were exploiting the demand supplied by a new breed of merchant-watchmaker. These watches would then be traded on the legal, albeit morally dubious, grey market, exploiting the loophole created by the rapid technological advances of the Industrial Revolution surpassing progressive reforms to intellectual property law and consumer protection. Changing the law takes many years, successive precedents and petitioning by the market, particularly during periods of tension so often found between financial gain and ethical practice. Ultimately, it was another hundred years before the British government took action to protect home manufacturing.[700]

[698] SANDOZ, C. (1904).
[699] Modern ébauche manufacturers such as ETA are obliged by law to mark their blank movements with their country of origin, Switzerland. The mark is usually discrete and applied to the main plate which might or might not be visible at point of sale when the watch is complete. These watches are then signed by the retailers and have historically been used by many brands around the world including those based in France, Britain, United States and Germany.
[700] The 1887 County-of-Origin Act.

8.2 The new definition

For the new definition, the author has returned to the description given by Charles Sandoz on the redistribution of labour, increased productivity and early production-line techniques in his accounts of watchmaking practise in Besançon in the mid-nineteenth century.[701] The definition which should replace the historic misuse of *Dutch forgery*, as ascertained through detailed physical examination of the nature of the watches in question, is suggested as follows:

> **établissage watch** – *the predecessor of the ébauche and the first scale-manufactured watch. Using a verge escapement, the movement bearing a false country or city of origin (most commonly London) typically manufactured in the Dutch style during the late eighteenth and early nineteenth centuries, despite being made largely, sometimes entirely, in the watchmaking regions along the Swiss/French border. These watches were often the result of commissions by Dutch merchants for trade and export through Holland***.**

In detail, these watches can be identified by the following mechanical and design characteristics:

> **mechanical characteristics –** *établissage watches are of the verge escapement type with chain driven fusee. These watches most commonly have a double-sided balance bridge, rather than a single-sided balance cock as was popular in English work. The quality and gauge of materials being used are often of a different standard, as is the finishing of the movement which includes engraving, piercing and gilding*;[702]

[701] SANDOZ, C. (1904).

[702] This different standard was of a poorer quality, for example in their use of lower grade materials, weight reduction and depreciation, as well as in its aesthetic designs quality and the execution of engraving, symmetry of layout and state of the gilding.

design characteristics - *the original dials, whether enamel or champlevé have an arcaded minute track. Those with English hallmarks are often forged and more commonly have duty marks, typically Dutch import, struck on the joint of the outer case and the inside of the inner case back. Many have stamped and chased repoussé outer cases of varying qualities, both in terms of the precious metal composite and the quality of craftsmanship. The aesthetic design of these établissage watches tends to be significantly behind the popular style of the market leaders in London and Paris, with repoussé cases and champlevé dials being manufactured into the early nineteenth century when the style was falling out of fashion by the mid-eighteenth century in both cities.*

With the backbone of the definition set, it is necessary to add flesh to this definition to build a form which can be used by future researchers to identify and understand early ébauche-built watches. An understanding of the importance of this new definition can be gained by examining the social significance and economic impact these watches had in their day and the means by which they came into being and were dispersed around Europe.

8.3 Social significance

These definitions and descriptions are underpinned by the role these watches played within the greater social and economic context of the demand for, and manufacture of, luxury in the eighteenth century. In terms of their social significance, although wages improved over the course of the Industrial Revolution, real earnings stayed relatively static meaning an increasingly educated emerging middle class were being confronted with tangible luxuries beyond their financial means. As an obvious visual symbol of wealth and status, the watch fell into this category. As access to printed media and exposure to wealthy individuals at exhibitions, public galleries and museums increased,

the population across Europe was becoming more aware of fashion and luxury than ever before. Improvements in production techniques, the centralisation of manufacturing and redistribution of the workforce in the Swiss-French border regions provided an opportunity to start cutting the costs of watch production.

The newly emerging shopping high street, along with second-hand auctions and markets, provided the perfect opportunity to showcase desirable watches appearing to have been made in the big global cities such as London, but that had been more cost-effectively manufactured elsewhere to a new audience for whom the status of the watch held meaning that the quality and significance of celebrated makers were far less important. This image could be replicated across much of Northern Europe which had similar high street and spending patterns across Holland, Denmark, Scandinavia, Germany, France and the trade routes out to the Middle and the Far East.

8.4 Economic significance

Not only were these watches socially significant, they also held a greater economic significance in the development of the watch industry because they were key in creating a solution to supply new markets. The lack of major improvement to real earnings combined with the desire for luxury meant families were working to redistribute their household expenses to create a greater disposable income. This trend was supported by reductions in the cost of food and clothing created by production improvements in the home industries of grain and cotton. Still, although spending power was improving the cost of watches was still astronomical in comparison to average wages, which in turn drove the demand for sourcing cheaper production techniques.

8.4.i The lasting impact on the British market

The impact of this new ébauche-led market hit hardest in England. The traditional perception of the watch as a luxury affordable only by the wealthiest in society played a part in the downfall of British watchmaking. While the provincial Swiss and neighbouring French watchmakers were quick to respond to demand, significantly increasing their production capacity over the second half of the eighteenth century; British watchmakers were far more hesitant in embracing the new market. It was this delay in scaling-up manufacturing and Continental competition which combined with the economic impact of the Napoleonic Wars, a declining market and increased taxation burdens that ultimately triggered the slow decline of British watchmaking over the following century.

Alongside the significance of early ébauche watches on a private and household level, the economic impact on the British watchmaking industry as a whole was great. European watchmakers on the Swiss-French border were successfully capitalising on the emergence of new technologies by finding ways of fusing the financial benefits of lower quality machine-led mass-production with the perception of luxury by branding reduced quality items with the name London. At the same time, British watchmakers and even the finest craftsmen in London were struggling to maintain their costly cottage-industry style of production which was intrinsic to their perception of what a true luxury object should be. The problem became further exacerbated by self-defeating tax and duty legislation designed by the British government to protect the home trade that but instead acted as an incentive to smuggling as official imports were no longer economically viable. Further duties applied to the home trade to raise revenue in the economically unstable climate prevented British watchmakers from competing on any viable level with the Continent, which in turn encouraged retailers and consumers to seek out alternative more affordable options. Finally, the war with France and its impact on the coffers of the British elite, on whom the home trade had relied, signed the death knell for English watchmaking. The decline was slow and by no means linear, but the damage

to the industry caused by the recession, war and competition on the Continent was irreparable. By the end of the nineteenth century, the thriving community of watchmakers whose reputation and contributions to the field of horology are felt to this day had nearly disappeared. The last maker to produce watches in Britain on a commercial scale was Smiths who founded their watchmaking division in 1851, before finally ceasing production in 1980. To this day, there is not a single watchmaker in Britain making 100% of their watches in the UK.

With the boundaries set around the design and mechanical identifiers and the social and economic significance of *établissage* watches determined, the locations of manufacture, distribution and routes to market of these watches in both in England and in Europe must now be set.

8.5 Locations of manufacture and routes to market

The intended market and the market from which early ébauche watches emerged were clearly different. With many of the areas key in this investigation as being responsible for the manufacture of these watches having a population far lower than the quantities of watches coming out of their factories it is apparent that they were not destined for home trade. Although not all of the watches examined by this research are complete with their original cases, comparatively few have full English, Dutch or Swedish hallmarks, genuine or fake. Consequently, although these countries were clearly the destination for some of these watches, many more were intended for retail elsewhere on the Continent. This is supported by the prevalence of Dutch duty marks together with occasional French and Swiss examples, giving a clear and certifiable indication as to some of the countries these watches were passing through. The general populations of Switzerland and Holland were too small to sustain the market for counterfeit watches alone, however, the strong trading links established by the Dutch in other markets provided the perfect opportunity to open the trade to the world. Examples of these watches and similar examples of Swedish work have been found across Northern

and Central Europe and as far afield as the United States. Although none to date have been identified in the Eastern markets, watch buyers in the Ottoman Empire demanded a different kind of European watch. While London-made watches still held a premium, popular styles were different and dials needed Turkish numerals over Roman or Arabic. This combined with political instability caused by the withdrawal of the European Empires from the East could explain why no surviving examples have been identified.

As for the location of manufacture, the provincial villages along the Swiss-French border were the only regions with the capacity to manufacture low-cost counterfeit watches on the scale seen. Not only did they have the manufactories and refined working processes in situ decades before the competing industries in London and Paris, but production costs could be kept comparatively low as labour, property and taxation costs were far lower than in the world capitals. The geography of the region also lent itself to the task of manufacturing vast quantities of blank unsigned ébauche watches which although not technically illegal, would have been frowned upon by the national guilds and should certainly have been declared for import tax. The mountains and valleys of the Alpine border regions provided a discreet setting along the connecting route between the Rhine and Rhone rivers, one of the most well-trodden trans-European trading routes, used particularly heavily by Dutch merchants.

There is no evidence to suggest that these *établissage* watches were being manufactured in any substantial amount within Geneva, as previously assumed. Regulation and taxation of watchmaking were strict and proximity to the guilds would have made evading the attention of the authorities near impossible. Strict limits imposed on the number and nature of apprentices made recruitment more difficult and the cost of living would have been an unnecessary increase in production costs. To this day, Swiss watchmaking is centred in the valleys along the French and German borders with some of the world's leading watch brands having been founded in the area where some still

remain.[703] It could be possible, therefore, that this heritage of large-scale watchmaking was founded over two hundred and fifty years ago with the birth of the ébauche.

Ultimately, it was in America that the uniform, consistent and entirely machine-built ébauche was perfected. These early fledgeling predecessors represent the first steps into the mass-manufacture of watches and opened a market ready and waiting for further cuts to the costs of watchmaking. It was not until manufacturers, this time centralised in Switzerland, brought in American machinery and British watchmakers that the modern Swiss industry was founded at the end of the nineteenth century.

The routes to market can be identified by following the demand for more affordable luxury and those with the disposable income to access the market. As the middle class emerged, so did the merchant class who founded their living on supplying them. These European merchants, who spearheaded the production of ébauche-built watches, needed the right connections and trade routes in place to both commission the time pieces and disperse them. Holland stands out among all other nations as having the capacity to network the trade on the scale seen. This is supported repeatedly by the primary evidence supplied by the watches which were executed in the Dutch style, often carrying Dutch duty marks, created using Dutch standard silver, bearing Dutch sounding names and, in some cases, watch papers. Moreover, this is further supported by the anecdotal evidence given by English watchmakers at the time who quote Dutch merchants in London as commissioning them to make parts and recruiting watchmakers to relocate to the Continent. Once in Holland's vast network of global trade routes, dispersing these watches across Europe and further afield would have been relatively straightforward.

[703] La Chaux-de-Fonds – Rolex, Omega and Tag Heuer; Valleé de Joux – Patek Philippe, Vacheron Constantin, Audemars Piquet, Jaeger-LeCoultre.

8.6 Contributions of this research

There are four key contributions made by this research, which are outlined as follows:

The rebranding of the Dutch forgery - this research has demonstrated, for the first time, that our assumptions surrounding the significance of the watches previously dismissed as *Dutch forgeries* must be recast. Rigorous interrogation of their mechanical characteristics and statistical analysis of the production volumes of manufactories along the Swiss-French border shows that the birth of commercialisation in the watch industry began with these watches. In the absence of any law enforcing the accurate proclamation of maker and country-of-origin, we must look past their attempts to deceive to see their true value. These *établissage* watches represent the dawn of a new era in the history of horology, achieving a benchmark for which they have never been previously recognised. They bring our understanding of early exploration of industrialisation and standardisation in the watch industry forward nearly a century, with these Swiss-French manufacturers proving the demand for a type of watch the North Americans would perfect the production of in the 1840s and 1850s.

The connecting of manufacturers and makers - by presenting the first detailed investigation of physical examples of these watches, this research has proved links between the names appearing on these *établissage* watches both on watches signed as London made, but also those signed as Dutch. This has reinforced previous assumptions that a relatively small number of manufactories were responsible for supplying large volumes of these watches, providing solid primary evidence to support this theory.

The identification of locations of manufacture - previous commentary on the locations of manufacture for these watches has been inconsistent and largely unsubstantiated. This study has

pinpointed on a map the centres responsible for the production of these watches, supported not only with substantial secondary evidence of established trade routes but also with archival evidence from the manufactories in those areas with the capacity to create the volume of watches seen in the *établissage* process. This, combined with the primary material found in the form of the import and duty marks on the watches themselves, provides the first substantiated account on the locations of manufacture of the watches previously referred to as *Dutch forgeries*.

The development of a new methodological approach - as the first PhD thesis in horology, this study has employed a novel hybrid methodological approach using socio-economic historical analysis with scientific and artefactual techniques, combining them with the practical study of the technical watchmaking.[704] This approach has been highly successful in the context of this research, and it is the author's hope that this methodology has laid the foundation of a potentially fruitful model for future horological research.

8.7 Implications and future research agenda

By setting the field of horology alongside existing research in allied trades during the eighteenth-century Industrial Revolution, this research has demonstrated the value of technical and scientific horological research in tackling our understanding of the roles played by the watch in material culture. Interest already expressed in this research by museums, scientific researchers and academic bodies demonstrates a strong demand for future collaborative research and for publications exploring some of the key narratives touched upon in greater depth in this PhD.

[704] Horology is defined as both the study and measurement of time, and, the art of making clocks or watches (OED) encompassing both theoretical and practical research. Consequently, this statement excludes theses documenting social or economic histories without the inclusion of practice-led research. As such, these fall under the category of history as opposed to horology. For example *The rise and design of the British horological industry c.1620 to c.1920* by Alun Christopher Davies, Queen's University Belfast (1986).

The limitations of the study connect ultimately with the brevity of PhD research and the opportunities not available as a result of the absence of greater resources. Any primary accounts made by watchmakers on the Swiss-French border – should these exist – are likely to be hidden uncatalogued within local museums, libraries and archives. To undertake the scouring of an entire archive for documents produced in the period in question requires months, if not years of research. Also, it is possible that the information might simply not exist. With the restrictions of time and resources lifted, there would be scope to extend this research to the Continent and beyond.

Additionally, with the benefit of unlimited time, this research would lend itself well to extension into accounts in contemporary literature both in fiction and non-fiction. Watches played such an important role in society from the end of the eighteenth century and their reference in literature is not uncommon. Although some books were written specifically on watches, many references are passing ones and hidden within works on completely unrelated subjects.[705] Finding such references is rare and often accidental, consequently, this was not deemed to be a viable route for study within the time limitations set by doctoral research. Because of the romantic nature of smuggling and forgery, the subject is popular in fiction writing so its exploration will be valuable in future research of this field. Further research can be conducted using Eighteenth-Century Collections Online (ECCO) and the online Old Bailey records to attempt to find traces of any of the names associated with these forgeries. Although the legal nature of établissage watchmaking makes evidence in criminal trials unlikely, there may be interlinking cases between the legally manufactured watches and cases trying the illegal practice of forging hallmarks in their cases.

The new information revealed about the problem of early ébauches navigating legal loopholes, redefining understandings of watches previously dismissed as 'fakes' and 'forgeries', sheds new light on understandings of the early modern watch industry. Before this research, North America had

[705] REED, T. B. 'The Adventures of a Three Guinea Watch', in *The Boy's Own Paper*. London: October 1880 – April 1881 (19 Parts).

received the credit for pioneering the mass manufacture of watches. Now, it can be demonstrated that whilst they might have perfected the art, the concept was by no means a new one and dates back to the Swiss-French border in the mid-eighteenth century. Their ultimate identification opens up a whole new avenue for analysis of both public and private collections, extending the case study group and unearthing in greater detail the extent of the trade in early ébauche watches. The purpose of this study has been to set down an introduction to the research of horology at an academic level, introducing organisations and institutions, such as museums, to the possibilities of collaborative investigation in understanding the object in their collections. By doing so, it is hoped that future work can draw on the skills and contacts of those holding horological collections on the Continent to begin filling in the gaps with the benefit of a collective skill set and reduced time restrictions.

This research has demonstrated that although these watches were not made by famous makers and contributed little in terms of technical advance in accuracy or complication towards the future of horology, early ébauche watches from the eighteenth century are the first known examples of mass manufacture in watches and are consequently worthy of industry, acknowledgement and future research. Finally, the primary research of the watches at the heart of this research has opened up a field of study which resonates across the nations of eighteenth-century Europe in terms of the production and consumption of watches. This opens the door to extensive future research into the cultural resonance of these watches across different nations and between different classes.

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Wedgwood Museum [www.wedgwoodmuseum.org.uk]

Exhibitions

What is Luxury? 25 April – 27 September 2015. *Victoria and Albert Museum*

Appendix

Contents

No. 1 - British Museum Case Studies

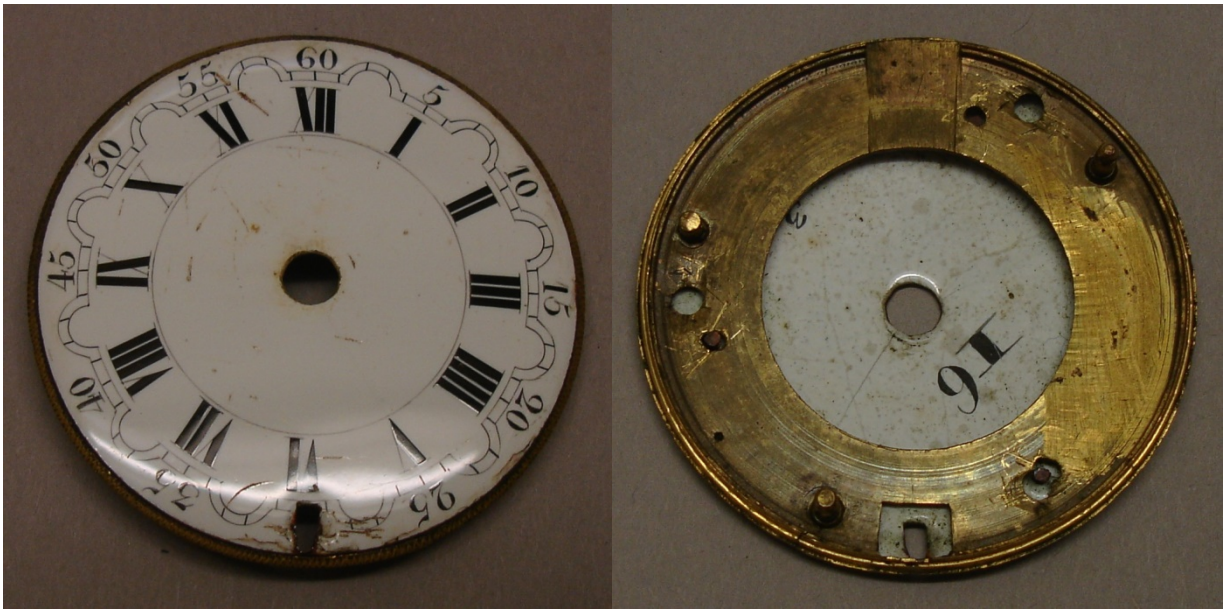
The following case studies are listed by their unique British Museum identification reference in numerical order.

1.1 - 1889,0311.2

Object Information

Sponsor's Name:	Duchene	City:	London
Number:	Not applicable		
Case Maker:	Outer signed Cochin		
Hallmark:	Fake, possibly imitation London together with Dutch import duty marks.		
Description:	Verge fusee watch with arcaded and painted enamel dial, outer repoussé case with a scene depicting *Darius before Alexander*. The dial is not original. The outer case has been in-filled with lead solder.		
Hidden Marks:	'Jn W 24 Sept 1834' and 'VR 666'.		

Images



Dial front (left) and reverse (right)

Bottom plate (left) and top plate (right)

Details of marks hidden under the dial

Inner case (left) and detail of Dutch boar's head duty mark in inner case (right)

Outer case (left) and detail of Dutch cursive 'V' duty mark on outer case joint (right)

1.2 - 1958,1201.33

Object Information

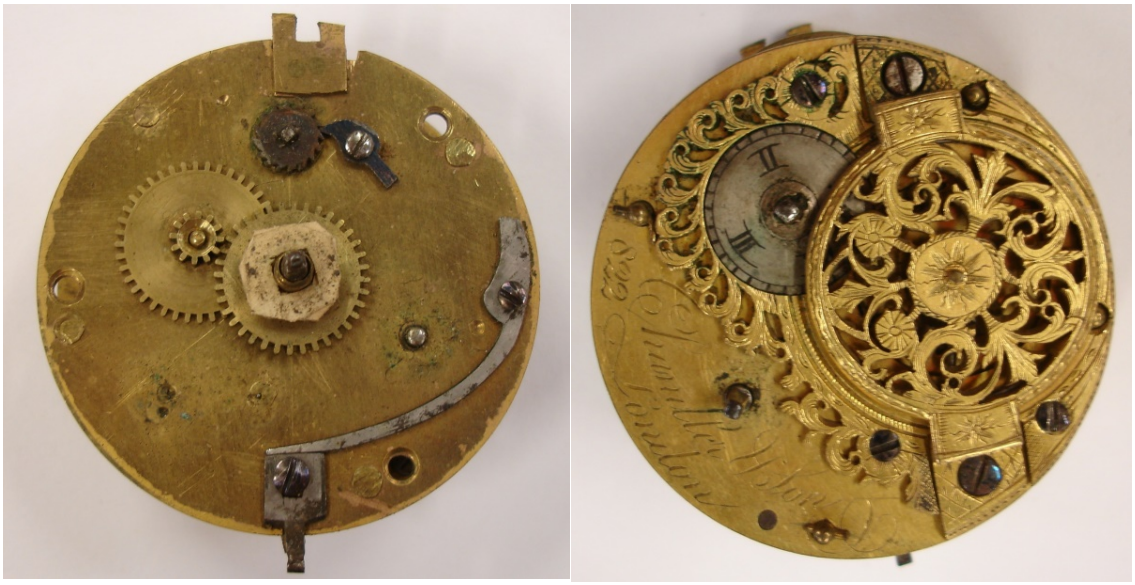
Sponsor's Name:	Chandler & Son	City:	London
Number:	822		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description: Movement only of a verge fusee watch with arcaded and painted enamel dial. Dial appears to be original however dial plate has been re-drilled at the time of building.

Hidden Marks: No

Images

Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

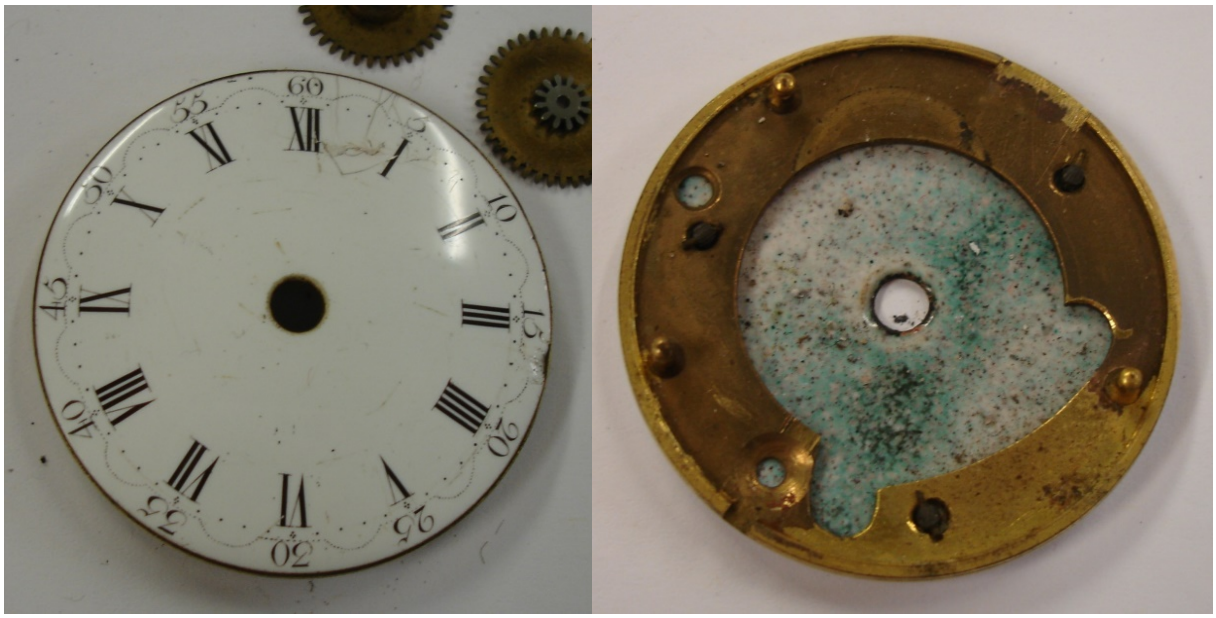
1.3 - 1958,1201.34

Object Information

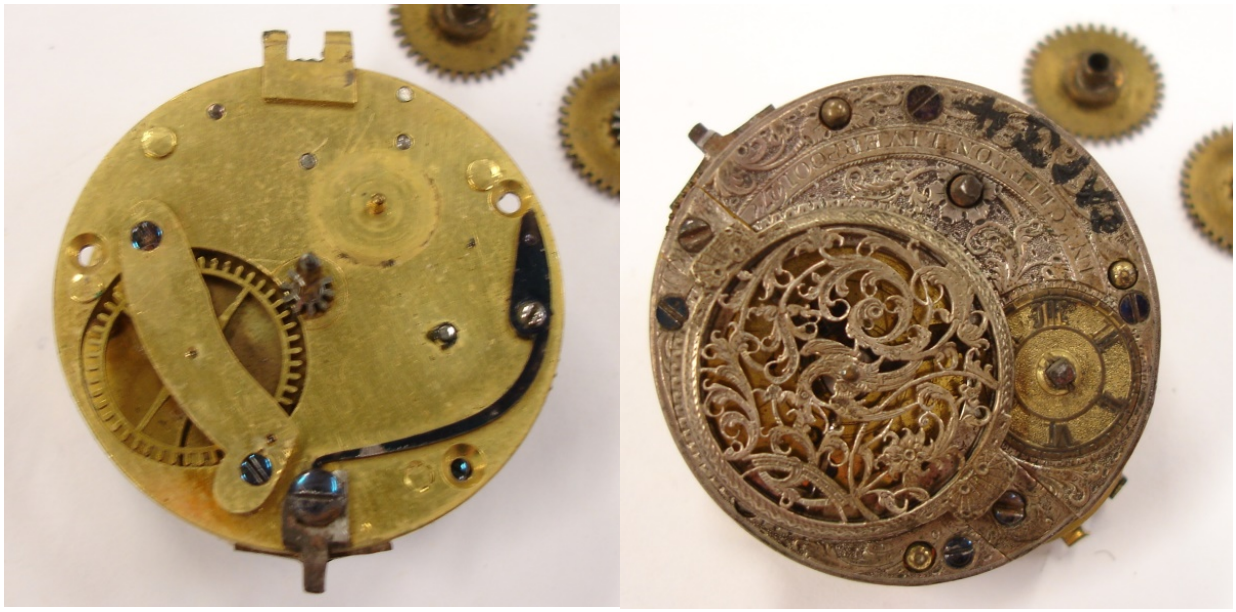
Sponsor's Name:	Clifton	City:	Liverpool
Number:	Not applicable		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description:	Movement only of a verge fusee watch with arcaded enamel dial (not original). Balance bridge and top plate furniture pierced and engraved in white metal.
Hidden Marks:	No

Images



Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

1.4 - 1958,1201.135

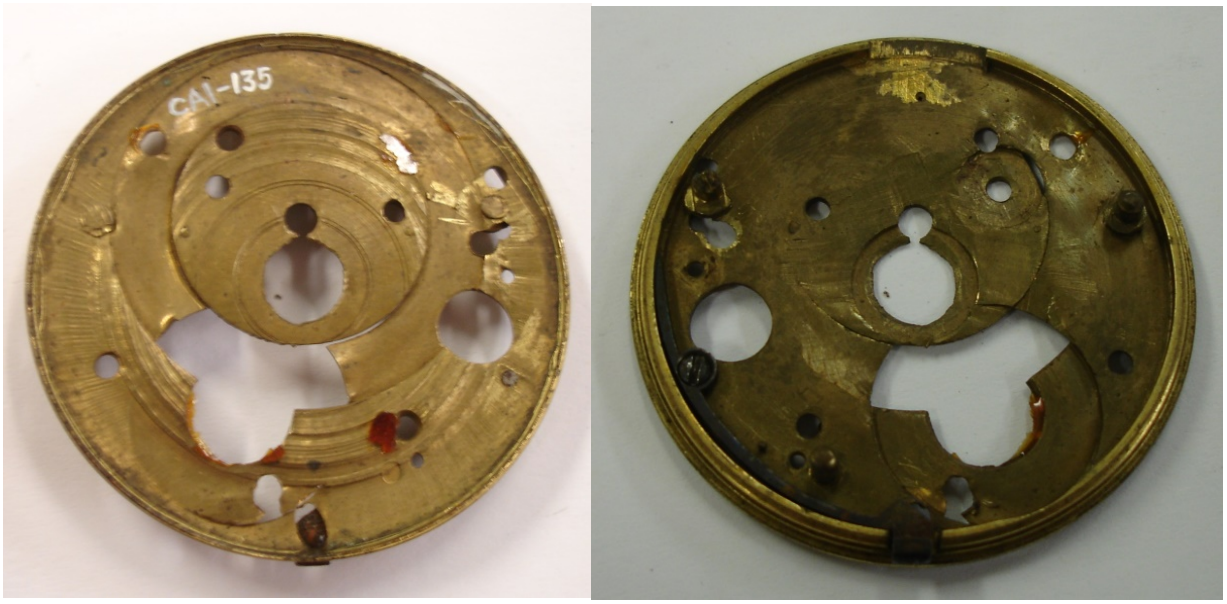
Object Information

Sponsor's Name:	Paulet	City:	London
Number:	Not applicable		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description: Movement only of a verge fusee watch, the dial is missing. Dial plate cut to allow for date work. Balance bridge pierced and glazed revealing signature.

Hidden Marks: No

Images



Dial front (left) and reverse (right)

Bottom plate (left) and top plate (right)

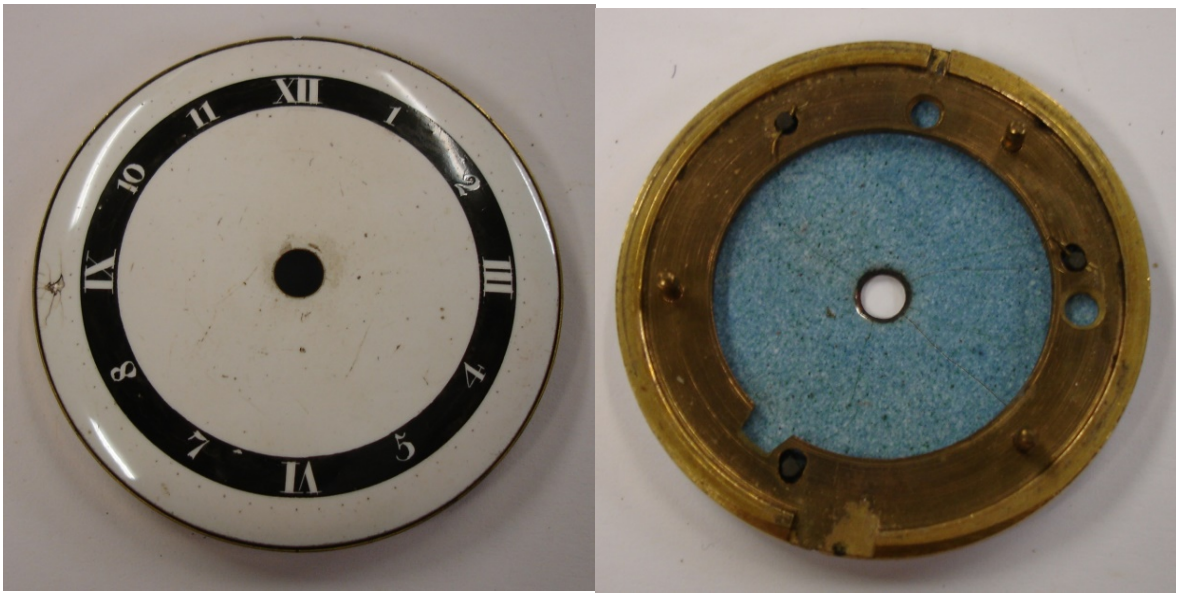
1.5 - 1958,1201.165

Object Information

Sponsor's Name:	David Shenfton	City:	Richmond
Number:	4687		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description:	Movement only of a verge fusee watch with enamel dial (not original). White metal dust cover. Fusee set-up ratchet wheel badly repaired/damaged.
Hidden Marks:	Platemaker 'R'

Images



Dial front (left) and reverse (right)

Bottom plate (left) and dust cover (right)

Top plate

1.6 - 1958,1201.175

Object Information

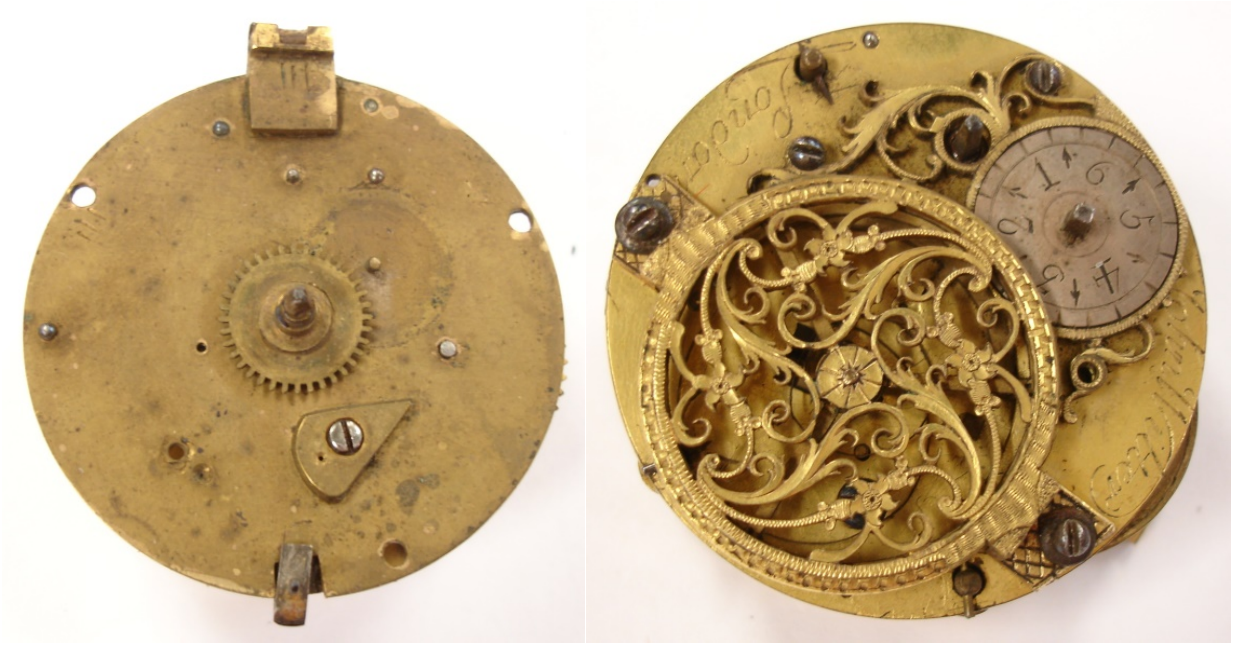
Sponsor's Name:	John Wilter	City:	London
Number:	Not applicable		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description: Movement only of a verge fusee watch, dial missing, dial plate cut for date work, however, bottom plate shows no evidence of running date work.

Hidden Marks: No

Images

Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

1.7 - 1958,1201.305

Object Information

Sponsor's Name:	Allen Walker	City:	Not applicable
Number:	742		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description:	Movement only of a verge fusee watch with arcaded and painted enamel dial. Dial appears to be original however dial plate has been re-drilled at the time of building.
Hidden Marks:	Platemaker 'A'

Images

Dial front (left) and reverse (right)

Bottom plate (left) and top plate (right)

1.8 - 1958,1201.313

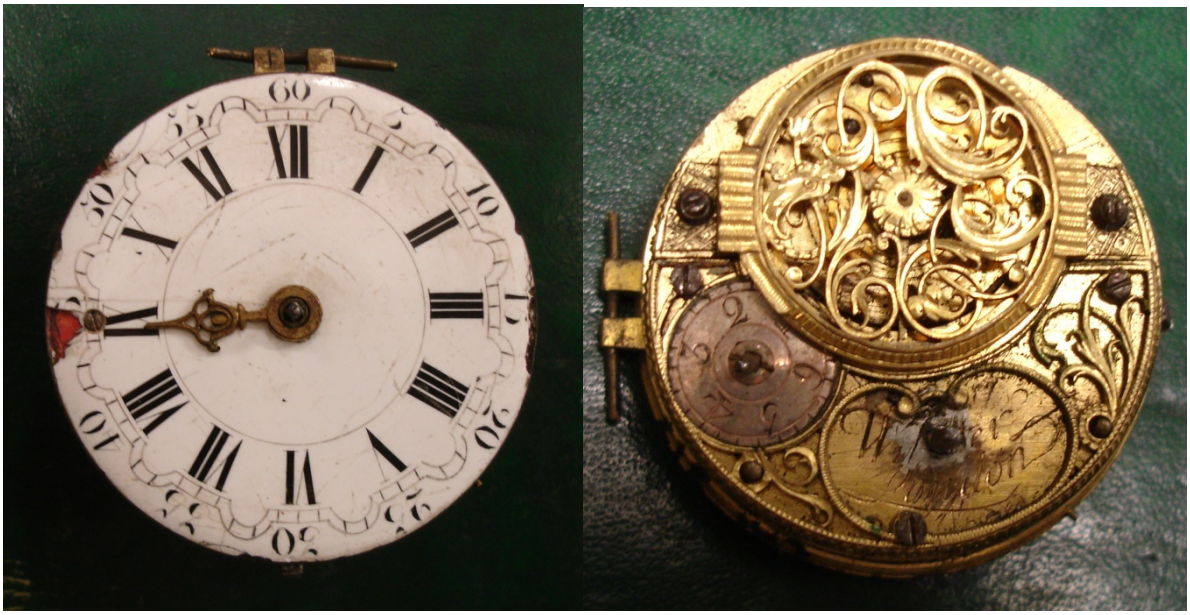
Object Information

Sponsor's Name:	Wilter	City:	London
Number:	Not applicable		
Case Maker:	Cases missing	Hallmark:	Not applicable

Description: Movement only of a verge fusee watch, cases missing. White enamel arcaded dial is not original. Balance bridge and top plate furniture pierced and engraved with acanthus leaf scrolling, top bearing for the fusee arbor has been poorly repaired with lead solder part obscuring the signature.

Hidden Marks: No

Images



Bottom plate (left) and top plate (right)

1.9 - 1958,1201.383

Object Information

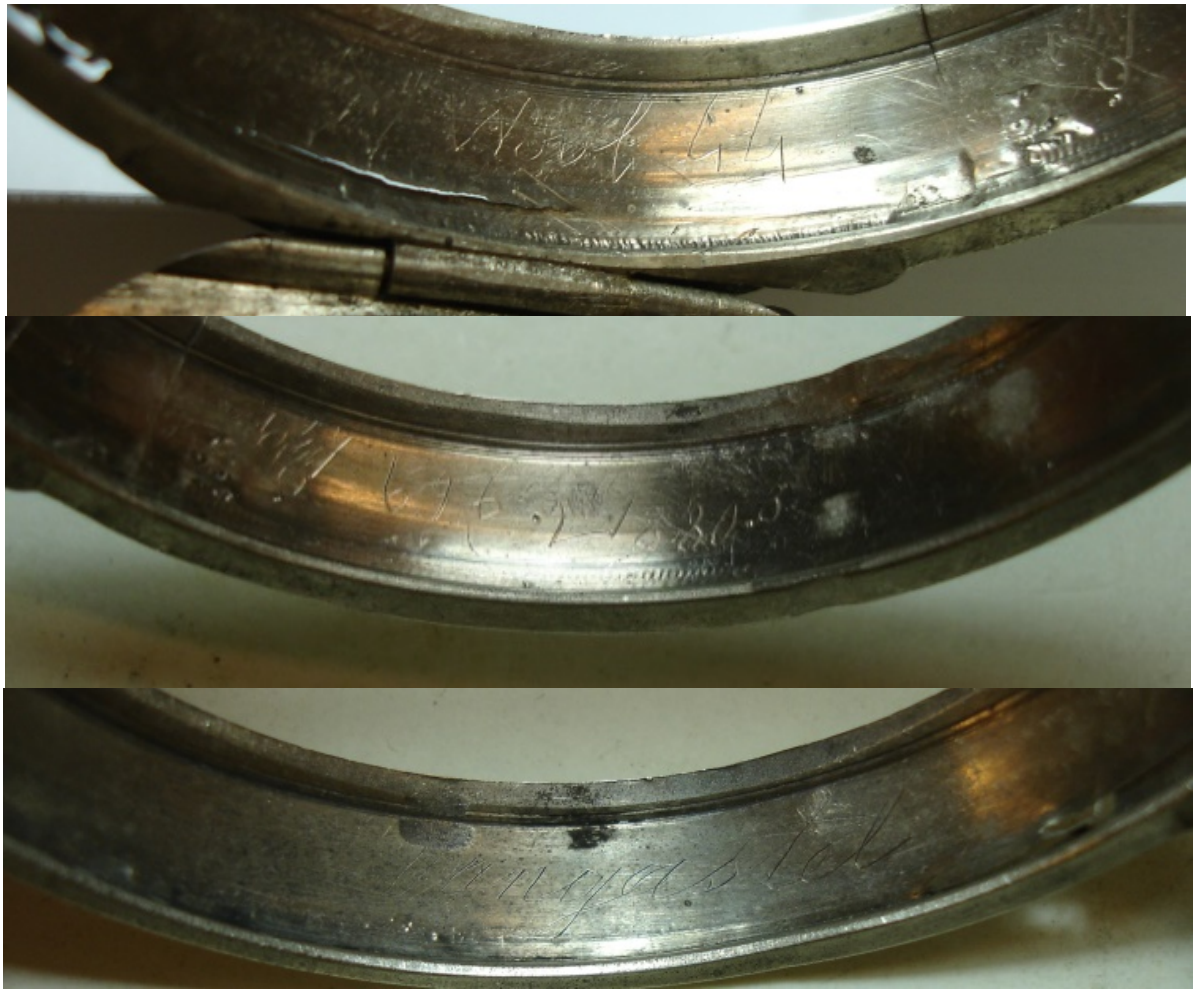
Sponsor's Name:	John Wilter	City:	London
Number:	Not applicable		
Case Maker:	IC beneath coronet	Hallmark:	French guarantee mark

Description:	Plain silver pair-cased verge fusee watch with champlevé arcaded dial featuring date.
Hidden Marks:	Inner case bezel marked ‘Vangastel’; ‘Wool GG/44’ and the numbers ‘696.2.1880.3’. Mainspring signed ‘Devaud’, or possibly ‘Demaud’.

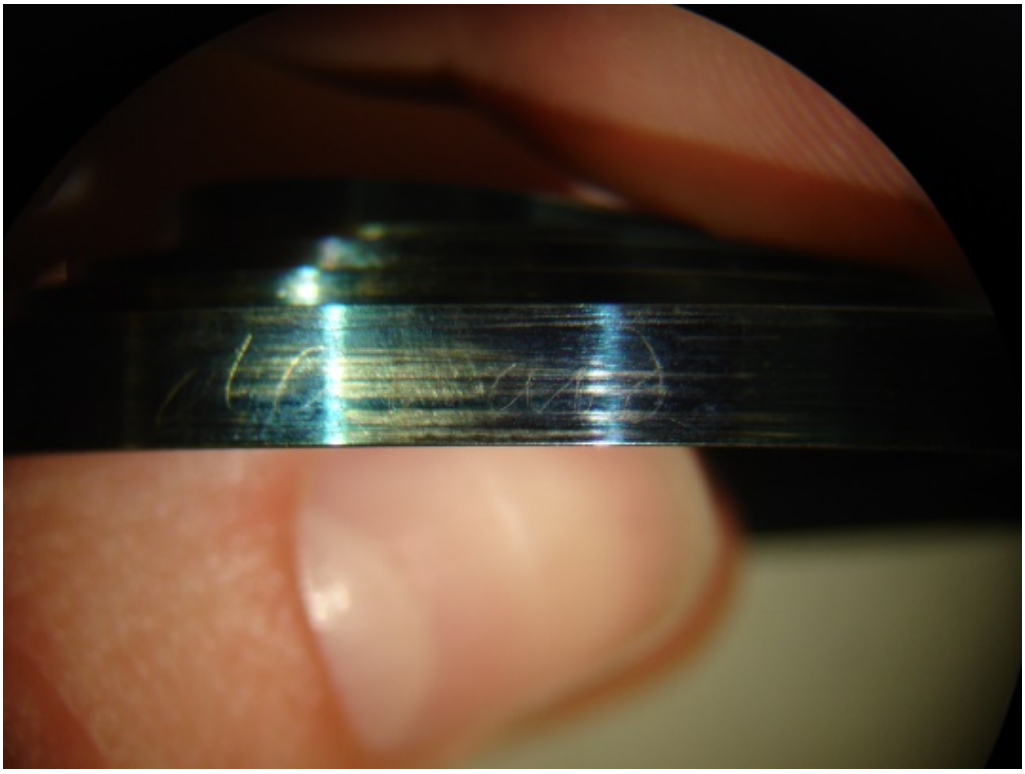
Images

Dial front (left) and outer case reverse (right)

Outer case hallmark (left) and top plate (right)



Details of marks within the inner bezel of the outer pair case



Mainspring marks

1.10 - 1958,1201.387

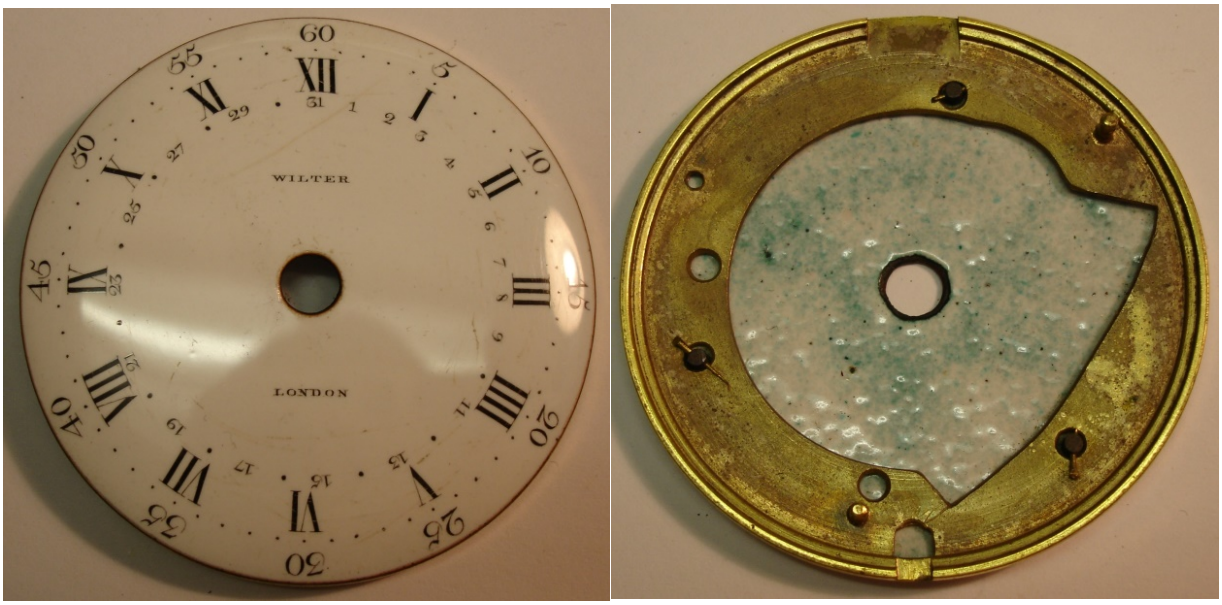
Object Information

Sponsor's Name:	Wilter	City:	London
Number:	9566		
Case Maker:	Thomas Carpenter	Hallmark:	London 1783

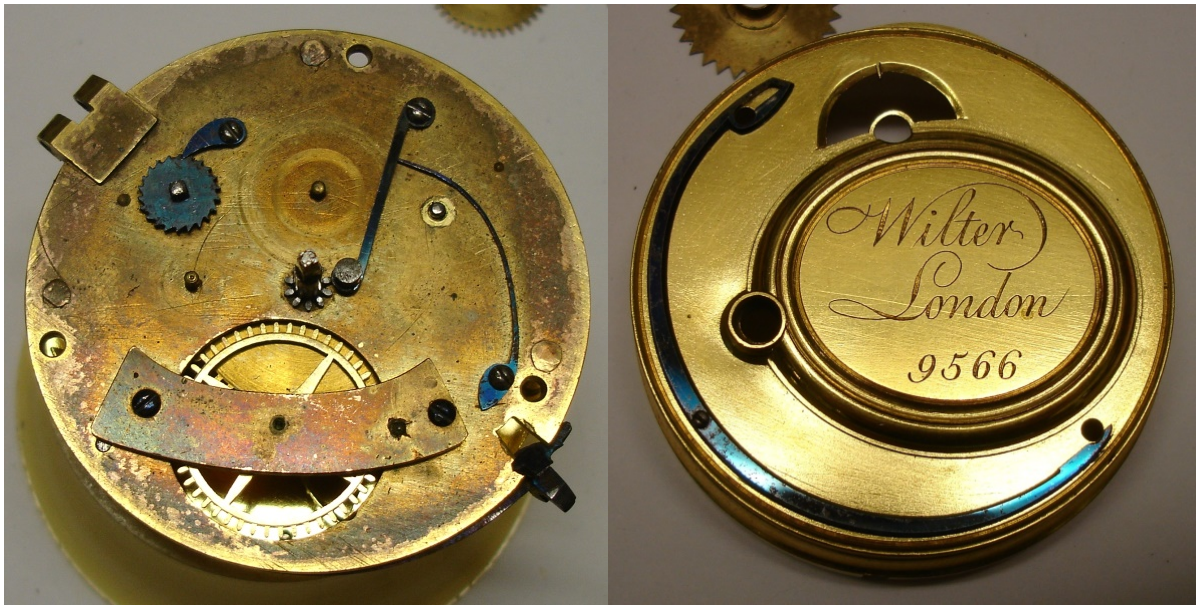
Description: Plain silver pair-cased verge fusee watch with an enamelled dial featuring concentric date. With signed and numbered dust cover. This watch is English in all appearances other than its association with the fictitious watchmaker John Wilter.

Hidden Marks: No

Images



Dial front (left) and reverse (right)



Bottom plate (left) and dust cover (right)

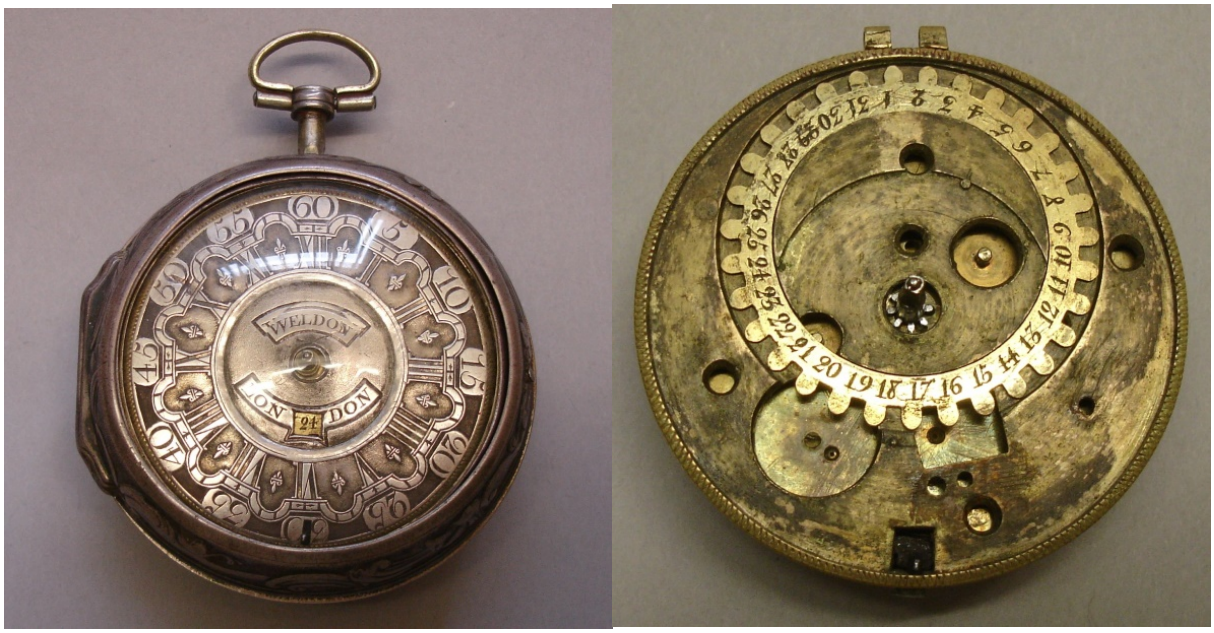
Top plate (left) and inside inner case (right)

1.11 - 1958,1201.403

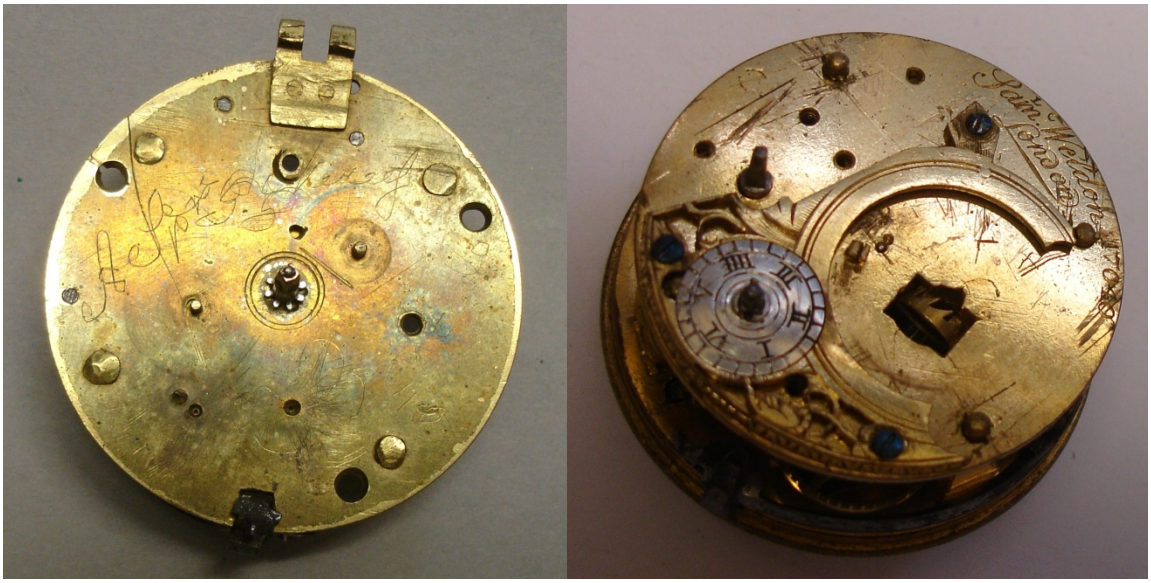
Object Information

Sponsor's Name:	Samuel Weldon	City:	London
Number:	17040		
Case Maker:	TL [inner]; Daniel Cochin [outer]		
Hallmark:	Fake London, possibly for 1750 together with Dutch boar's head		
Description:	Repoussé silver pair-cased verge fusee watch with arcaded champlevé dial featuring date. Balance cock, gilding worn back.		
Hidden Marks:	Back plate marked with names 'Vemeef' or 'Vereef' and another 'Borcello'.		

Images

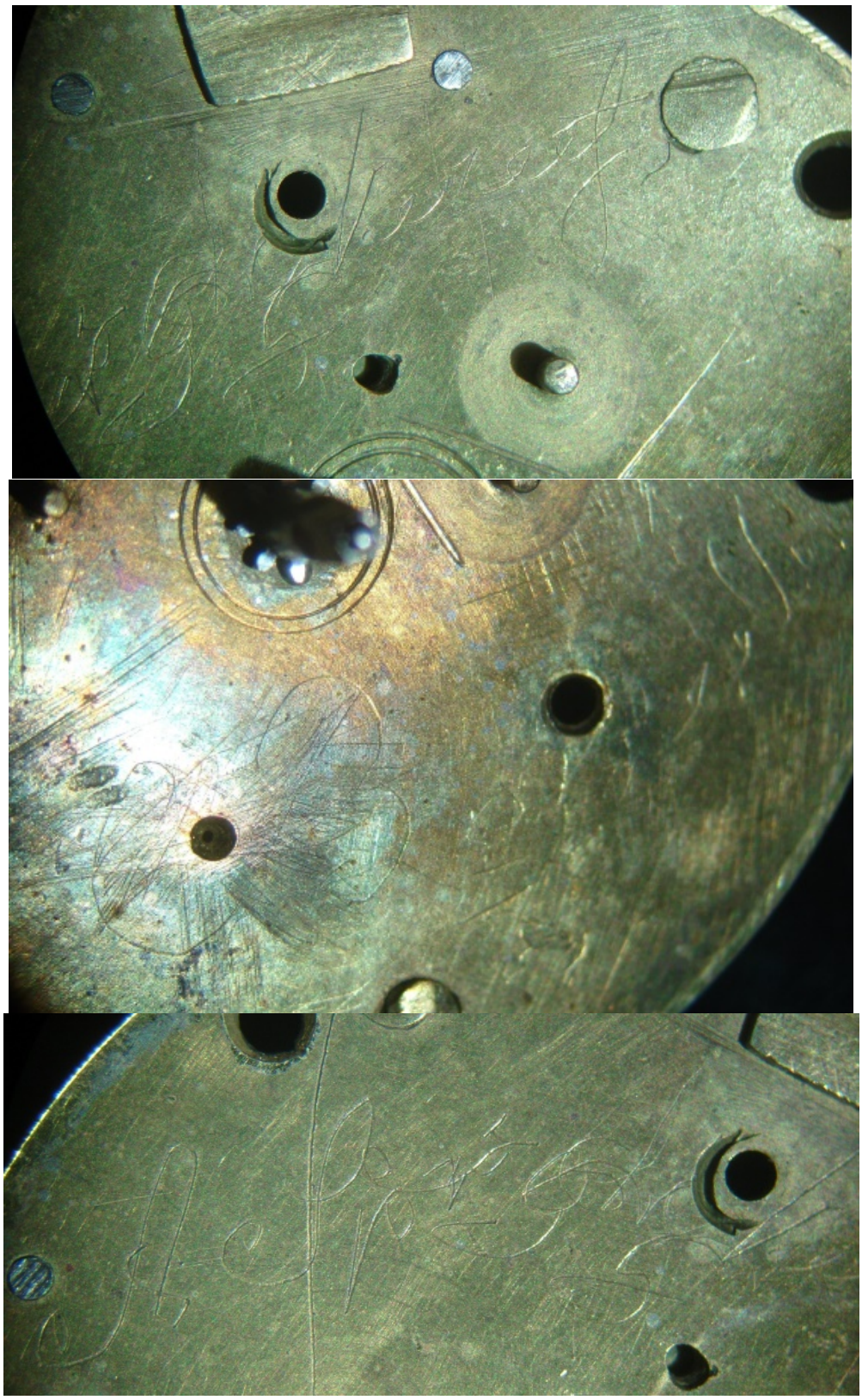


Dial front (left) and date work (right)



Bottom plate (left) and top plate (right)

Outer case (left) and inner case hallmarks (right)



Detail of hidden marks found on the bottom plate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Watch paper

1.12 - 1958,1201.473

Object Information

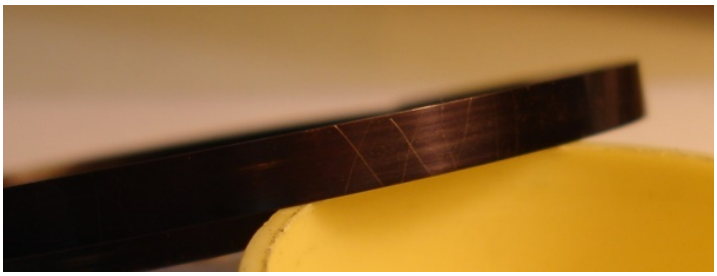
Sponsor's Name:	J Tarts	City:	London
Number:	2036		
Case Maker:	EC beneath coronet [inner]; Daniel Cochin [outer]		
Hallmark:	Dutch cursive 'V' on outer case joint.		
Description:	Silver pair-cased repoussé verge fusee watch with enamel arcaded dial. Balance bridge scalloped.		
Hidden Marks:	'JW' on the bottom plate. Mainspring marked 'PR XXVII'. Dial with painted ink markings in reverse rubbed and now indistinct.		

Images

Dial front (left) and reverse (right)

Bottom plate (left) and top plate (right)

Outer case (left) and hallmark on outer case joint (right)



Mainspring

1.13 - 1958,1201.549

Object Information

Sponsor's Name:	God. Poy	City:	London
Number:	Not applicable		
Case Maker:	EC beneath coronet	Hallmark:	Not applicable

Description: Silver pair-cased verge fusee watch repoussé outer case and arcaded three-part champlevé dial featuring date. The movement has a glazed balance bridge with a mock pendulum.

Hidden Marks: No

Images

Dial front (left) and top plate (right)

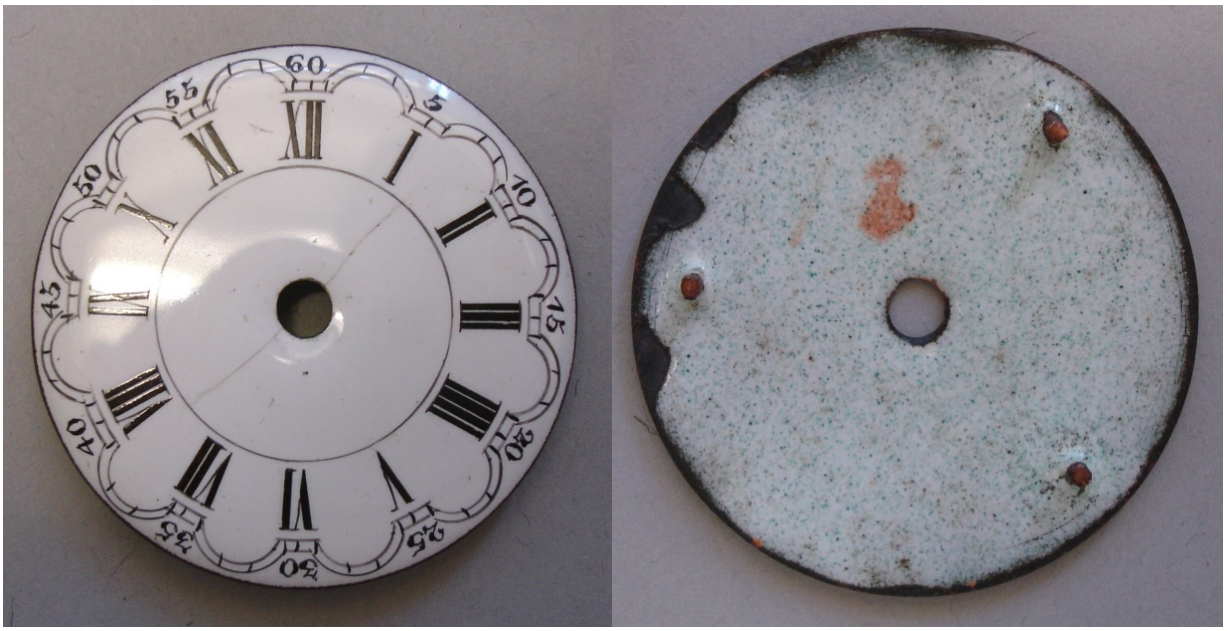
Outer case (left) and inner case marks (right)

1.14 - 1958,1201.610

Object Information

Sponsor's Name:	J Miller	City:	London
Number:	2470	Case Maker:	[?]T, rubbed and indistinct
Hallmark:	London 1779		
Description:	Silver pair-cased repoussé verge fusee watch with enamel arcaded dial (not original). Dial plate cut for date work, score marks to the bottom plate indicate this was present and functioning at some point.		
Hidden Marks:	Platemaker ‘R’, ‘Pr Fraddey’ marked on the bottom plate. Rubbed red ink mark on reverse of the dial.		

Images



Dial front (left) and reverse (right)

Dial plate (left) and bottom plate (right)

Detail of hidden marks on the bottom plate (left) and top plate (right)

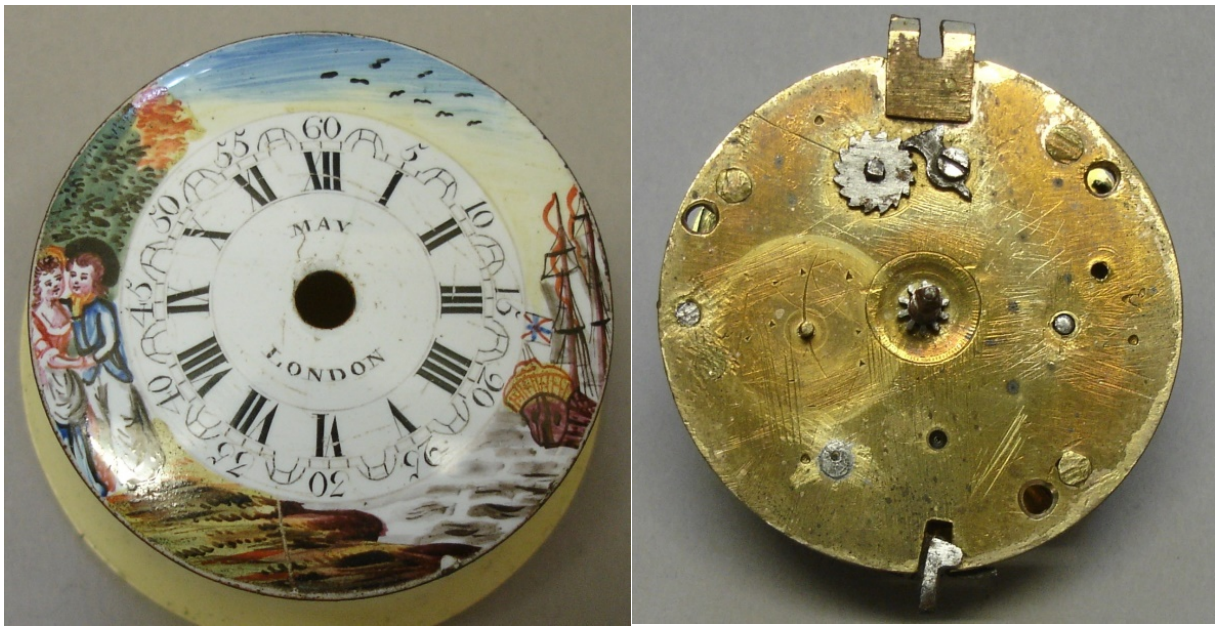
Outer case (left) and inner case hallmarks (right)

1.15 -1958,1201.642

Object Information

Sponsor's Name:	May	City:	London
Number:	811	Case Maker:	[?]D, rubbed and indistinct
Hallmark:	London 1790		
Description:	Silver pair-cased repoussé verge fusee watch with enamel arcaded dial featuring outer painted scene. Case depicts Aeneas and the Cumaean Sibyl and is referenced in Edgecumbe's The Art of the Gold Chaser [PP11-12]		
Hidden Marks:	Platemaker 'S'.		

Images



Dial front (left) and bottom plate (right)

Bottom plate detail (left) and top plate (right)

Outer case (left) and inner case hallmarks (right)

1.16 - 1958,1201.643

Object Information

Sponsor's Name:	J. May	City:	London
Number:	2292	Case Maker:	William Blake
Hallmark:	London 1788, Dutch import boar's head on outer case joint		
Description:	Silver pair-cased repoussé verge fusee watch with enamel arcaded dial. Case depicts Aeneas and the Cumaean Sibyl and is referenced in Edgecumbe's The Art of the Gold Chaser [PP11-12]		
Hidden Marks:	Platemaker 'WR'.		

Images

Dial front (left) and bottom plate (right)

Detail of the bottom plate (left) and top plate (right)

Outer case (left) and hallmark on the joint of the outer case (right)

Inner case

1.17 - 1958,1201.724

Object Information

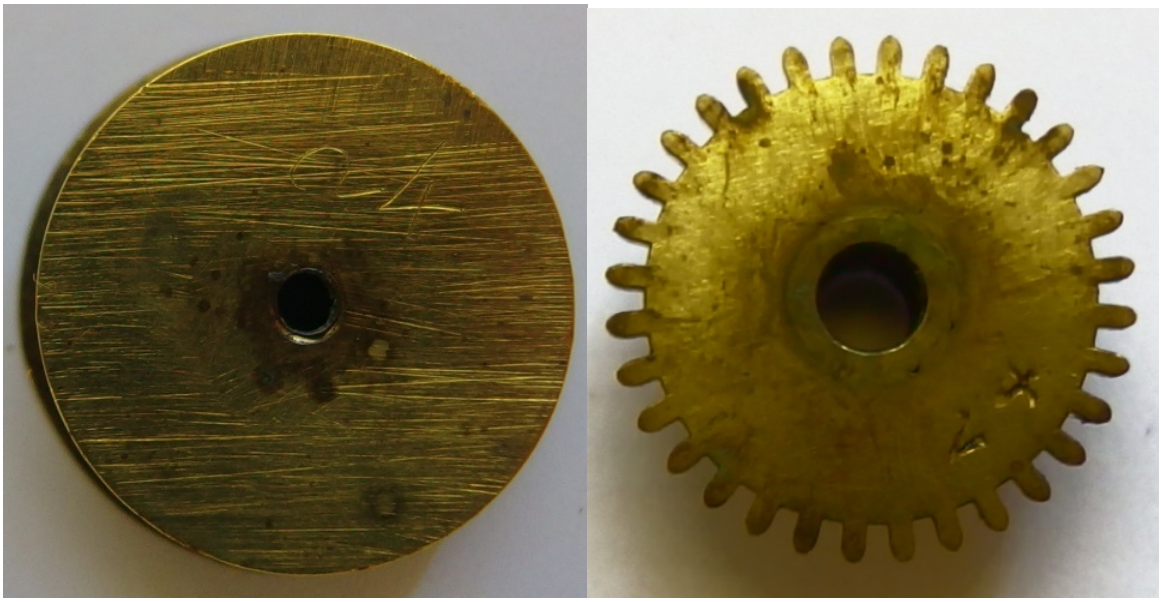
Sponsor's Name:	Graham	City:	London
Number:	Not applicable	Case Maker:	JDB and/or FB
Hallmark:	Possibly Neuchâtel duty mark on outer case joint.		
Description:	Plain silver pair-cased verge fusee watch with enamel arcaded dial. The case has multiple struck and erased marks, not legible. Movement struck and carved with number 24 (42 on bottom plate) throughout.		
Hidden Marks:	Dial enameller's signature under dial, not legible		

Images

Dial front (left) and reverse (right)

Outer bottom plate (left) and inner bottom plate (right)

Regulator furniture (left) and balance bridge (right)



Mainspring barrel (left) and hour wheel (right)

Third wheel (left) and inner case (right)

Outer case joint

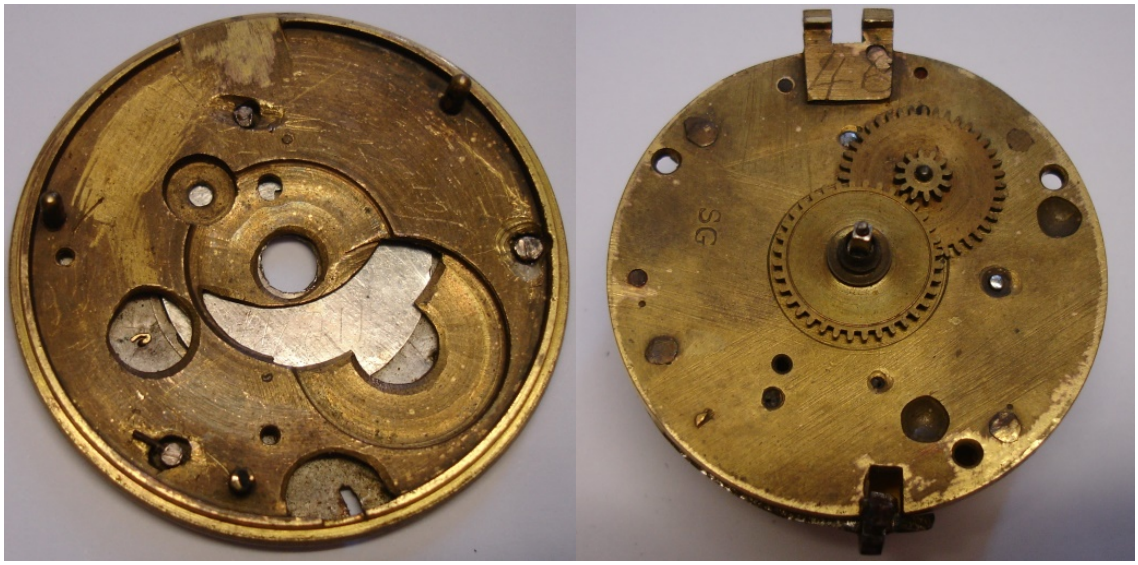
1.18 - 1958,1201.772

Object Information

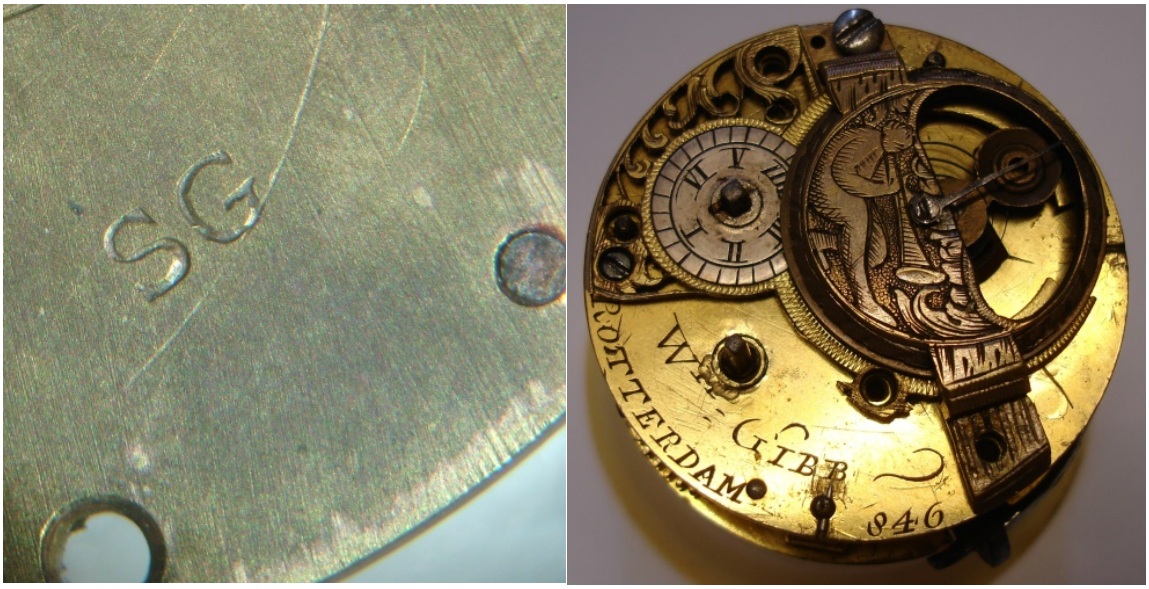
Sponsor's Name:	Wm. Gibb	City:	Rotterdam
Number:	846		
Case Maker:	Thomas Sones [inner] and Daniel Cochin [outer]		
Hallmark:	London 1778, lozenge possibly a French duty mark.		
Description:	Repoussé silver pair-cased verge fusee watch with three part champlevé arcaded dial. Dial and dial plate made for date feature but both have been modified to remove it. There is no evidence to suggest this watch ever had running date work. Outer case depicts a scene of *The Abduction of Helen*. Balance bridge has mock pendulum		
Hidden Marks:	Platemaker 'SG'.		

Images

Dial front (left) and dial detail (right)



Dial plate (left) and bottom plate (right)



Bottom plate detail (left) and top plate (right)

Outer case (left) and inner case (right)

1.19 - 1958,1201.815

Object Information

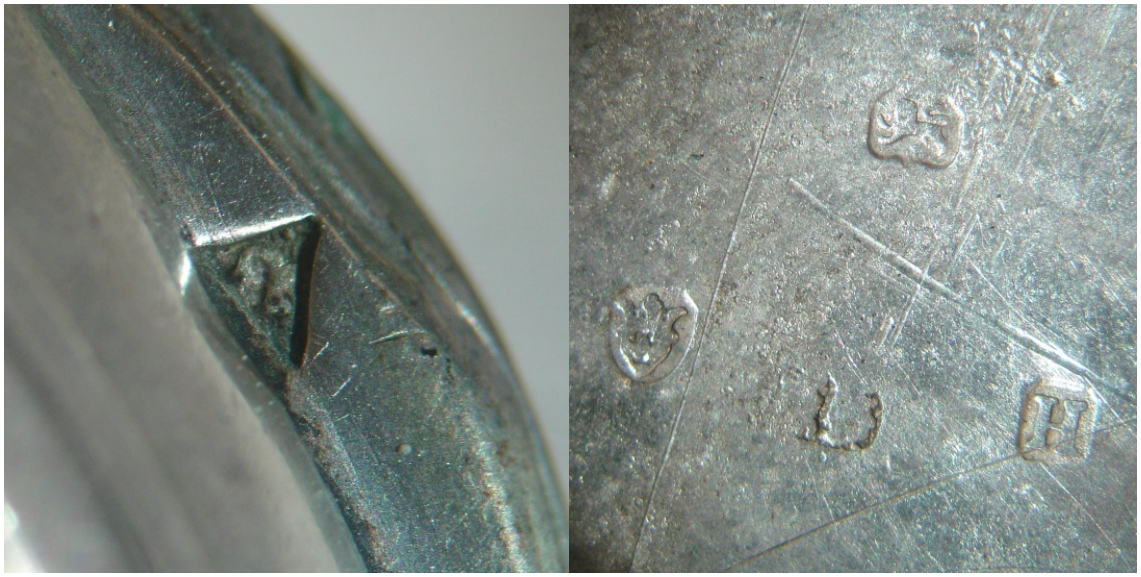
Sponsor's Name:	Chandler & Son	City:	London
Number:	721		
Case Maker:	[?]D		
Hallmark:	London 1803, Dutch dolphin and boar's head duty marks		
Description:	Plain silver pair-cased verge fusee watch with arcaded enamel dial featuring outer painted scene. Pierced and engraved balance bridge.		
Hidden Marks:	Platemaker 'WR', apparently later repairs marks and dates carved under the dial plate.		

Images

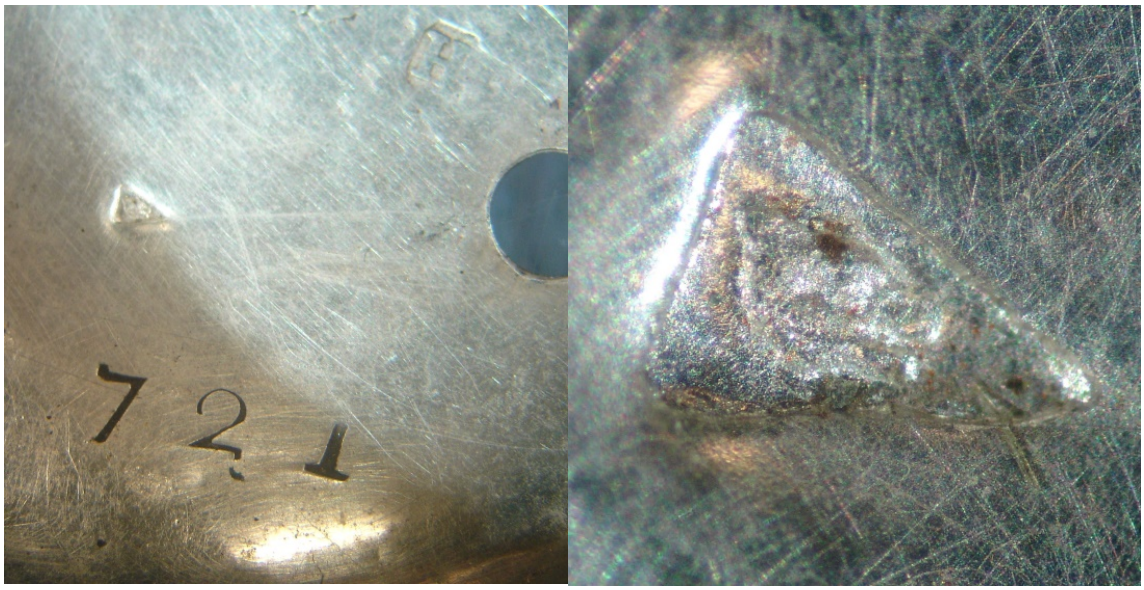
Dial front (left) and dial reverse detail (right)

Further details of the hidden marks on dial reverse

Bottom plate (left) and top plate (right)



Outer case joint (left) and outer case hallmarks (right)



Inner case (left) and detail of inner case (right)

1.20 - 1958,1201.826

Object Information

Sponsor's Name:	Constan(t)	City:	London
Number:	Not applicable		
Case Maker:	FI beneath coronet	Hallmark:	Not applicable
Description:	Silver pair-cased verge fusee watch with arcaded champlevé dial. Outer repoussé case decorated with a scene depicting *Joseph being sold into Egypt*.		
Hidden Marks:	'London' scratched on the underside of the dial.		

Images

Dial front (left) and detail of mark on reverse (right)


Bottom plate (left) and signature detail on top plate (right)

Inner case mark (left) outer case (right)

1.21 - 1958,1201.854

Object Information

Sponsor's Name:	Bramley	City:	London
Number:	10851		
Case Maker:	TG		
Hallmark:	Fake hallmarks, either for Chester 1813 or London 1812		
Description:	Plain silver pair-cased verge fusee watch with enamel dial featuring concentric date. Balance cock appears to have been modified, cut-back Liverpool made in appearance with unusual steel coquret possibly replacing and earlier endstone.		
Hidden Marks:	Not applicable.		

Images

Dial front (left) and date work (right)

Bottom plate (left) and top plate (right)

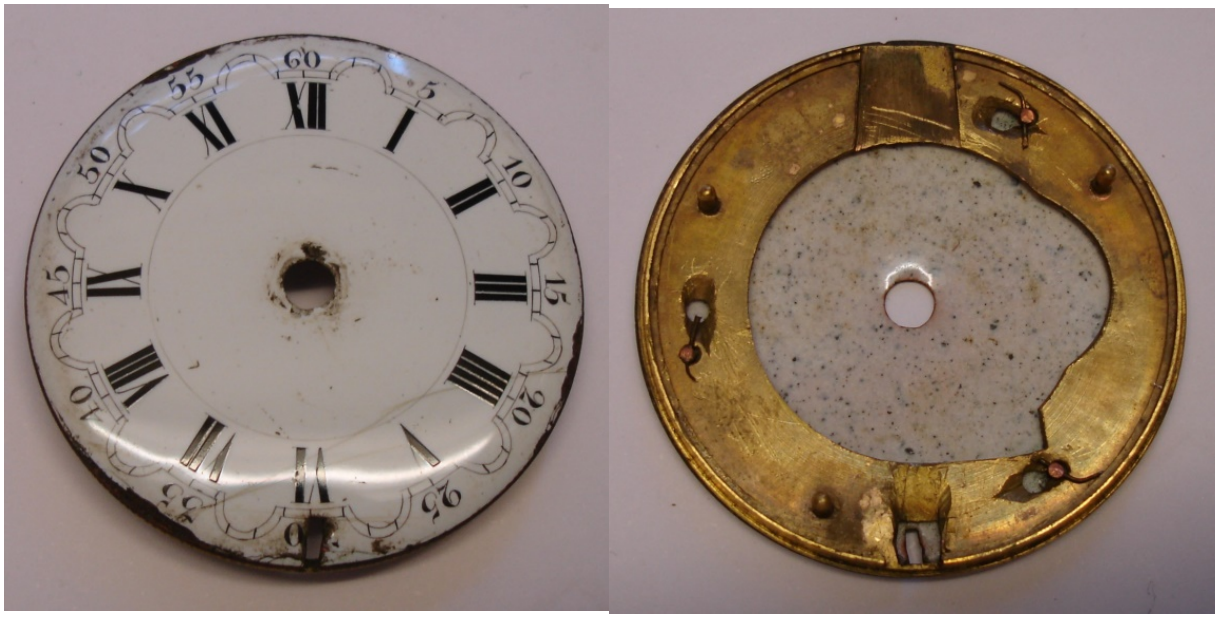
Outer case (left) and inner case (right)

1.22 - 1958,1201.879

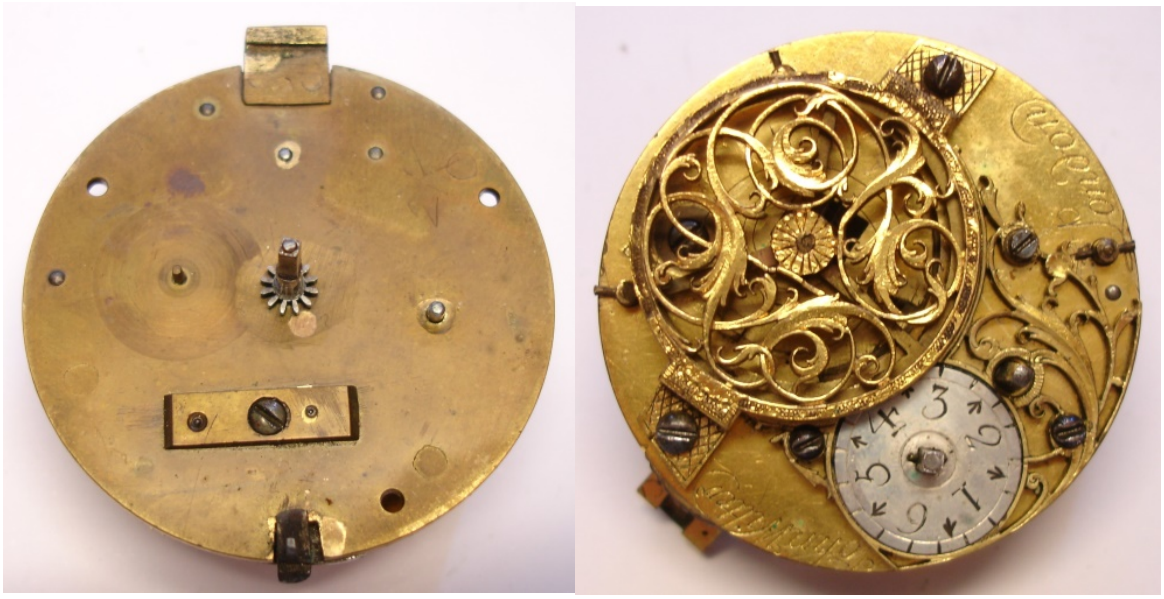
Object Information

Sponsor's Name:	John Wilter	City:	London
Number:	Not applicable	Case Maker:	DG in clover
Hallmark:	Not applicable		
Description:	Repoussé silver pair-cased verge fusee watch with arcaded enamel dial which is not original. The outer case also features a painted enamel plaque. Pierced and engraved balance bridge.		
Hidden Marks:	Not applicable		

Images



Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

Outer case (left) and inside of outer case (right)

Inner case

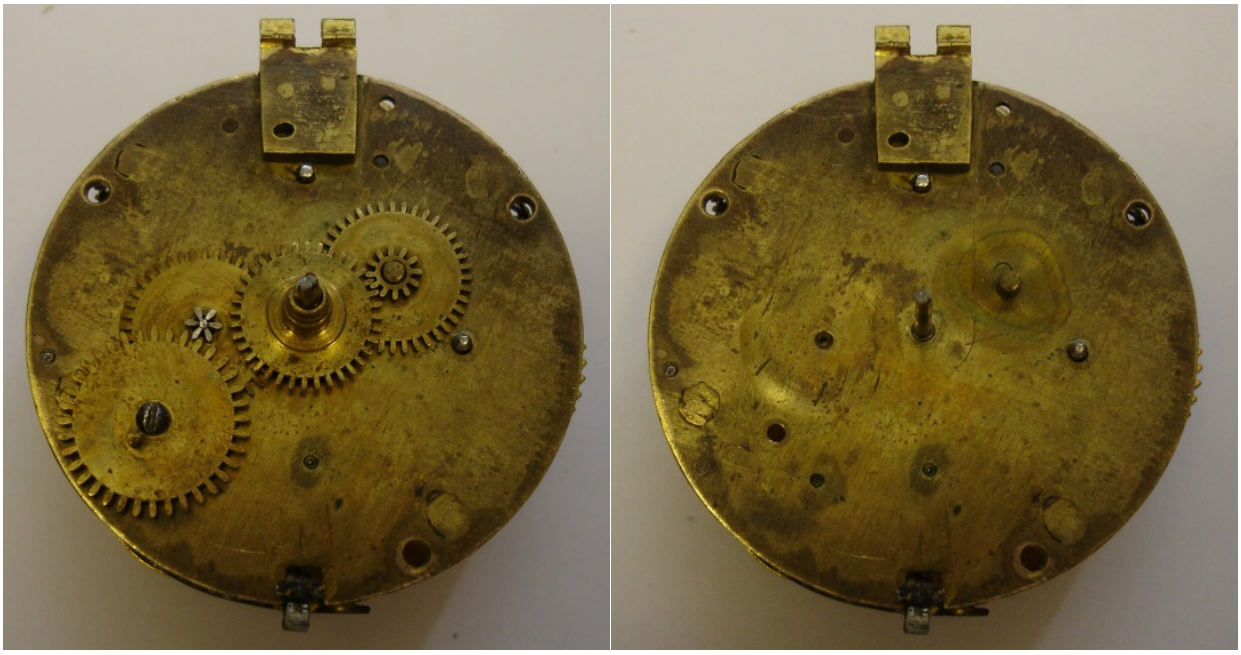
1.23 - 1958,1201.1637

Object Information

Sponsor's Name:	Wiet	City:	London
Number:	Not applicable	Case Maker:	Not applicable
Hallmark:	Dutch boar's head duty mark on outer case joint, pendant and inside the inner case.		
Description:	Repoussé silver pair-cased verge fusee watch with painted enamel plaque in the outer case. Arcaded champlevé dial featuring good quality functioning date. White metal pierced and engraved balance bridge.		
Hidden Marks:	Not applicable.		

Images

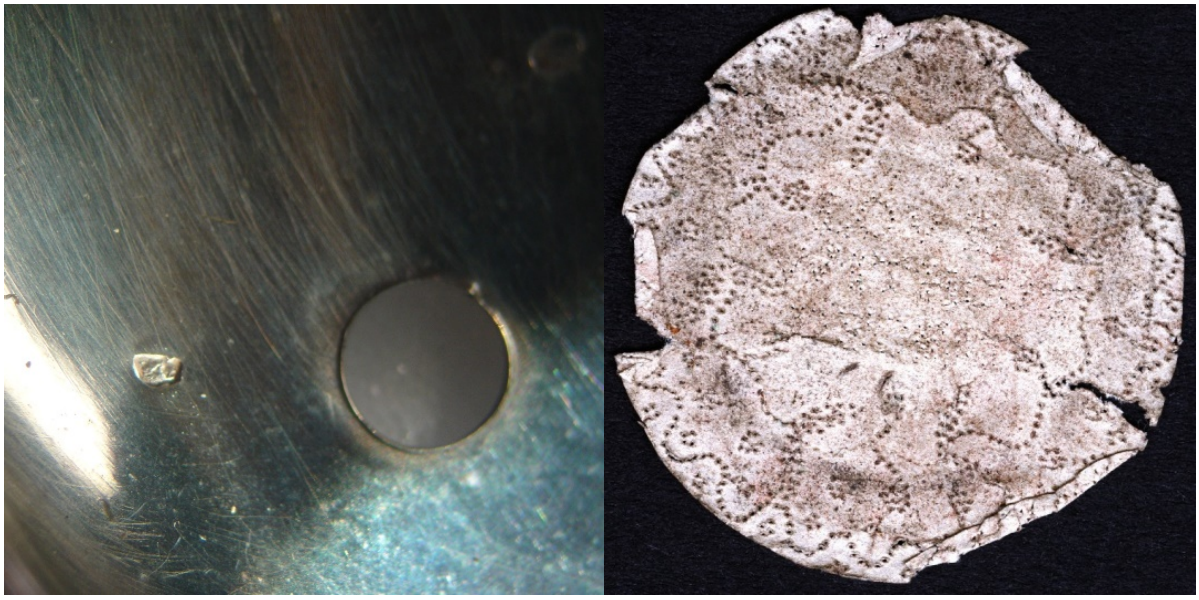
Dial front (left) and reverse (right)



Motion and date work (left) and bottom plate (right)

Top plate (left) and outer case (right)

Outer case joint (left) and pendant (right)



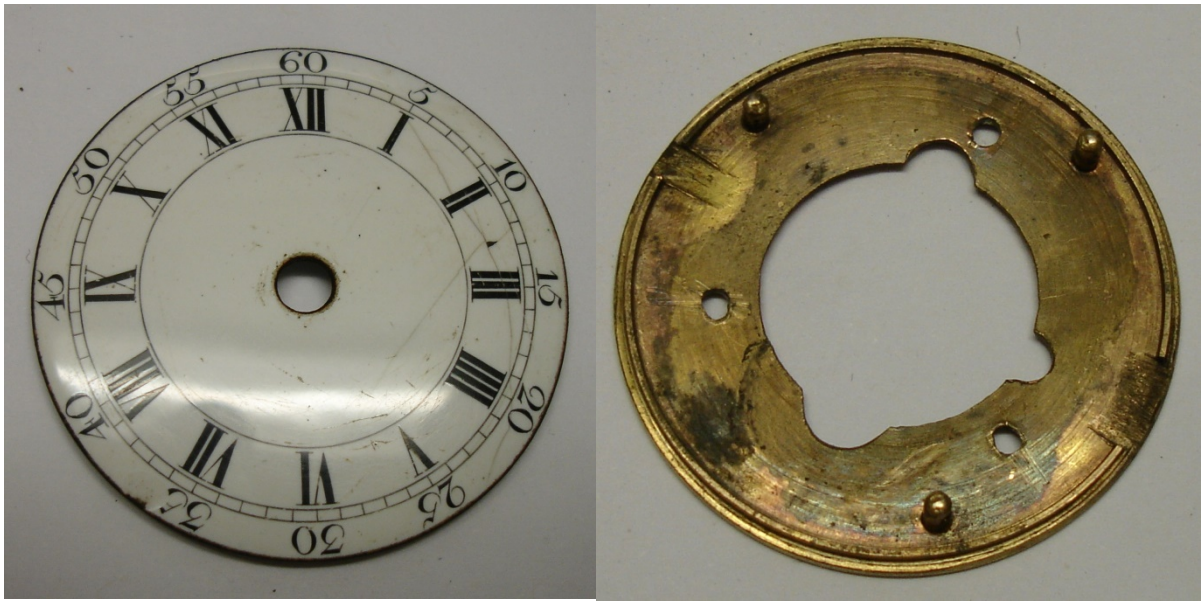
Inner case (left) and watch paper (right)

1.24 – 1961,0112.4

Object Information

Sponsor's Name:	Thomas Nadroy	City:	London
Number:	2590	Case Maker:	Illegible
Hallmark:	London 1772, together with Dutch import duty marks		
Description:	Repoussé silver pair-cased verge fusee watch with English-style enamel dial (original). Described in BM catalogue as having 'the characteristics of this watch suggest that it was actually made in Geneva and the inner case hallmarked in London'.[706] Although the movement bears some English characteristics, the plate maker is associated with *Dutch forgeries* and the quality of craftsmanship is poor.		
Hidden Marks:	'Remy' on base of fusee barrel, plate maker IB		

Images



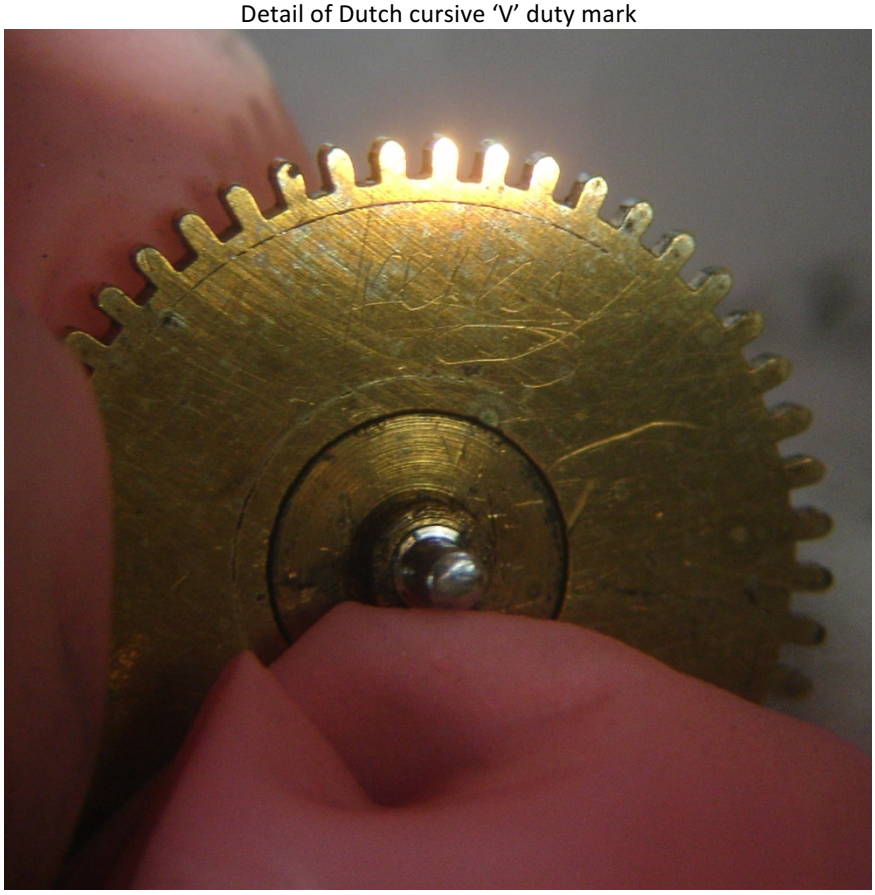
Dial front (left) and dial plate (right)

[706] http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=57074&partId=1&searchText=2590+watch&page=1 [accessed 24.12.2015]

Bottom plate (left) and top plate (right)

Inner case (left) and outer case (right)

Detail of Dutch cursive ‘V’ duty mark



Detail of hidden mark on the fusee barrel

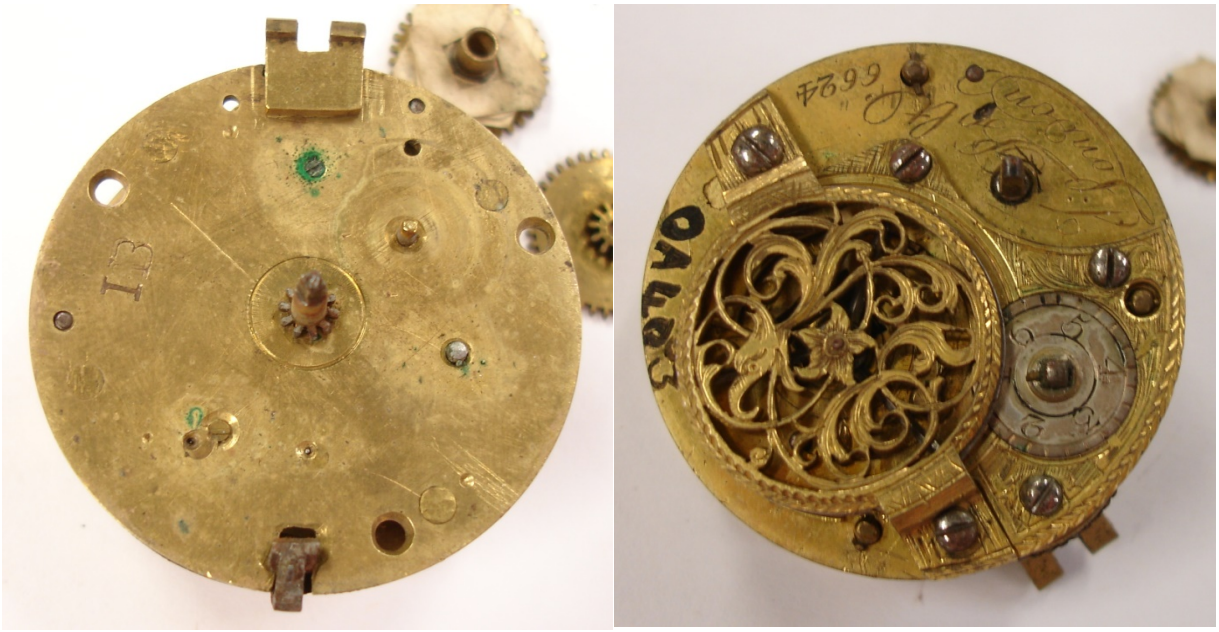
1.25 - OA.403

Object Information

Sponsor's Name:	J. Bolt	City:	London
Number:	6624	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement only of a verge fusee watch with arcaded white enamel dial (damaged and not original). Pierced and engraved balance bridge.		
Hidden Marks:	Platemaker IB. Painted markings under the dial obscured by dial plate, the damaged dial is not stable enough to separate from the plate.		

Images

Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

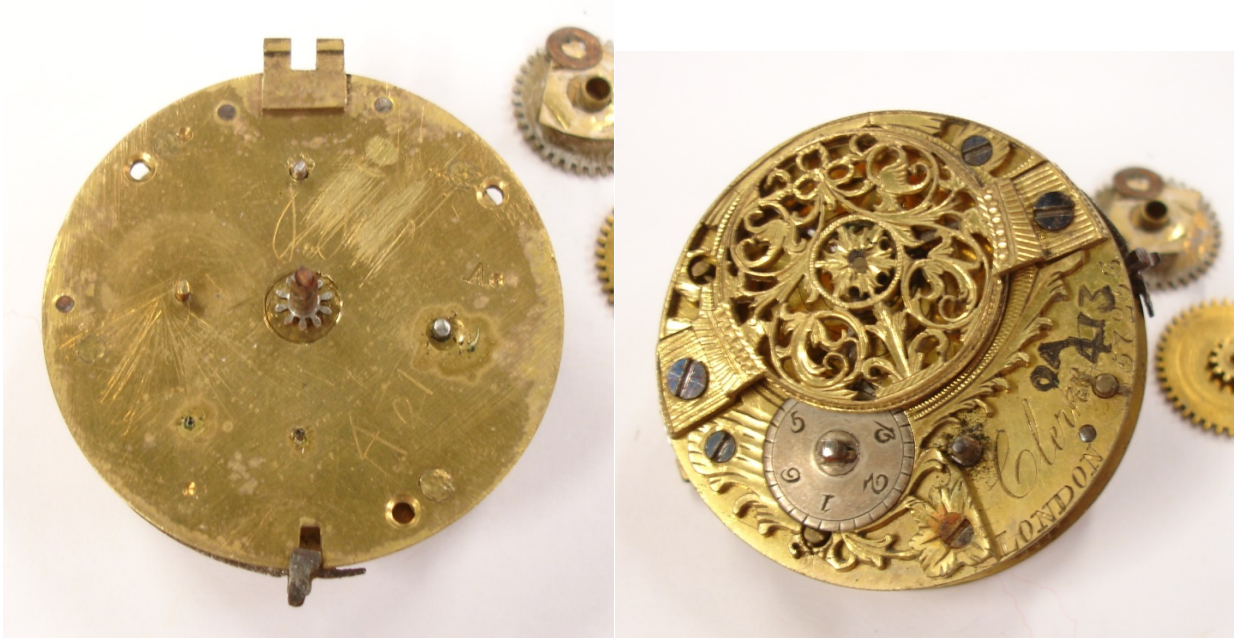
1.26 – OA.413

Object Information

Sponsor's Name:	Clerke	City:	London
Number:	57233	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement only of a verge fusee watch with arcaded white enamel dial (not original). Dial plate cut for date aperture, through the bottom plate does not appear to have ever been fitted with functioning date work. Pierced and engraved balance bridge.		
Hidden Marks:	Platemaker 'A'. Multiple repairers' marks scratched into bottom plate, illegible.		

Images

Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

1.27 - OA.449

Object Information

Sponsor's Name:	Samson	City:	London
Number:	12136	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement of a verge fusee watch (damaged and part missing) with white enamel arcaded dial (not original). Balance bridge missing, balance damaged and stored separately.		
Hidden Marks:	Platemaker 'R'. Hidden marks throughout, most illegible but include '36' repeated on numerous components including bottom plate, mainspring barrel and cap, centre wheel and regulator plate. 'Samson' scratched into dial plate.		

Images

Dial plate (left) and bottom plate (right)

Inside mainspring barrel (left) and mainspring barrel cap (right)

Centre wheel (left) and regulator plate (right)

1.28 – OA.455

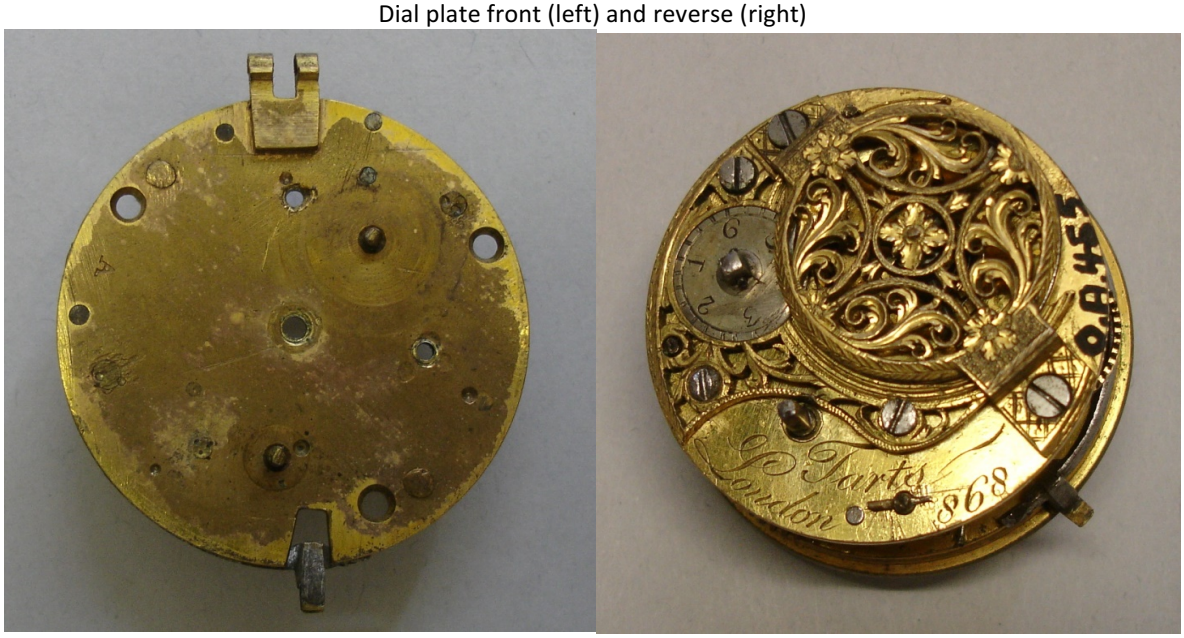
Object Information

Sponsor's Name:	Tarts	City:	London
Number:	868	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement only of a verge fusee watch with arcaded enamel dial (not original). Dial plate cut for date work. The bottom plate shows signs of functioning date work which has since been removed. Pierced and engraved balance bridge.		
Hidden Marks:	Dial size 14 ¾ painted in reverse. Platemaker 'A'.		

Images

Dial front (left) and reverse (right)

Dial plate front (left) and reverse (right)



Bottom plate (left) and top plate (right)

Lead solder repair to mainspring barrel

1.29 – OA.456

Object Information

Sponsor's Name:	Tarts	City:	London
Number:	9525	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement only of a verge fusee watch with arcaded white enamel dial (not original). Pierced and engraved balance bridge.		
Hidden Marks:	'89/10' and '1888' on the dial plate. '13' painted under the dial. Platemaker 'WR'.		

Images

Dial front (left) and reverse (right)

Bottom plate (left) and top plate (right)

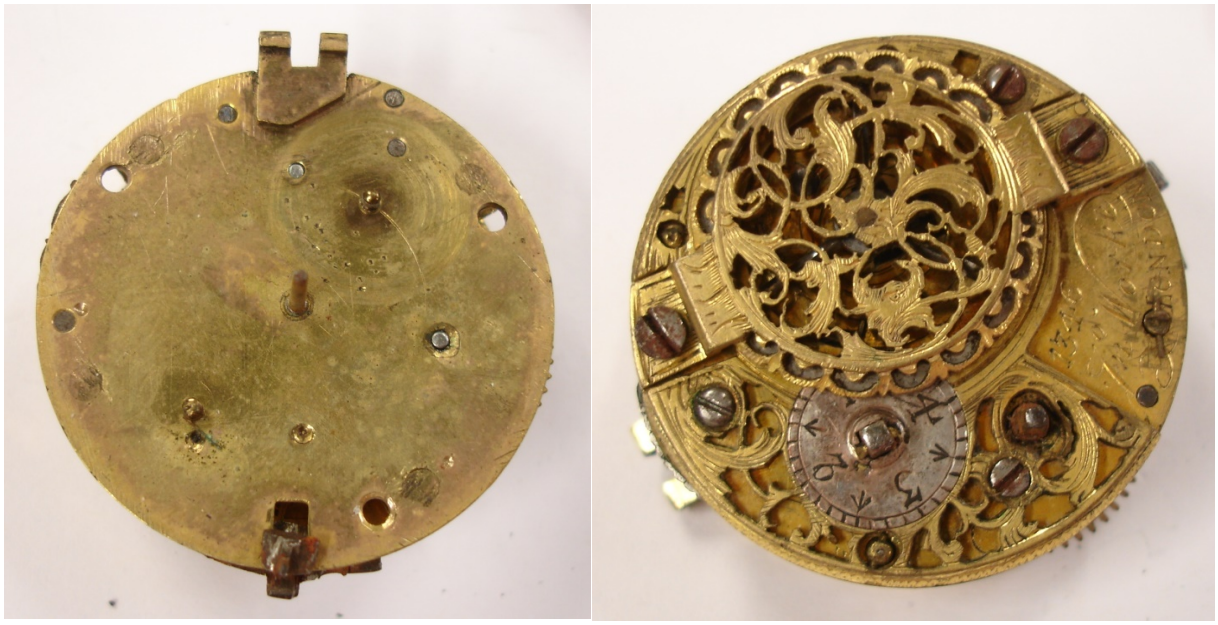
1.30 – OA.464

Object Information

Sponsor's Name:	Jno Worke	City:	London
Number:	1346	Case Maker:	Not applicable
Hallmark:	Not applicable		
Description:	Movement only of a verge fusee watch with arcaded enamel dial (not original). Dial plate cut for date work. The bottom plate appears to have once had functioning date work which has now been removed. Pierced and engraved balance bridge.		
Hidden Marks:	Scratched marks on bottom plate and dial plate illegible.		

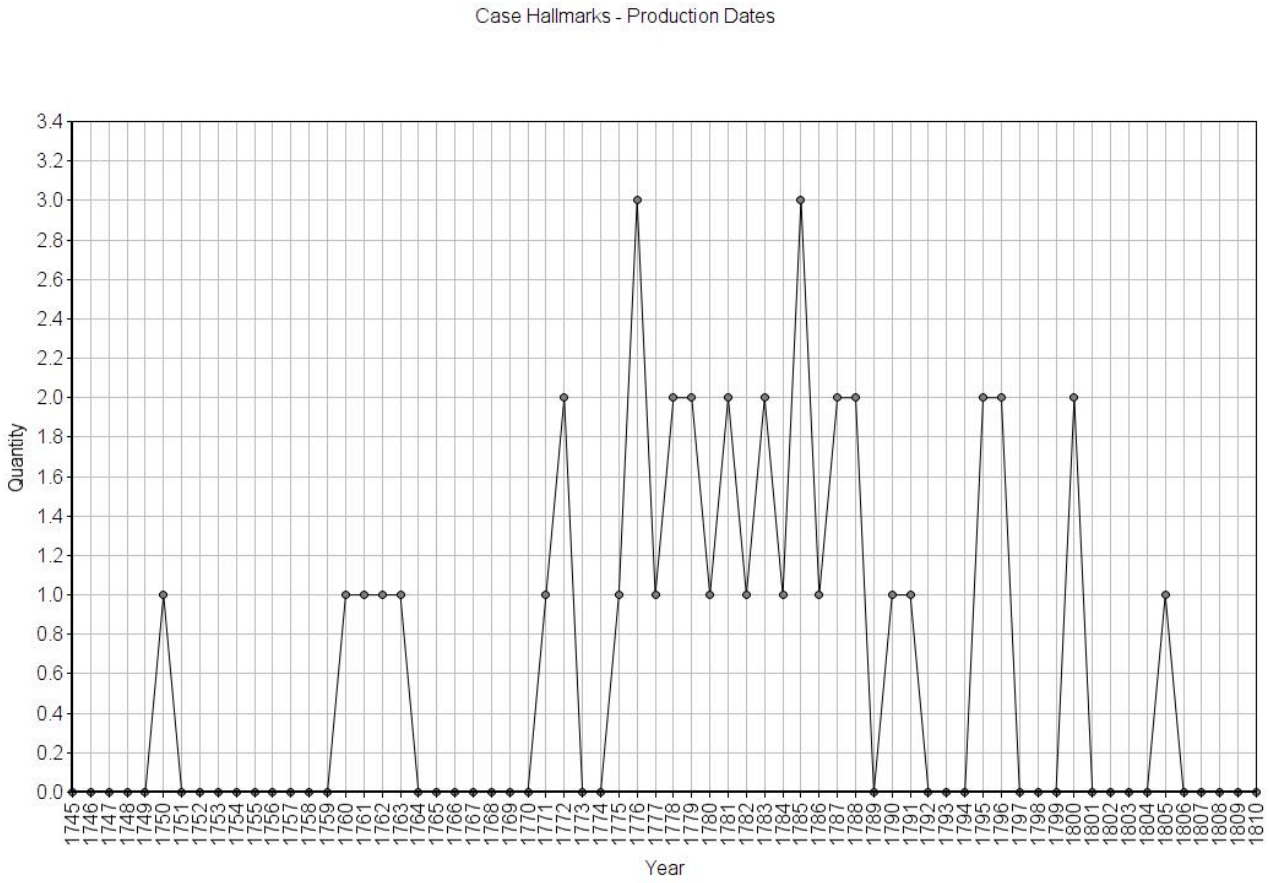
Images

Dial front (left) and reverse (right)



Bottom plate (left) and top plate (right)

No. 2 - Chart illustrating date distribution of watches in this study



The British Museum

No. 3 - CSR Analytical Request No. Ar2015-21. Author Harriet White. ©Trustees of the British Museum

DEPARTMENT OF CONSERVATION AND SCIENTIFIC RESEARCH

Scientific examination of seven mid to late eighteenth-century European silver watch case pairs

3.1 Abstract

Scientific examination of seven mid to late eighteenth-century European watch case pairs was requested to investigate if there was any correspondence between their silver content and their supposed silver content as denoted by their standard marks, or where standard marks were absent, to identify the silver types used in their manufacture. The unabraded surfaces of the watch cases were analysed using an Artax micro-X-ray fluorescence spectrometer (XRF). Alhough the data collected from surface analyses do not accurately reflect the bulk compositions of the silver alloys, enough information was gained to indicate if the cases were manufactured using English sterling silver (containing at least 92.5% silver), Britannia silver (at least 95.8% silver) or Continental silver (containing at least 80% silver).

The inner cavities of several of the cases were in-filled using a hard silver solder. This might have occurred either at the time of manufacture to strengthen the cases or as a later repair.

This report contains unpublished research. Its contents should not be published without the permission of the Keeper of the Department of Conservation and Scientific Research.

Analysis requested by: Laura Turner, Department of Britain, Europe and Prehistory
CSR Report no. AR2015-21

BM object registration and PRN number(s): 1958,1201.473 [MCC2028]; 1958,1201.549 [MCC1836]; 1958,1201.610 [MCC1623]; 1958,1201.724 [MCC1176]; 1958,1201.772

[MCC1104]; 1958,1201.854 [MCC232]; 1958,1201.1637 [MCC2272]

16th December 2015

3.2 Introduction

Seven mid to late eighteenth-century silver watch case pairs were submitted for compositional analysis to investigate the correspondence between silver content and their supposed silver content as signified by their silver standard marks, or where standard marks are absent, to identify the silver alloy used in their manufacture (Figure 1). The data will contribute to collaborative research undertaken by Rebecca Struthers and the BM on the origin of watch forgeries in the eighteenth century. The watch case pairs selected for analysis comprise an inner casing to house the watch mechanism, and an outer casing front and back joined by a hinge. The silver standard marks identified on the inner and outer case backs are the English lion passant guardant for sterling silver denoting 0.925 fine or at least 92.5% silver (1958,1201.610; 1958,1201.772, Figure 2b and 2d), crudely stamped lion passant guardant marks identified as imitations (1958,1201.724; 1958,1201.854, Figure 2e), the Neutchâtel, Switzerland shield with chevrons which signifies at least 0.800 fine or 80% silver (1958,1201.724, Figure 2c), and the stylised 'V' and boar's head duty marks for imported articles to the Netherlands and used there from 1814 (1958,1201.473; 1958,1201.1637, Figure 2a and 2f) (Table 1). These last two marks did not guarantee silver content.

Table 1: Hallmarks identified on each of the watch case pairs

	Inner case	Outer Case
1958,1201.473	Unmarked	**Stylised 'V', Dutch tax mark for gold or silver objects, does not signify precious metal content (Figure 2a)**
1958,1201.549	Unmarked	**Unmarked**
1958,1201.610	City of London and lion passant guardant for sterling silver (Figure 2b), date mark for 1779	**Unmarked**
1958,1201.724	?imitation marks for City of London and lion passant guardant for sterling silver, worn away	**?Neutchâtel, Switzerland mark for 0.800 fine (Figure 2c)**
1958,1201.772	City of London and lion passant guardant for sterling silver (Figure 2d), date mark for 1778	**Unmarked**
1958,1201.854	?imitation marks for city of Chester and lion passant guardant for sterling silver, The date letter 'R' cannot be matched to known years that carry 'R' (Figure 2e).	**?imitation marks for city of Chester and lion passant guardant for sterling silver , The date letter 'R' cannot be matched to known years that carry 'R'.**
1958,1201.1637	**Boar head, Dutch tax mark on small imported articles used after 1814, no guarantee of silver content**	**Boar head, Dutch tax mark on small imported articles used after 1814, not a guarantee of silver content (Figure 2f)**

Figure 154: Silver standard and duty marks identified on the watch cases.

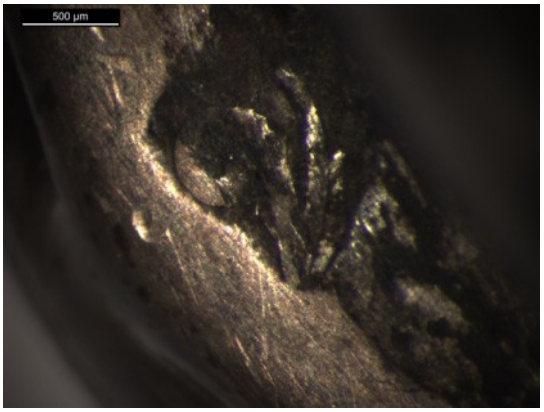


Figure 2a. 1958,1201.473, Dutch stylised 'V' duty mark on outer case hinge (left)
Figure 2b. 1958,1201.610 English lion passant guardant for at least 0.925 fine on inner case (right)

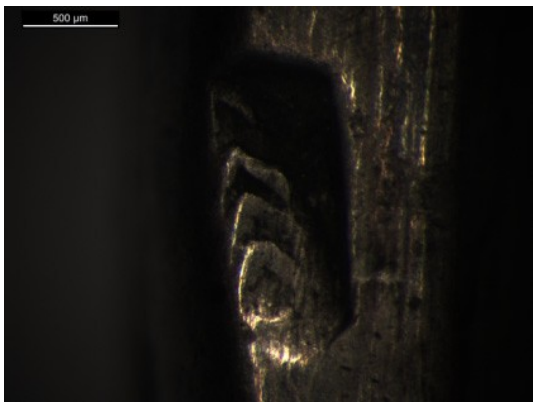
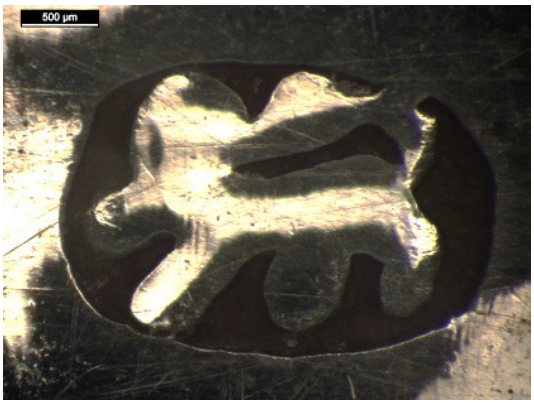


Figure 2c. 1958,1201.724 ?Neuchâtel mark for at least 0.800 fine (left)
Figure 2d. 1958,1201.772 English lion passant guardant for at least 0.925 fine (right)



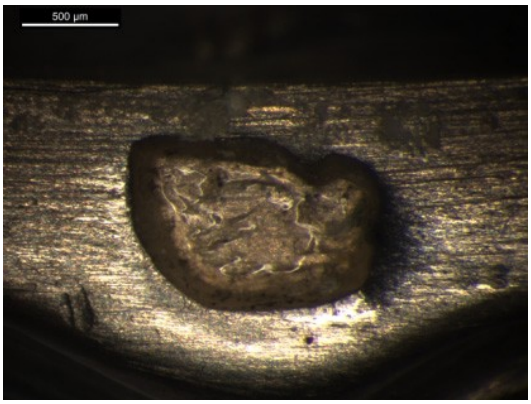


Figure 2e. 1958,1201.854 Imitation lion passant guardant (left)
Figure 2f 1958,1201.1637 Dutch boar head duty mark (right)

3.3 Method

The watch case pairs were initially examined using X-radiography to investigate if any repairs to their metal had been carried out. The equipment used was a Euroteck 225kV cabinet operating at 90 kV, 5 mA and 3 minutes live time, and 110 kV, 5 mA and 3 minutes live time with a copper filter. Images were recorded on a copper cassette and processed using a Carestream Industrex HPX-1 scanner and software.

Non-destructive compositional analysis was carried out on unabraded surfaces using an Artax micro-XRF operating at 50 kV and 500 μA, with a 0.65mm collimator and a counting time of 200 seconds. The areas selected for analysis were the rims and outer surface of the inner case back, and the rims and outer surfaces of the outer case front and back. Two or three spectra were collected from each area in the majority of cases and the results given as a mean. The results have a precision (measure of reproducibility) of about ±1-2% relative for the major elements, 5-10% for the minor elements present in concentrations of ±1-20 wt% and up to ±50% for elements in concentrations of less than 1%. The minimum detection levels for the elements silver, copper, lead, gold, nickel and zinc are typically between 0.05 to 0.1%.

Prior to presenting the XRF results it is necessary to highlight that they do not reflect fully the original bulk compositions of the watch cases. There are a number of processes which lead to the depletion of the baser metal content (here, copper) causing silver enrichment at the surface. Amongst others, these include 'pickling' in dilute acids during manufacture, or later corrosion processes and the removal of resultant corrosion products by washing in acidic solutions (for example Merle and Reitch 1842, 233). The effects of surface enrichment are likely to be more pronounced the baser the original silver is. The topic has been discussed by Mass and Matsen (2012) in relation to surface XRF of eighteenth and nineteenth-century silver hollow wares. An inherent error due to the surface curvature of the cases also exists. The lack of reproducible geometry means that accuracy is reduced, leading to some discrepancy between repeated results (Mass and Matsen 2012, 197).

Cleaning compounds applied to the cases since their manufacture further alters surface compositions. Traces of jeweller's rouge (haematite), for example, are present on the inner case of 1958,1201.854. Moreover, several of the watch cases showed clear peaks for mercury (Figure 3). Where mercury is detected during surface analysis of silver or gold objects it is often an indicator of manufacture by mercury gilding. This can be discounted here; the inner case of pair 1958,1201.473, which had the most prominent peaks, has a 'v' shaped nick cut through the rim and into the body of the case, exposing a cross-section through the metal. Examination by optical microscopy revealed the metal to be silver throughout, with no base metal substrate present. Although known to be deleterious and cause embrittlement, mercury compounds were used to clean silver during the nineteenth century (for example Limbard 1831, 192; Percy 1880, 2). Since it amalgamates with silver, residual amounts can be expected to be present where used.

Despite there being a number of effects which reduce the reliability of the data, enough information was collected to be able to demonstrate some trends in the use of different silver alloys and these are discussed below.

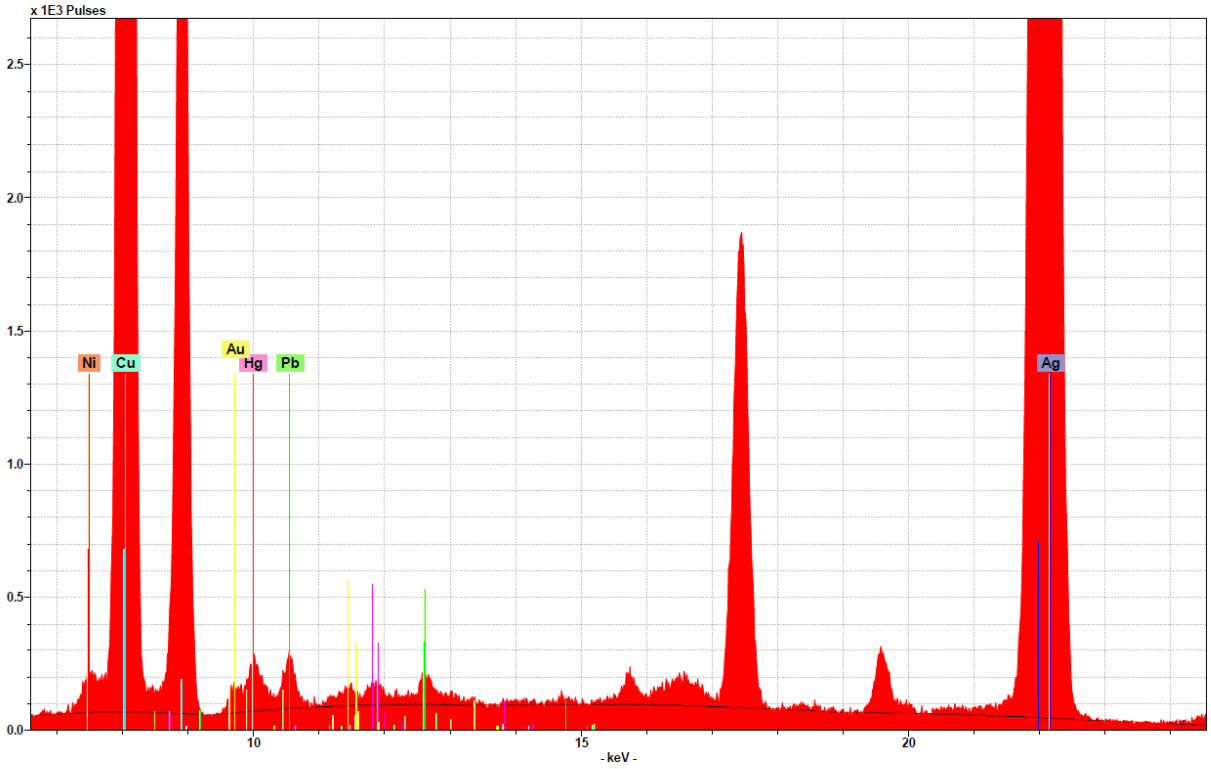


Figure 155: XRF spectrum from the external surface of the inner case of pair 1958,1201.473 showing clear peaks for mercury (Hg).

3.4 Results and Discussion

Trace amounts (<1%) of nickel, gold, and lead were detected in all watch cases analysed. These elements are residual from the smelting of ores and are typically present in pre-19th-century silvers, prior to the development of electrolytic refining. Zinc, again commonly present in pre-nineteenth century silver, was also detected in trace amounts, but its presence was inconsistent within each set of analyses. This might be the result of variable surface depletion, or alternatively, it could occur as a surface contaminant.

The major and minor elements detected are given in Table 2. Watch cases 1958,1201.473 and 1958,1201.549 appear to have been made by the same makers, with each case pair having the maker's initials of 'EC' under a crown on the inner case and the signature of D. Cochin on the outer case base of 1958,1201.473. None of the components of these two case pairs have silver standard marks. The outer case (base) of 1958,1201.473 has the Dutch boar's head mark for foreign imported silver. The two watch case pairs show a similar compositional pattern with the outer cases made from silver of higher purity than the inner cases. The outer case front and back of 1958,1201.473 and the outer case front of 1958,1201.549 have silver contents of 91 to 92.5 wt% with the balance made up of copper, suggesting they were manufactured from sterling silver. The higher silver content recorded for the outer case back of 1958,1201.549 (95.5 wt%) might be sterling silver but showing the effect of surface enrichment as discussed above. It could also indicate, however, that this part of the case was made using Britannia silver which was 0.958 fine or having at least 95.8% silver. The inner cases both show lower silver and higher copper contents than the outer cases and so are likely to be manufactured from 'Continental' silver of lower purity.

The outer case of watch case pair 1958,1201.772 also displays the signature of D. Cochin and no silver standard mark, while the inner case has the maker's initials 'TS', standard mark for sterling silver. The

silver contents for both cases are between 90 and 93.5 wt.%, the balance being copper, in agreement with the lion passant guardant mark.

The outer case of watch case pair 1958,1201.610 is unmarked, while the inner case has the lion passant guardant for sterling silver. Both cases were found to have a silver content of above 92.5 wt.%, again in agreement with the lion passant guardant mark.

The inner case hallmarks of 1958,1201.724 have been identified as imitations of the lion passant guardant and the City of London. The shield with chevrons stamped on the outer case is most likely the Neutchâtel mark for silver of at least 0.800 fine. The silver content for both cases was found to be 88.5 wt%, suggesting the pair were made using 'Continental' silver and that the sterling mark on the inner case is indeed an imitation.

The Chester and lion passant guardant hallmarks present on the inner and outer cases of 1958,1201.854 are considered to be imitations because of their crudity of style(Figure 2e and BM Collection Online). At greater than 92.5 wt.% silver content, the outer case appears to meet sterling standard. The silver content determined for the inner case, however, is lower at approximately 86 wt.% indicating it was made from less pure silver.

The final case pair (1958,1201.1637) has no silver standard mark, but carries the Dutch duty stamp for imported silver. As seen for several case pairs above, the outer case appears to have been manufactured using sterling silver (up to 94 wt.% recorded), while the inner case appears to be of lower fineness.

Table 7: The major elements (wt.%) identified by XRF carried out upon unabraded surfaces of the watch cases. Standard deviations are provided to indicate reproducibility of results

Watch Case	Case		Ag	Cu	Standard Mark
1958,1201.473	Inner	Mean	85.0	13.7	**Unmarked**
		Sdev	*1.0*	*1.5*	
	Outer back	Mean	92.5	6.5	**Dutch duty mark only**
		Sdev	*0.7*	*0.7*	
	Outer front		91	8	
1958,1201.549	Inner	Mean	88	10	**Unmarked**
		Sdev	*0*	*0*	
	Outer back	Mean	95.5	3.5	**Unmarked**
		Sdev	*0.7*	*0.7*	
	Outer front	Mean	92.5	6.5	
		Sdev	*0.7*	*0.7*	
1958,1201.610	Inner	Mean	93.5	5.5	**0.925 (London)**
		Sdev	*0.7*	*0.7*	
	Outer back	Mean	94.0	5.2	**Unmarked**
		Sdev	*1.7*	*1.4*	
	Outer front	Mean	94	6	
		Sdev	*0*	*1.4*	
1958,1201.724	Inner	Mean	88.5	10.5	**0.925 (?London)**
		Sdev	*0.7*	*0.7*	
	Outer back	Mean	88.5	10.5	**0.800 (?Neutchâtel)**
		Sdev	*0.7*	*0.7*	
	Outer front		88	10	
1958,1201.772	Inner	Mean	93.5	5.9	**0.925 (London)**
		Sdev	*0.7*	*0.1*	
	Outer back	Mean	91.5	7.5	**Unmarked**
		Sdev	*2.1*	*2.1*	
	Outer front	Mean	90	9	
		Sdev	*0*	*0*	
1958,1201.854	Inner	Mean	86.7	12.6	**Imitation 0.925 (?Chester)**
		Sdev	*1.2*	*0.8*	
	Outer back	Mean	92.7	6.3	**Imitation 0.925 (?Chester)**
		Sdev	*1.5*	*1.5*	
	Outer front	Mean	93.5	5.25	
		Sdev	*0.7*	*0.4*	
1958,1201.1637	Inner	Mean	89.0	10.0	**Dutch duty mark only**
		Sdev	*0.0*	*0.0*	
	Outer back	Mean	94.33	4.67	**Dutch duty mark only**
		Sdev	*0.58*	*0.58*	
	Outer front	Mean	90.00	8.50	
		Sdev	***2.83***	***2.12***	

Trace amounts (0.05 to 0.8 wt.%) of nickel, zinc, gold, and lead were detected in each case. Since these are residual from the smelting of ores and not intentional additions to the alloys they are not presented here.

Figure 156: Details of decoration on the outer case backs of 1958,1201.473 (top row) and 1958,1201.610 (bottom row), their internal surfaces showing infilling with silver solder (middle) and X-radiographs (right – the paler areas in the X-radiographic images indicate denser/thicker material. The dark circular features are porosity).

Table 8: Composition (wt.%) of the high relief areas of the external surfaces of the watch case backs determined by XRF.

		Ag	Cu	Zn	Pb
1958,1201.473	Mean	85.5	11	1.8	**<1**
	Sdev	*4.9*	*4.2*	*0.8*	
1958,1201.549	Mean	85.5	11.0	2.3	**<1**
	Sdev	*0.7*	*0.0*	*0.4*	
1958,1201.610	Mean	76.3	15.7	5.3	**2.1**
	Sdev	*5.0*	*3.1*	*1.5*	***0.7***
1958,1201.772	Mean	73	19	6.75	**1**
	Sdev	***0***	***0***	***0.4***	***0***

3.5 Other Observations

The outer cases of pairs 1958,1201.473, 1958,1201.549, 1958,1201.610, 1958,1201.772 are repoussé-decorated with the figures on the outer case backs standing in high relief (Figure 1 and 4). The internal cavities of these have been in-filled, all or in part, by metal, which was shown by X-radiography to be porous (Figure 4). The small diameter and depth of the base of the cases meant that the metal infill was inaccessible for analysis by XRF directly. When analysing these high relief areas on the external surfaces of the cases, however, the elements copper, zinc and lead were elevated and silver depleted compared to the surrounding silver, reflecting X-ray penetration through the thin silver sheet of the case and reaching the underlying metal infill (Table 3). This suggests the internal cavities are in- filled with hard solder for silver. Hard solder recipes from the late nineteenth century include admixtures of silver, shot copper and spelter (zinc) or of silver and brass, with a warning against the use of metal warehouse-bought brass since it was likely to contain variable amounts of lead (Brasseler 1899). This appears to be the case for solder infill of 1958,1201.610 and 1958,1201.772, where lead concentrations were found to be higher than the background trace levels detected in the surrounding areas. The silver solder might have been added at the time of case manufacture to re-enforce the repoussé work, or later to strengthen the cases where the high-relief decoration became worn during use.

3.6 Conclusions

With the exception of 1958,1201.724, the outer cases of the watch case pairs appear to have been manufactured using sterling silver and possibly Britannia silver. Of these, the inner cases of four were made using silver of lower purity. Watch case pair 1958,1201.724, which carried an imitation mark for sterling silver on the inner case and the Neutchâtel mark denoting at least 0.800 fine, was manufactured using the lower purity 'Continental' silver.

Despite being unable to analyse the metal infill of the repoussé-decorated cases directly, the enrichment of copper and zinc, and on two examples lead, noted on the high-relief areas of the external surfaces suggest the cases were in-filled using hard solder.

3.7 Acknowledgements

Acknowledgements are due to Duncan Hook and Paul Craddock for very helpful discussions on methodology and pre-nineteenth century silver compositions. Thanks are also owed to Rebecca Struthers for useful comment on hallmarking.

Harriet White Susan La Niece

16th December 2015

3.8 References

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No. 4 – Key to the list of *Dutch forgeries* identified by this research

AQG – Antiquorum, Geneva
BBS – Bonhams; New Bond Street, London
BKB – Bonhams; Knightsbridge, London
BM – The British Museum; London
BNY – Bonhams; New York
CAM – Christie's; Amsterdam
CNY – Christie's; New York
CSK – Christie's South Kensington; London
HMB – Historisches Museum; Basel
iCol – www.icollector.com
LCC – Clockmakers' Company; London; Guildhall
MoL – Museum of London
MMA – Metropolitan Museum of Art; New York
MNU - Museum van het Nederlandse Uurwerk
MRAH – Musee Royaux d'Art et d'Historie; Brussels
NTM – Narodni Technicke Muzeum; Prague
OF – Online Forum
PC – Private Collection
PoT – Pieces of Time; London
PWC – Proctor Watch Collection; USA
SBC – Stanley H. Burton Collection; Pforzheim
SBS – Sotheby's New Bond Street; London
SNY – Sotheby's; New York

No. 5 - List of *Dutch forgeries* identified by this research

Number	Inscription	City	Case	Case Maker's Mark	Hallmark	Plate Mark	Dial	Scape	Details	Reference	ID	Seen?
6588	Anderson, Jas	London	Silver pair-cased; outer repoussé	IT [inner]	London 1776 [unseen]	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	3083	N
-	Avril	London		HP beneath coronet [inner]	-	-	Silver champlevé; arcaded with date	Verge	Balance bridge	BM	1958,1201.889	Y
63674	Beifield, G	London	Silver pair-cased	JDB [in oval] - same as BM 1958,1201.724	Neuchâtel chevron mark		Enamel	Verge		BM	1958,1201.875	Y
-	Beifield, G	London	Missing	-	-	P	Missing	Verge	Balance bridge	PC	N/A	Y
446	Boisson, M	London	Silver pair-cased; outer with repoussé work and central enamel plaque	PB [inner]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	2897	N
6624	Bolt, J	London	Missing	-	-	IB	Enamel; arcaded	Verge	Balance bridge	BM	OA.403	Y
-	Chandler & Son	London	Missing	-	-	-	Enamel; arcaded surrounded by outer painted enamel scene [similar to dial of BM 1958,1201.815]	Verge	Balance bridge	BM	1958,1201.33	Y
721	Chandler & Son	London	Silver pair-cased; plain	Rubbed	London 1803, together with Dutch import boar's head on inner case and dolphin on outer	WR	Enamel; arcaded surrounded by outer painted enamel scene [similar to dial of BM 1958,1201.33]	Verge	Balance bridge	BM	1958,1201.815	Y
58233	Clarke	London	Missing	-	-	A	Enamel; arcaded	Verge	Balance bridge	BM	OA.413	Y
-	Clarke & Dunster	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2755	N

5529	Clarke, Geo.	London	Missing	-	-	Not known	Enamel; arcaded with central painted scene	Verge	Balance bridge	MNU	2899	N
278	Clifton	Liverpool	Missing	-	-	-	Enamel; arcaded	Verge	Silver balance bridge and furniture	BM	1958,1201.34	Y
-	Constan(t)	London	Silver pair-cased; outer repoussé with scene possibly of *Joseph being sold by his brothers into Egypt*	FI beneath coronet [inner]	-	-	Silver champlevé; arcaded	Verge	Balance bridge	BM	1958,1201.826	Y
6642	Crayton, Wm.	London	Gold pair-cased; outer repoussé	IW	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	3080	N
-	Debaufre	London	Silver pair-cased; outer repoussé	Outer signed Mauris fecit, inner initials rubbed beneath coronet	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MoL	34,181/64	Y
-	Demelai	London	Silver pair-cased; outer repoussé with depiction of *The Judgement of Solomon*	Mauris [outer], PF beneath coronet [inner]	-	-	Silver champlevé; arcaded with date	Verge	Movement not signed	BM	1958,1201.839	Y
-	Duchene	London	Silver pair-cased; outer repoussé with depiction of *The Departure of Hector*	Cochin [outer]; FC beneath coronet [inner]	Dutch import cursive V [outer], Dutch boar's head [inner]	-	Enamel; arcaded	Verge	Balance bridge	BM	1889,0311.2	Y
21096	Duncan, Thos.	London	Silver pair-cased; plain inner, outer missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	3172	N

846	Gibb	Rotterdam	Silver pair-cased; outer repoussé with scene of *The Abduction of Helen*	Cochin [outer]; TS of Thomas Sones [inner]	London 1778	SG	Silver champlevé; arcaded	Verge	Case similar to 1958,1201.4 [BM], CH sale 1009, Lot 82, C&P and RF Lot 12 12th June 2004.	BM	1958,1201.772	Y
116	Gould, Thos.	London	Silver pair-cased; outer repoussé	-	-	Not known	Silver champlevé; arcaded	Verge	Balance bridge	MNU	2896	N
400	Gould, Thos.	London	Silver pair-cased; outer repoussé	TS	London 1785 [unseen]	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2827	N
-	Graham	London	Silver triple-cased, outer tortoiseshell	Marks erased and restruck, JDB and PB	-	P	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.724	Y
5408	Grantham, W.	London	Missing	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	2866	N
9362	Josephson, James	London	Silver pair-cased; outer repoussé	IR	London 1778 [unseen]	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2814	N
21630	Leekey, G.	London	Silver pair-cased; outer repoussé	IH	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	3066	N
19466	Leekey, Gabriel	London	Silver pair-cased; outer repoussé	Mauris fecit [outer]; PB [inner]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	3078	N
28599	Markham, John	London	Silver pair-cased; plain	WB; numbered 8599 [both]	-	Not known	Silver champlevé; arcaded	Verge	Balance bridge	MNU	3077	N
-	Martineau, Joseph	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2799	N
9863	Matthews, William	London	Missing	-	-	-	Enamel	Verge	Balance bridge	BM	1958,1201.125	Y
811	May	London	Silver pair-cased; outer repoussé scene depicting *Aeneas and the Cumaean Sibyl*	Rubbed	London 1790	S	Enamel; arcaded surrounded by outer painted enamel scene	Verge	Repoussé outer case similar to BM 1958,1201.643	BM	1958,1201.642	Y

242	May	London	Missing	-	-	Not known	Enamel; arcaded with central painted scene	Verge	Balance bridge	MNU	2786	N
2292	May, J	London	Silver pair-cased; outer repoussé scene depicting *Aeneas and the Cumaean Sibyl*	W.B beneath crescent of William Blake [inner]	London 1788 [inner]; Dutch boar's head [outer]	WR	Enamel; arcaded	Verge	Repoussé outer case similar to BM 1958,1201.642	BM	1958,1201.643	Y
6290	May, Jn o.	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge, mock pendulum	MNU	2852	N
2470	Miller, J	London	Silver pair-cased; outer repoussé	(?)T	London 1779	R	Enamel; arcaded	Verge	Dial not original, watch featured functioning date work when made	BM	1958,1201.610	Y
	Mills, Jn	London	Silver pair-cased; outer repoussé with enamel plaque depicting an embracing couple	-	London 1760	Not known	Silver champlevé; arcaded	Verge	Balance bridge	SBS [13.12.2011]	Lot 111	N
-	Molins, C.	London	Silver triple-cased; middle with repoussé work and central enamel plaque	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2856	N
	Nadroy, Thos	London	Silver pair-cased; outer repoussé	Rubbed	London 1772 [inner]; Dutch cursive 'V' [outer]	IB	Enamel; round	Verge	Balance cock	BM	1961,1102.4	Y
	Neveren	London	Missing	-	-	Not known	Enamel; arcaded with central painted harbour scene	Verge	Balance bridge	PoT [Spring 1985]	M17	N
1276	Neveren, D. D.	London	Silver pair-cased; plain	Mark of Peter Gougon [unseen]	London 1796 [unseen]	Not known	Enamel; round	Verge	Balance bridge	MNU	3086	N
2493	Neveren, D. D.	London	Missing	-	-	Not known	Enamel; round	Verge	Balance bridge	MNU	2787	N

27962	Neveren, D. D.	London	Missing	-	-	Not known	Enamel; round with central painted scene of orange tree, beneath text *VIVAT ORANJE*	Verge	Balance bridge	MNU	2686	N
-	Neveren, D. D.	London	Silver pair-cased; plain	-	1805 [no city given, unseen]	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2862	N
	Neveren, D. D.	London	Missing	-	-	Not known	Enamel; arcaded with central painted rural scene with house, traveller and animals	Verge	Balance bridge	PoT [Spring 1985]	M18	N
	Neveren, D. D.	London	Missing	-	-	Not known	Enamel; arcaded with central painted harbour scene with couple	Verge	Balance bridge	PoT [Spring 1985]	M19	N
9436	Oakley, Jno	London	Silver pair-cased; outer repoussé	SP	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2883	N
-	Paulet	London	Missing	-	-	-	Missing	Verge	Glazed balance bridge, set-up for calendar work	BM	1958,1201.135	Y
38	Potter, Harry	London	Missing	-	-	-	Enamel; arcaded	Verge	Balance bridge with Cronos decoration, similar to those by Allen/Allin Walker [eg BM 1958,1201.305]	BM	1958,1201.137	Y
-	Poy, God.	London	Silver pair-cased; outer repoussé	EC beneath coronet [outer]	-	-	Silver champlevé; arcaded with date	Verge	Mock pendulum	BM	1958,1201.549	Y
	Prevost	London	Silver pair-cased; outer repoussé	IC beneath coronet [inner]		Not known	Champlevé, arcaded with date	Verge	Balance bridge	PoT [Autumn 2011, no. 92]	29	N
1874	Priest, William	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2851	N

6992	Rose & Son, Joseph	London	Silver pair-cased; plain	TG [both]	London 1772	-	Silver champlevé; arcaded	Verge	Balance bridge	BM	1958,1201.507	Y
	Samson	London	Silver pair-cased; outer repoussé	-	-	Not known	Painted enamel, similar to BM 1958,1201.33	Verge	Balance bridge	BKB [22.05.2012]	Lot 5	N
12301	Samson	London	Silver pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	BKB [24.02.2015]	Lot 9	N
12136	Samson	London	Missing	-	-	R	Enamel; arcaded	Verge	Balance bridge, dial not original	BM	OA.449	Y
21950	Samson	London	Silver triple-cased; outer horn	TC in cameo [middle and inner]	London 1795	R	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.482	Y
14302	Samson	London	Silver pair-cased; outer missing	TC [inner]	London 1787	R	Silver champlevé; arcaded	Verge	Balance bridge	BM	1891,0314.1	Y
6691	Samson	London	Silver pair-cased; outer repoussé depicting *Diana the Huntress*	TC beneath axe [inner]	London, date rubbed	IB	Enamel; arcaded with central painted scene	Verge	Balance bridge	BM	1958,1201.498	Y
-	Samson	London	Silver pair-cased; plain	P [inner]	-	P		Verge	Balance bridge	BM	1958,1201.499	Y
12969	Samson	London	Silver pair-cased; outer repoussé	Thomas Burbridge [unseen]	London 1784 [unseen]	Not known	Enamel; arcaded with central painted plaque	Verge	Balance bridge	MNU	3084	N
772	Samson	London	Missing	-	-	Not known	Enamel; round with central painted plaque	Verge	Balance bridge	MNU	3072	N
757	Samson	London	Missing	-	-	Not known	Enamel; arcaded with central painted plaque	Verge	Balance bridge	MNU	2806	N
15440	Samson	London	Missing	-	-	R	Missing	Verge	Balance bridge	PC	N/A	Y

7516	Samson, J	London	Silver pair-cased; outer repoussé possibly depicting *Mars and Venus*	WL [inner]	London 1800 [inner]; Dutch boar's head [both]	-	Enamel; arcaded with date	Verge	Balance bridge	BM	1958,1201.497	Y
-	Samson, Jas.	London	Missing	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	2791	N
-	Shenfton, David	Richmond	Missing	-	-	R	Enamel; round with Roman and Arabic hours in black chapter ring	Verge	Balance bridge, white metal dust cover	BM	1958,1201.165	Y
13385	Stoakes	London	Missing	-	-	Not known	Enamel; arcaded with central painted plaque	Verge	Balance bridge	MNU	2680	N
11424	Stoakes, Thos	London	Silver pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	BKB [24.02.2015]	Lot 9	N
8079	Stokes, J	London	Silver pair-cased; outer repoussé	XJC [inner]	London 1787 [inner]; London 1788 [outer]; Dutch boar's head [both]	-	Silver champlevé; arcaded	Verge		BM	1958,1201.478	Y
8526	Tarts	London	Silver pair-cased; outer repoussé with scene depicting *The Judgement of Hercules*	-	London 1776	Not known	Silver champlevé; arcaded	Verge	Balance bridge	BKB [21.05.2013]	Lot 15	N
868	Tarts	London	Missing	-	-	A	Enamel; arcaded	Verge	Balance bridge	BM	OA.455	Y
9525	Tarts	London	Missing	-	-	WR	Enamel; arcaded	Verge	Balance bridge	BM	OA.456	Y
23251	Tarts	London	Silver pair-cased; outer repoussé scene depicting *Venus, Anchises and Cupid*	IT [inner]	London 1781 [inner]; Dutch boar's head [inner]	A	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.472	Y

1994	Tarts	London	Silver pair-cased; outer repoussé	TH beneath mullet [of Thomas Hailes, London]	London 1779	Not known	Silver champlevé; arcaded	Verge	Balance bridge	BNY [12.06.2012]	Lot 12	N
	Tarts	London	Silver pair-cased; outer repoussé	-	-	Not known	Champlevé, arcaded	Verge	Balance bridge	BNY [13.12.2012]	Lot 5	N
8466	Tarts	London	Missing	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	2660	N
-	Tarts	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MoL	C1450	Y
2036	Tarts, J	London	Silver pair-cased; outer repoussé with scene of *The Abduction of Helen*	Cochin [outer]; EC beneath coronet [inner]	Dutch import cursive V	-	Enamel; arcaded	Verge	Balance bridge, dial possibly not original	BM	1958,1201.473	Y
7882	Tarts, J	London	Silver pair-cased; outer repoussé possibly depicting a scene of *Pallas Athena*	JC [inner]	London 1781	A	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.883	Y
6958	Tarts, J	London	Silver pair-cased; outer repoussé	-	-	Not known	Champlevé, arcaded	Verge	Balance bridge	BNB [14.12.2011]	Lot 7	N
389	Thornton, Jas	London	Gold triple-cased; middle repoussé, other gilt brass and tortoiseshell	RP [inner]	London 1771	-	Enamel; arcaded	Verge		BM	1886,0511.4	Y

-	Vilter	London	Silver pair-cased; outer repoussé with scene depicting *Science instructing Youth*	D. Cochin [outer]	-	Not known	Silver champlevé; arcaded	Verge	Balance bridge	CNY [05.02.1981]	[Lot] 546	
-	Walker	London	Gilt brass pair-cased; outer repoussé	-	-	-	Enamel; arcaded	Verge		BM	1958,1201.415	Y
724	Walker, Allen	-	Missing	-	-	A	Enamel; arcaded	Verge	Similar balance bridge to BM 1958,1201.137 signed Harry Potter	BM	1958,1201.305	Y
	Ward, John	London	Silver pair-cased; plain	DR, possibly beneath bird [outer]	London, date not visible [outer]	Not known	Enamel	Verge	Described as Ottoman market, Baille described Ward as working between 1784 and 1799 on Fore St, London	OF	31.01.12	N
17040	Weldon, Samuel	London	Silver pair-cased; outer repoussé depicting *Solomon and the Queen of Sheba*	Cochin [outer]	Fake London, possibly imitating 1750 [inner]; Dutch boar's head [inner]	-	Silver champlevé; arcaded with date	Verge	Balance cock; date work present and functioning at some point, then removed	BM	1958,1201.403	Y
20806	Weldon, Samuel	London	Missing	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	2759	N
-	Wiet	London	Silver pair-cased; outer with repoussé work and central enamel plaque	-	Dutch boar's head [both cases]	-	Silver champlevé; arcaded with date	Verge	Balance bridge, white metal	BM	1958,1201.1637	Y

51818	Wilders	London	Missing	-	-	Not known	Enamel; arcaded with central painted plaque of orange tree, beneath text 'VIVAT ORANJE'	Verge	Balance bridge	MNU	2753	N
18980	Wilders, J.	London	Silver pair-cased; outer repoussé	RS	London 1785 [unseen]	Not known	Enamel; arcaded, surrounded by painted naval scene	Verge	Balance bridge	MNU	3204	N
5824	Williamson, J	London	Gold pair-cased; outer repoussé depicting *Joseph Sold into Slavery*	IW [inner]	London 1780	-	Enamel; arcaded	Verge		BM	1958,1201.267	Y
4801	Wilter	London	Silver pair-cased; outer repoussé	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	BKB [07.09.04]	[Lot] 44	N
-	Wilter	London	Silver pair-cased; outer repoussé	Maurice Fecit [outer]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	BKB [18.05.10]	[Lot] 6	N
254	Wilter	London	Silver pair-cased; plain	T G (both cases)	London 1785	-	Enamel	Cylinder	With date indicator	BM	1958,1201.1710	N
791												
2119	Wilter	London	Silver pair-cased; plain	T G above sickle [outer]; TG above crescent [inner]	London 1786	-	Enamel; round	Verge	Balance cock, concentric date	BM	1958,1201.392	Y
2739	Wilter	London	Silver pair-cased; outer missing	I.R above triangle	London 1787	-	Enamel; round	Verge	Balance cock, dust-cap maker's mark H&B	BM	1958,1201.391	Y
2827	Wilter	London	Silver pair-cased; plain	W B [outer; inner illegible]	London 1783	-	Enamel; round	Verge	Balance cock, dust cap	BM	1958,1201.390	Y
6438	Wilter	London	Silver pair-cased; outer missing	D.P [with crescent above; inner]	London 1777	-	Enamel; round with concentric date	Verge	Balance cock	BM	1958,1201.389	Y
9117	Wilter	London	Silver pair cases; outer missing	T C [in cameo; inner] [also with punched C incuse]	London 1796	-	Enamel; round with concentric date	Verge	Balance cock	BM	1958,1201.388	Y

9566	Wilter	London	Silver pair-cased; plain	T C [in cameo; both cases]	London 1783	-	Enamel; round with concentric date	Verge	Balance cock	BM	1958,1201.387	Y
12901	Wilter	London	Silver pair-cased; plain	IR [fleur-de-lis above; inner & outer; inner also punched with an axe]	London 1800	-	Enamel; round with concentric date	Verge	Balance cock	BM	1958,1201.386	Y
18658	Wilter	London	Silver pair-cased; plain	I.R [inner] outer unmarked, possibly later	London 1795	-	Enamel; round with concentric date	Verge	Balance cock, dust cap marked A.P [coronet above]	BM	1958,1201.385	Y
-	Wilter	London	Silver pair-cased; plain	Possibly IC [rubbed]	N/A	-	Silver champlevé; arcaded with date	Verge	Balance bridge	BM	1958,1201.383	Y
-	Wilter	London	Missing	-	-	-	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.313	Y
	Wilter	London	Silver pair-cased; outer repoussé with scene of *The Abduction of Helen*	D. Cochin [outer], EC and coronet [inner]	-	Not known	Champlevé silver; arcaded with date	Verge	Balance bridge	BNB [11.06.2013]	Lot 48	N
	Wilter	London	Silver pair-cased; outer repoussé with scene depicting *The Judgement of Solomon*	D. Cochin [outer]	-	Not known	Enamel; arcaded	Verge	Balance bridge	BNB [11.06.2013]	Lot 47	N
-	Wilter	Not known	Silver pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	CAM [24.11.1999]	[Lot] 1262	N
-	Wilter	London	Silver pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	CAM [26.05.1992]	[Lot] 701	N
-	Wilter	London	Gold triple-cased; outer shagreen & pique; middle repoussé	-	-	Not known	Gold champlevé; arcaded with date	Verge	Not known	CAM [30.05.2000]	[Lot] 359	N

-	Wilter	London	Gold pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Not known	CAM [30.05.2000]	[Lot] 360	N
-	Wilter	London	Silver pair-cased; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Not known	CSK [15.08.2001]	[Lot] 73	N
4620	Wilter	London	In later perfume bottle	-	-	Not known	Enamel; arcaded with central painted scene	Verge	Balance bridge	HMB	1982.1126	N
4801	Wilter	London	Silver pair-cased; outer repoussé	D. Cochin [outer]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	iCol [20.04.02]	[Lot] 15	N
-	Wilter	London	Silver pair-cased; outer repoussé	IC [inner]; Cochin F. [outer]	-	Not known	Not Known	Verge	Not known	MMA	32.75.39a,b	N
-	Wilter	London	Silver pair-cased; outer with repoussé work and central enamel plaque	I.C beneath coronet [inner]	Dutch boar's head [outer]	Not known	Enamel; arcaded with date	Verge	Not known	MMA	17.101.62	N
5678	Wilter	London	Silver pair-cased; outer with repoussé work and central enamel plaque	IFV beneath crescent; numbered 5678 [inner]	Dutch boar's head	Not known	Enamel; arcaded	Verge	Balance bridge	MoL	A9873	Y
2906	Wilter	London	Silver; outer missing	-	-	Not known	Enamel	Verge	Not known	NTM	18018	N
-	Wilter	London	Silver; consular [possibly later]	-	-	Not known	Enamel, round	Verge	Balance cock	OF	N/A	N
8720	Wilter	London	Silver pair-cased; plain	TC [in rectangle]	London 1782	Not known	Enamel; round with concentric date	Verge	Balance cock	PoT [Cat. 51]	3	N
-	Wilter	London	Silver triple-cased; outer tortoiseshell; middle repoussé with central erotic polychrome painted plaque	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	PoT [Cat. 64]	27	N

-	Wilter	London	Missing	-	-	Not known	Enamel; arcaded with central painted scene	Verge	Balance bridge	PoT [Spring 1985]	M14	N
4217	Wilter	London	Silver pair-cased; outer repoussé with scene of *Jacob at the Well*	Cochin [outer]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	SBC	N/A	N
6358	Wilter	London	Silver pair-cased; outer with repoussé work and central enamel plaque	-	-	Not known	Enamel; arcaded	Verge	Balance bridge	SBC	N/A	N
-	Wilter	London	Silver pair-cased; outer repoussé	-	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	SBC	-	N
-	Wilter	London	Silver pair-cased; outer repoussé	D. Cochin [outer]	-	Not known	Enamel; arcaded	Verge	Balance bridge	SBC	-	N
-	Wilter		Silver pair-cased; outer repoussé with central polychrome painted enamel plaque	-	-	Not known	Champlevé	Verge	Balance bridge	SBS [13.12.2011]	[Lot] 112	N
69995	Wilter, Jn.	London	Silver pair-cased; plain	IT [in rectangle]	London 1791	Not known	Enamel; round with concentric date	Verge	Balance cock	PoT [Cat. 46]	3	N
-	Wilter, Jno.	London	Silver pair-cased; outer repoussé depicting *Solomon and the Queen of Sheba*	Cochin [outer]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	SNY [13.06.1994]	[Lot] 125	N
-	Wilter, John	London	Silver pair-cased; outer repoussé	Maurice Fecit [outer]	-	Not known	Silver champlevé; arcaded	Verge	With date indicator	AQG [20.04.96]	[Lot] 5	N

8163	Wilter, John	London	18ct gold pair cases; shagreen outer	-	London 1761	Not known	Gold champlevé; scalloped minute track	Verge		BBS [28.11.06]	[Lot] 5	N
-	Wilter, John	London	Silver pair-cased; outer repoussé not original	-	-	Not known	Enamel	Verge	Not known	BKB [24.11.09]	[Lot] 24	N
5719	Wilter, John	London	Silver pair-cased; outer with repoussé scene depicting *Esther & Ahasuerus*	D. Cochin [outer]; E C beneath coronet above [inner]	-	-	Enamel; arcaded	Verge	Balance bridge	BM	1958;1201.382	N
-	Wilter, John	London	Silver pair-cased; outer with repoussé work and central enamel plaque	D.G [inner case] hBS [outer case]	-	-	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.879	Y
-	Wilter, John	London	Missing	-	-	-	Missing	Verge	Dial plate fitted for date indicator	BM	1958,1201.175	Y
	Wilter, John	London	Silver pair-cased; outer repoussé with scene of *The Abduction of Helen*	D. Cochin [outer]	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	BNY [18.06.2013]	Lot 73	N
-	Wilter, John	London	Gold pair cases; outer repoussé	-	-	Not known	Enamel; arcaded	Verge	Not known	CAM [29.03.2001]	[Lot] 328	N
-	Wilter, John	London	Not known	-	-	Not known	Not known	Verge	Balance bridge	LCC	224	N
-	Wilter, John	London	Gold pair cases; outer repoussé	-	-	Not known	Gold champlevé, arcaded	Verge	Balance bridge	LCC	223	N
5724	Wilter, John	London	Silver pair-cased; outer with repoussé work and central enamel plaque	EC [numbered 5724]	-	Not known	Enamel; arcaded	Verge	Balance bridge	MNU	3082	N

-	Wilter, John	London	Silver pair-cased; outer repoussé	Outer case signed Cochin fecit, inner case marked DG	-	Not known	Silver champlevé; arcaded with date	Verge	Balance bridge	MNU	3169	N
-	Wilter, John	London	Gold pair cases; outer with jasper inlay	-	-	Not known	Not known	Verge	Balance bridge	MRAH	2814	N
-	Wilter, John	London	Missing	-	-	Not known	Missing	Verge	Balance bridge	PoT [Cat. 20]	M7	N
6329	Wilter, John	London	Silver pair-cased; outer with repoussé work and central enamel plaque	-	-	Not known	Enamel; arcaded	Verge		PoT [Cat. 67]	10	N
2951	Wilter, John	London	Silver pair-cased; outer with repoussé work and central enamel plaque	D.G above [?]	-	Not known	Silver champlevé; arcaded	Verge	Not known	PWC	375;317575	N
5963	Wilter, John	London	Silver pair-cased; outer repoussé	Maurice Fecit [outer]; J(?)FV [crescent above] [inner]	-	Not known	Enamel; arcaded with central painted scene	Verge	Not known	PWC	327;318060	N
17079	Wilter, John	London	Gold pair cases; outer repoussé	-	-	Not known	Gold champlevé; arcaded	Verge	Dial signed Weldon; London	PWC	50	N
-	Wilter, John	London	Silver pair-cased; outer repoussé with scene depicting *The Judgement of Solomon*	Maurice Fecit [outer]	-	Not known	Enamel; arcaded	Verge	Balance bridge	SBS [02.06.1995]	[Lot] 24	N
-	Wilter, John	London	Silver pair-cased; outer repoussé	Cochin F. [outer]	-	Not known	Silver champlevé; arcaded	Verge	Balance bridge	SNY [17.06.1985]	[Lot] 101	N
2198	Wilter, Jonh	London	Silver pair-cased; outer repoussé	TD [inner]	N/A	-	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.381	Y

2204	Wilter, Jonh	London	Silver triple-cased; outer shagreen with pique work; middle repoussé	TDL [beneath crown] [inner]	-	Not known	Silver champlevé; arcaded	Verge	Dial signed Wilter; London; movement signed Jonh Wilter; London	CSK [25.11.1998]	[Lot] 27	N
173	Wood, J	London	Silver pair-cased; outer repoussé	WP [inner]	London 1762	-	Silver champlevé; arcaded with date	Verge	Balance bridge	BM	1958,1201.404	Y
11029	Wood, Jas	London	Silver pair-cased; plain	IB [both]	London 1763	-	Silver champlevé; arcaded with date	Verge	Balance bridge	BM	1958,1201.374	Y
1346	Work, Jno	London	Missing	-	-	-	Enamel; arcaded. Not original, dial plate cut for date work	Verge	Balance bridge	BM	OA.464	Y
1222	Worke	London	Silver pair-cased; outer repoussé	SP [inner]	London 1775	-	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.350	Y
14927	Worke	London	Silver pair-cased; plain	SP [both]	London 1776	-	Enamel; arcaded	Verge	Balance bridge	BM	1958,1201.351	Y
11106	Worke, Jno.	London	Missing	-	-	Not known	Enamel; arcaded with central painted plaque	Verge	Balance bridge	MNU	2896	N