

OFFICIAL JOURNAL OF THE BRITISH HOROLOGICAL INSTITUTE

# The Horological Journal



AUGUST 2017  
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# BHI CLOCK & WATCH FAIR



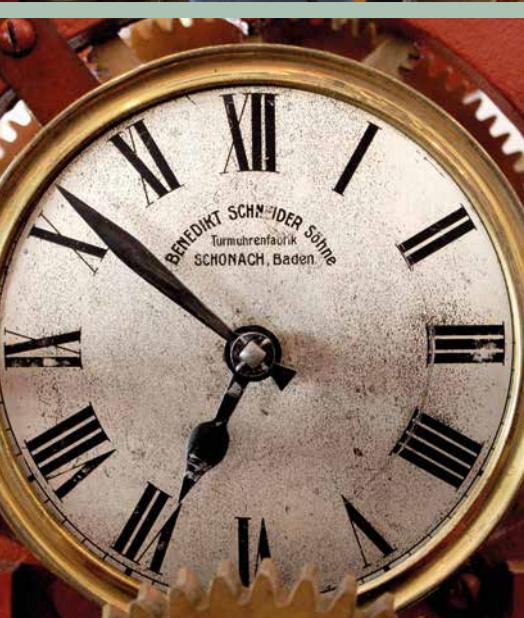
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# The First Word

I have the best job: I deal with people whose passion and expertise astound me. As Education and Examinations Coordinator it is my role to support the delivery of something most coveted – the acquisition of horological skills. Our distance learning courses are unrivalled and lead to nationally accredited Diploma qualifications, not just in servicing, but also crucially in repair, restoration and conservation. Students learn how to make horological parts, with external auditors ensuring that the highest standards are achieved. The quality of these is reflected by the fact that we have 50% higher take-up of the DLC in the first six months of this year compared with 2016.

I work with excellent tutors and examiners who all provide a first class service. I cannot recall a single time when I have turned to them for support and not received it. Then there are our students who never cease to amaze me; they are enthusiastic, committed, determined. Drawn by our reputation, they come from far and wide, this year from UK, Europe, Australia, Singapore and the USA.

Don't get me wrong, there are days when workload overstretches, when we are restricted by too few experts (one

recently described himself as a dinosaur!) and, worse still, when I see a student fail. But, far more often are the success stories, when perseverance has paid off. I send students bags of materials and they send back scrapers, balance stakes, hand removing levers and examination pieces by constructing clock and watch components.

Tensions mount at this time with examination marking and results being sent out later this month. Awards Day is the highlight of the BHI calendar for me when students receive their qualifications and prizes. These people will perpetuate horology and, in turn, they will invent, design and create. Hopefully some will also go on to teach, passing on skills and securing the BHI's future and *raison d'être*: education. Some years ago we reprinted the first ever edition of The Horological Journal dated September 1858. It outlined the origin of the BHI and the importance of education, and concluded that members of the committee 'show that this object lies very near the heart of the true working members of the trade...and they look upon themselves merely as pioneers, voluntarily engaged in effecting a breach for the entrance of better men.'



Maxine Bell  
Education and Examinations  
Coordinator

## The Horological Journal

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The British Horological Institute Ltd  
Upton Hall, Upton, Newark,  
Nottinghamshire NG23 5TE.  
Tel: 01636 813795 Fax: 01636 812258  
e-mail: [hj@bhi.co.uk](mailto:hj@bhi.co.uk)  
Website: [www.bhi.co.uk](http://www.bhi.co.uk)

Editor: Eve Makepeace 01636 817602  
Advertising: Eve Makepeace 01636 817602  
Design: Sam Bartle 01636 817605  
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The front and rear cover images show a George Daniels gold twin barrel one minute tourbillon watch with spring detent chronometer escapement and retrograde hour, handmade for Edward Hornby in 1970. It sold at Sotheby's Auction House on 6 July for £464,750 (hammer price with buyer's premium), well above the estimated sale price of £250,000–350,000.

Images courtesy of Sotheby's.

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Philip Whyte Hon FBHI

## BHI Contacts

Operations Manager  
Brian Noble, 01636 817608  
[brian@bhi.co.uk](mailto:brian@bhi.co.uk)

Museum Manager  
Ellie Baumber, 01636 817601  
[eleanorbaumber@bhi.co.uk](mailto:eleanorbaumber@bhi.co.uk)

Museum Collection  
Alex Bond, 01636 817607  
[alexbond@bhi.co.uk](mailto:alexbond@bhi.co.uk)

Museum/Library  
Alan Midleton FBHI, 01636 817610  
[alan@bhi.co.uk](mailto:alan@bhi.co.uk)

Education  
Maxine Bell, 01636 817604  
[maxine@bhi.co.uk](mailto:maxine@bhi.co.uk)

Membership/Data  
Zanna Perry, 01636 817603  
[zanna@bhi.co.uk](mailto:zanna@bhi.co.uk)

Accounts/Research  
Briony Dickinson, 01636 817610  
[briony@bhi.co.uk](mailto:briony@bhi.co.uk)

HJ Editor  
Eve Makepeace, 01636 817602  
[editor@bhi.co.uk](mailto:editor@bhi.co.uk)

HJ Technical Editor  
Justin Koullapis Hon MBHI,  
07939 559909  
[justin@bhi.co.uk](mailto:justin@bhi.co.uk)

Fairs - Review & Comment  
Martin Foster FBHI  
[martin-foster@bigpond.com](mailto:martin-foster@bigpond.com)

Proof-Reader  
Barrie Fitton Hon MBHI

Designer  
Sam Bartle, 01636 817605  
[sam@bhi.co.uk](mailto:sam@bhi.co.uk)

Memberline:  
01636 817617

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# Letters

## **Upton Hall Clock and Watch Fair, Sunday 10 September 2017**

Most of you will have seen the advertisement in last month's *HJ* for what I believe will be the first Clock and Watch Fair to be held at Upton Hall, certainly in recent years anyway.

People have been asking why now? Well, the Board thought it was the ideal opportunity to use the Ballroom to its best advantage, introducing dealers and buyers to the BHI and promoting the membership along with the training courses. It will only be successful with support from the membership, and the hope is that if it works well, other similar events will transpire. So, how can you help?

- If you have enough horological items to sell and are able to get to the Hall, you could hire a table. If not, perhaps you know someone, such as a collector or dealer, who would like to have a table. Anything to do with clocks and watches, tools, equipment, books etc., old and new. We are expecting to have up to 50 tables available.
- If you live within easy distance and you can't get to the fair, maybe you have something you would like to sell? You can drop it at Upton Hall with a clear note of the price you want and the price you would accept. We will try and sell it for you and take 10% for the BHI. Perhaps you could leave a number as well so that if we got a decent offer we could call you to check we can sell.
- Are you prepared to act as a steward for all or part of the event? We will need people to carry out several different roles from being on the door, collecting the door fee and issuing tickets, walking the floor ensuring the sellers and buyers are happy and safe, directing customers to the people you think can help them the best with queries, running the table containing members' items and last, but not least, providing tea and coffee throughout the fair.

All proceeds will go to the BHI at Upton Hall to further the running of training courses, members' activities etc., so it is to all our benefits that the day is a success. I hope you will consider helping in some way and if interested, you can contact me either on 07834235672 or [horologist007@outlook.com](mailto:horologist007@outlook.com) for further details.

JO STEPHENS, FAIR ORGANISER

## **Vertex Watches – Time for a War Story**

It is 100 years since Vertex was founded by Claude Lyons in 1916. As many BHI members know, during the Second World War the British Military selected Vertex, along with eleven other leading watchmakers, to supply the army with a new watch built to an exacting, bespoke design. The Vertex brand has now been re-launched and the company is seeking interesting stories about the use of Vertex Watches during WWII from owners of the watches and their families. Any stories about the use of the watches in key battles or missions or other personal stories will be considered. If you have a story, it

can be sent to [info@vertex-watches.com](mailto:info@vertex-watches.com), preferably as a PDF file. The most interesting will be chosen by an independent adjudicator who will use their best efforts to check that entries are authentic representations of actual events. The prize for the winning story is the new Vertex M100 wristwatch.

ANDREW CANTER



Figure 1.



Figure 2.

## **Summer Show 2017**

The journey from Somerset to Upton takes a while but I was very pleased I made the effort to attend the 'Institute and Museum Summer Show' on 10 June, having travelled the final leg with my friend Chris Lowe.

There was an excellent greeting at reception, and I immediately found myself chatting about Harrison's RAS Late Regulator in the 'Activities Room' with hugely impressive horologists Colin Fergusson and Malcolm Leach – there was so much to learn and know it was hard to move on! There followed visits to the other halls and rooms, meeting the Palace of Westminster clockmakers, Smith of Derby team and many other horologists simply visiting for the day.

I noticed a new and novel design of gravity escapement on display (utilising a falling ball) recently created by John Reynolds and Jim Arnfield, and managed to quiz Jim, always a popular font of knowledge, on its merits; an article appeared

# Letters

in the *HJ* last month about the clock.

Before I knew it, my day was over, yet there was still so much to see and learn; one regret being that I would miss the vintage car display the following day!

Above all, I think everyone who visited the Show hugely appreciated the enormous efforts made by Upton Staff in welcoming visitors and producing such an excellent event, many thanks to them; and if you haven't visited an Upton Show recently – just go!

MALCOLM PIPES FBHI

## Movado Purse Watch

I am struggling to locate a replacement balance for a Movado purse watch Cal. 125 (the overcoil/Breguet hairspring has broken).

My watch is 1930s/1940s. If anyone knows where I could find either a complete balance or someone who could make or fit a new spring, that would be fantastic. I have already had a quote from an American company for around £500 – for a watch worth about £300 that's obviously a non-starter.

I can be contacted by email: soperplexed@btinternet.com

Thank you,

PHIL MILLER

## Bench View 157

Mike Flannery believes that most buyers of mechanical clocks are in their, shall we say, riper years, with very few younger buyers.

This sentiment is also bemoaned to me on a frequent basis by a local dealer for whom I do a fair bit of work – and no doubt most dealers will agree.

What I don't know (and often wonder) is whether this has always been the case. After all, it is not a new phenomenon that, as Mr Flannery states, most of the younger generation do not have spare disposable income.

This is compounded by the current economic position, wages having stagnated since the stock market crash 10 years ago while costs continue to rise, plus student loan debts, both conspiring to increase the age at which there actually is some disposable income.

The risk is that, not needing to have the entry-level mechanical clock due

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## CLOCK DEPARTMENT

same day despatch

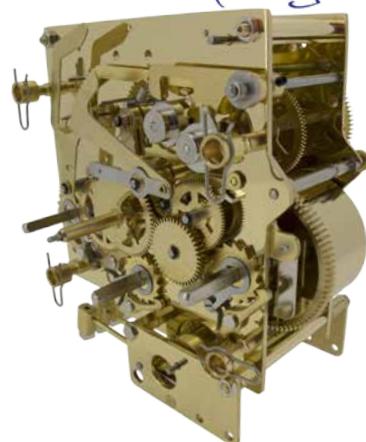
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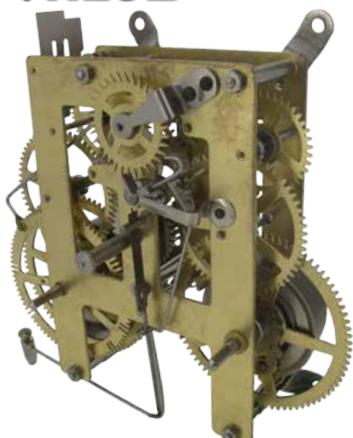


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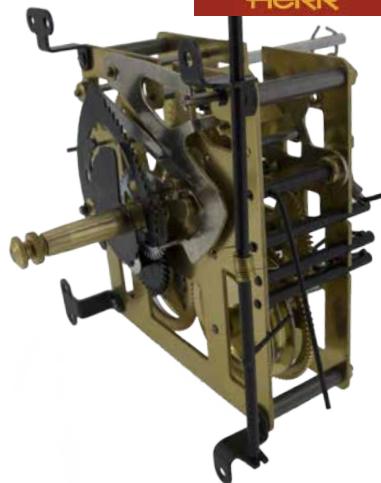


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# Letters

to the ubiquitous electronic ones, they will not develop the desire to improve on that with a quality one, especially when the electronic version has much lower upkeep costs and better timekeeping, all at a fraction of the purchase price.

What we need to know, therefore, is whether the total amount, and/or proportion, of disposable income spent on buying medium to good quality clocks has actually changed.

Anyone fancy doing some research into this?

ANDREW FLEMING FBHI

## C and M Group

What a good idea the C and M group is, and how heartening to see the museum's collection being so expertly cared for. With the recent exchanges in this Journal I hesitate to use the words conservation or restoration in this context. One thing did strike me as a little odd about the mantel clock dealt with by Craig Todd and that was the blued steel throughout the movement; it is not something I have seen before. The replacement fusee line is of braided wire which looks out of place when natural gut or manmade 'lookalike' material is available.

With these deviations from the original a stiff letter from Jonathan Betts is to be expected.

PETER GREEN

## Response

As the leader of the C and M team it may be useful to outline the working policy we apply to the artefacts we work on in the BHI museum. In some clock and watch museums the items are not expected to work and so a full conservation policy is applied. In the BHI museum, most things on display have always been displayed running and this is the Trustees' current policy. Some are only run when the museum is open to the public and a few are not run, so as to preserve their condition to the best conservation standards.

The photo in the C and M report by Craig Todd was taken before work started and it shows bronze wire lines, which we always replace with nylon covered stainless steel line as is stated in the text in the box near the photo. The mono-filament nylon line sold for use in longcase clocks stretches when loaded and is not suitable for fusee clocks.

JIM ARNFIELD FBHI

## Gothic Clock

John Robey visited Sheffield Branch on June 14 and gave us a very detailed and thoroughly researched talk on gothic clocks. He has clearly invested a lot of time, effort and enthusiasm in a diligent appraisal of the available material on the subject, both documentary information and actual clocks, visiting and corresponding with a number of European museums.

Curators may open an interesting window on times past by a display of static, often fragmentary, artefacts, but to the outside world the interest in such functional objects as steam engines, vintage cars and clocks resides largely in their function.

Restoration is almost invariably conjectural. The 'reality'

of the result will depend on the skill and knowledge of the restorer, but transforming a 'box of bits' into a functional object ensures that it will be retained rather than discarded.

John Robey's work can, and must, stand on its own merits. In providing an example of similar work by my friend Derek Pratt, I believe that John was simply wishing to add further information to his interesting article.

TIMOTHY TREFFRY HON FBHI

## Portland Training College

Along the lines of the old adage 'it's a small world', I was approached recently by a member of my village book club with the photos below. It turns out that this gentleman's father, born in 1933, attended Harlow Wood Hospital in Mansfield during the winter of 1947 and, after four years, went on to study at Portland Training College.

He graduated from Portland in 1954 and believes the photos were taken around 1952 or 1953. The first one, **Figure 1**, was taken during a class at Portland. Although his father cannot recall the names of people in the photo the name 'Mr Flynn' did ring a bell. The second photo, **Figure 2**, shows the class from Portland on a visit to The Midland Hotel in Mansfield. The gentleman talking to the class is Mr Crispin, Bachelor of Music and a member of the BHI.

*Continued on page 345*



Figure 1.



Figure 2.



## **Speake-Marin**

After 16 years, Peter Speake-Marin is leaving the company that bears his name.

Peter attended Hackney Technical College in the 1980s, then continued his education at WOSTEP. He worked at a number of prestigious brands, including Somlo and Renaud & Papi, but in his spare time he acquired his own machinery and constructed, by hand, a tourbillon pocket watch. In 2002 the Speake-Marin brand was founded in Switzerland, with the first wristwatch launched at the end of 2003.

In a press release from the company, Christelle Rosnoblet, their CEO, states that Peter is leaving to 'give a new artistic direction to his career'. She continues by saying that the brand will 'continue their renewal with the British elegance and boldness that characterize them'.

## **Update on the Swiss Parts Embargo**

As promised in a press release in the June *HJ*, a ruling has now been made by the Swiss Courts in regard to the supply or parts.<sup>1</sup>

The press release from Anthony Cousins is below and we will, of course, continue to keep you updated in the *HJ* on any developments as they happen.

*Late yesterday afternoon, our lawyers in Zurich received the ruling we have been waiting for from the Court in Bern. I am pleased to advise you that the judge has declared the claim that Swatch brought against us to be inadmissible under Swiss Law, and has dismissed the case.*

*Cousins had originally given Swatch three weeks to resupply spares, or face legal action to be brought by us in the High Court in London. Their response was to bring a pre-emptive 'negative declaratory action' (NDA) against us in the Berne Court. What Swatch were asking for, was that a Swiss judge should rule that they had done nothing wrong under British and European law, and that they were not obliged to resupply us.*

*Clearly, the best place to determine what British law requires is in a British court, so it was immediately apparent to us that the Swatch claim in Bern was a blatant attempt to waste time, and avoid facing the consequences of their unlawful parts embargo on the independent repair trade. As we have explained in previous news releases, it is a requirement of Swiss law that anyone bringing a NDA must firstly show that there was little prospect of*

*their opponent bringing the matter before the courts in their own right. As the action that triggered Swatch to make this claim was Cousins' letter declaring its intention to bring an action in the High Court, this requirement was not met, and it is for this reason that Swatch's case has been thrown out by the Bern Court.*

*It is important to understand that the Bern Court has not given any opinion or ruling on whether or not Swatch are obliged to supply us with spares, only that this attempt by Swatch to drag the matter away from the High Court is not valid under Swiss Law.*

*We are very grateful to the Bern Court for the equitable manner in which they have dealt with this case. We now have to wait until the end of August whilst Swatch decide whether or not to appeal against this decision, and will then be able to explain further how this case will progress.*

*In the meantime, we urge all who work in the independent watch repair sector to understand that it is possible to beat the industry giants, and to be assured that Cousins is staying in this fight until it is won.*

## ENDNOTE

1. 'News – Swiss Parts Embargo Update', *The Horological Journal*, 159 (June 2017) 251.

## **Portland Training College (Continued from page 344)**

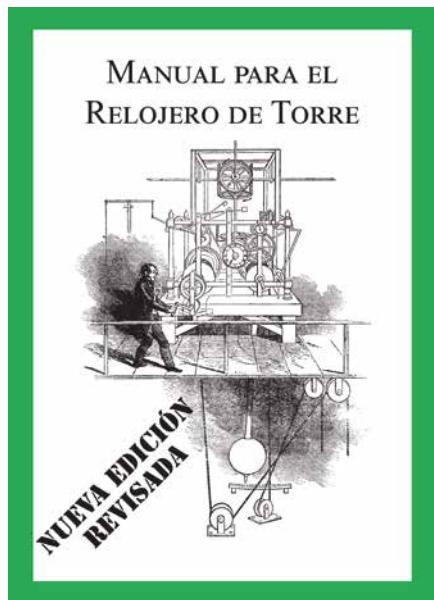
Despite living in this area, I hadn't heard of the College, so had a quick look into its background. Along with Harlow Wood Orthopaedic Hospital, it was founded by the Duchess of Portland, who had nursed injured veterans in her home at Welbeck Abbey during the First World War. The training college was intended to rehabilitate injured men and give them a new trade.

Although there is no longer a horological department,

Portland College is still open for people with a wide range of disabilities and offers further education, employment support and personal care.

It would be lovely to get a bit more information about the people in the photographs so, if you recognise anyone or have any other information that you think would be of interest, please do get in touch.

EVE MAKEPEACE



## *The Turret Clock Keeper's Handbook*

This bible for horologists working on turret clocks is now available in Spanish. Translated by Andrés Romero Hon MBHI, it contains the same simple and straightforward details as its English counterpart.

First released in English in 1999, a new, much expanded, edition was published in 2013. The following is a snippet from the review that appeared in the *HJ* at that time.<sup>1</sup>

*'Throughout the country there are dedicated individuals who look after mechanical turret clocks in churches and other buildings to keep public clocks showing the right time. With the new edition of the handbook, clock keepers have everything they need to know in one book; indeed the information contained would be hard to find anywhere else.'*

Although aimed specifically for clock keepers, many others with even a small interest in turret clocks will find the information it contains very useful. The full contents list enables any subject to be found with ease and this also acts as a useful index.

*This is a book that will continue to be the main everyday reference book on the subject of turret clocks for many years to come and can be recommended without hesitation.'*

—Derek Frampton MBHI

With the ISBN-13 978-1537463551, the book is available on Amazon priced at £10, \$15 and €12.

## ENDNOTE

1. D. Frampton, 'Book Reviews: The Turret Clock Keeper's Handbook', *The Horological Journal*, 155 (December 2013) 541.

## Czech Horologists visit the UK

At the end of May and during the first week of June, eight members of Český spolek horologický (The Czech Horological Society) visited the UK. The party was led by David Knespl, a member of the committee of the Society, and co-organized by Radim Himmller of the Muzeum Komenského v Přerově that is involved in the areas of museum science, monument care and nature preservation. The party was particularly interested in ancient turret clocks and astronomical clocks in the South of England.

Starting in Cambridge, they continued on to see the interpretation of the Richard of Wallingford clock at St Albans Abbey. From there they travelled to Salisbury for a view of the famous large turret clock in the cathedral. Here they were met by Chris McKay who discussed the history of the clock. After Salisbury they managed to slip in an unscheduled visit to a private collection before continuing on to Wimborne Minster. Chris again met them to show the astronomical clock and the model clock. From Wimborne he guided them on to the Dorset Collection of Clocks at Owermoigne where about eight turret clocks are on display. The clocks in St Mary Ottery, and Exeter and Wells Cathedrals, were next before moving on to London. The Science Museum, British Museum and, of course, the museums at Greenwich were on the itinerary.

Unfortunately time and distance did not allow the Czech visitors to travel to see the collection at Upton Hall. Perhaps if they make a return trip, this could be organised.

CHRIS MCKAY



Figure 1. The party viewing Salisbury Cathedral clock.



Figure 2. Chris with the Czech horologists at Owermoigne.

# Hong Kong Watch & Clock Fair 2017

*Telling the World 'It's About Time!'*

Martin Foster FBHI



The world's largest watch and clock show, the HKTDC Hong Kong Watch and Clock Fair, gives focus to the watch and clock industry, including branded and complete watches, clocks, machinery, equipment, packaging, parts and components.

This 36th edition opens from 5–9 September at the Hong Kong Convention and Exhibition Centre on the shores of the beautiful Victoria Harbour in Hong Kong, looking across to mainland Hong Kong.

Over 800 exhibitors from more than 20 countries and regions will attract buyers from all over the world. Visitors will see the 'Salon de TE' exhibiting over 160 international makers providing a very special platform for the luxury watch brands.

Featured as well is the 'World Brand Piazza' presenting limited editions and rare timepieces from international renowned brands. This year the Piazza will highlight Blancpain, Bovet, Breguet, Bulgari, Chopard, Corum, DeWitt, Franck Muller, Glashütte Original, H. Moser & Cie, Jaeger-LeCoultre, Piaget and Zenith.

The 'Chic and Trendy' zone features latest style watch labels including Rhythm (Japan), Daniel Wellington (Sweden), Technomarine (Switzerland) and Slazenger (UK).

The other two zones are 'Craft Treasure', catering for the traditional workmanship inherent in mechanical watches with fine movements, as well as 'Wearable Tech' that showcases latest styles in the new line of smart watches.

Visit the 'Pageant of Eternity' which is a further zone dedicated to truly outstanding timepieces. Other exhibiting categories consist of complete watches, clocks, machinery, equipment, packaging, parts and trade services.

This year, the new OEM 'Smart Watches' zone will be catering for the burgeoning demand for smart watches in the market, and as in previous years the Hong Kong Watch and Clock Design Competition is featured with winning entries to be announced in late August and showcased at the fair.

In terms of seminars, the Asian Watch Conference will bring together heavyweight speakers in the industry to forecast the market trends of smart watches while the Hong Kong International Watch Forum will gather top leaders from worldwide watch and clock associations to provide insights and build connections.

Visitors can enjoy the prestige of getting first-release information and previews of new products.

Take a week away from arguing about global politics and have a holiday in fascinating Hong Kong, the doorstep into China and soak up the enchanting qualities of England's last outpost in the Far East – book it now and enjoy this spectacular industry event as well!



Figure 1.



Figure 2.

Further information, bookings and accreditation at:  
<http://www.hktdc.com/fair/hkwatchfair-en/HKTDC-Hong-Kong-Watch-and-Clock-Fair.html>

# Out and About with the BHI

*Waving the BHI Flag*

Brian Noble



Figure 1. Jim Arnfield FBHI demonstrating wheel cutting to visitors.



Figure 2. A view from inside the cathedral.

Without doubt one of the biggest shortfalls of the BHI in recent years has been how we promote ourselves. Even locally, the BHI is shrouded in mystery. I should know: I've lived here all my life. So, maybe it's high time we did something about it!

As you read this we will already have participated in the Heritage Skills Exhibition alongside the Worshipful Company of Clockmakers (WCC) in Lincoln Cathedral, and had an active display at the Royal Norfolk Show. We took along our watch timing machines to both events creating much interest, explaining to the public how accurate or otherwise their watches were. From this, we were able to talk further with many about what the BHI has to offer, from taster days to membership, training and the *HJ*.

The Lincoln event was, of course, indoors and along with the WCC we were able to provide a number of differing demonstrations from engraving to wheel cutting, all of which were well received by adults and children alike. My thanks go, in particular, to the Conservation Group, headed by Jim Arnfield, Hugh Barnes, director and dedicated van driver and Zanna Perry who slotted into the promotions role as though she had been doing it for years.



Figure 3. Rebecca Hawkrige demonstrating wheel cutting to visitors.



Figure 4. Robert Wren MBHI working on a clock movement.



Figure 5. Oliver Bartrum and Roy Harris FBHI Clerk and Master of the WCC.



Figure 6. The BHI and WCC stands inside the Cathedral.



Figure 7. Angus McFadyen demonstrating engraving.



Figure 8. Craig Todd demonstrating lathe turning.

Those who saw us in Norfolk will have seen for the first time our bespoke BHI marquee. It's not your everyday marquee but fully emblazoned, inside and out, with BHI information. This was kindly sponsored by Smith of Derby, HS Walsh and In-Time Watch Services. During this event we were kindly assisted by our Chairman, Stella and Ipswich Branch members, Jan Wright, Richard Curtis and Simon Michlmayr.

The show was over two days but, due to the daily travelling involved, we chose to set up a day early. Having arrived at the showground in good time, leaving Newark at 8.00am (nothing compared with the two bleary eyed 5.00am mornings which followed!) we erected our marquee literally minutes before a torrential rainstorm: thunder and lightning engulfed the showground sending many scurrying for cover. We then sat in the car watching our brand new marquee receiving a severe baptism from the elements. Having remained in the car for far longer than we wished, we finally had no choice but to head home. Tuesday night was one of little and nervous sleep, not knowing what to expect when we arrived at the showground the following morning, in the knowledge it was still raining heavily. We approached our allocated position with some



Figure 9. Stella Hawarth MBHI, Brian Noble, Zanna Perry and Jan Wright FBHI.

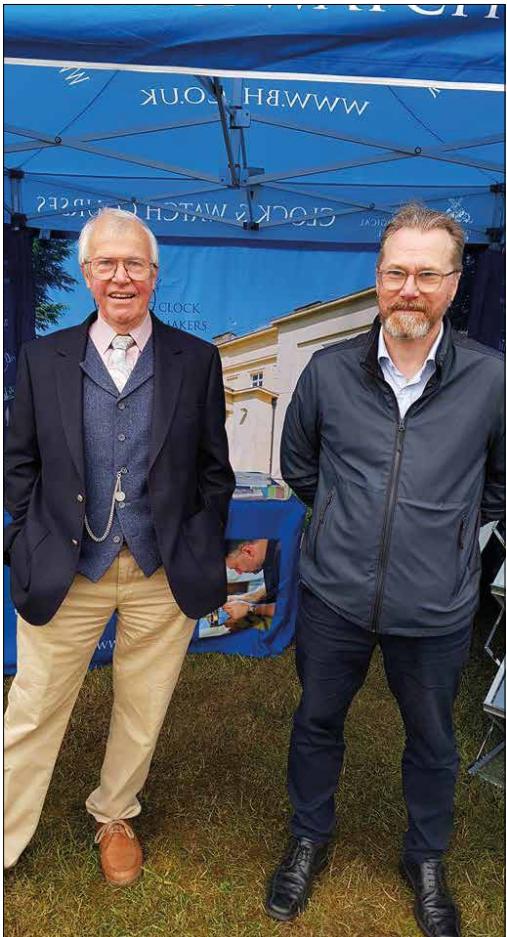


Figure 10. Richard Curtis MBHI and Simon Michlmayer FBHI.



Figure 11. A view of the showground.

#### *Come and see us at shows during 2017*

Bakewell Show	2–3 August
Ashbourne Show	19 August
Collingham Show	16 September
Flintham Show	28 September
Southwell Show	30 September

# Making Harrison's Late Regulator



*Riveting the Pillars*

Colin Fergusson MBHI

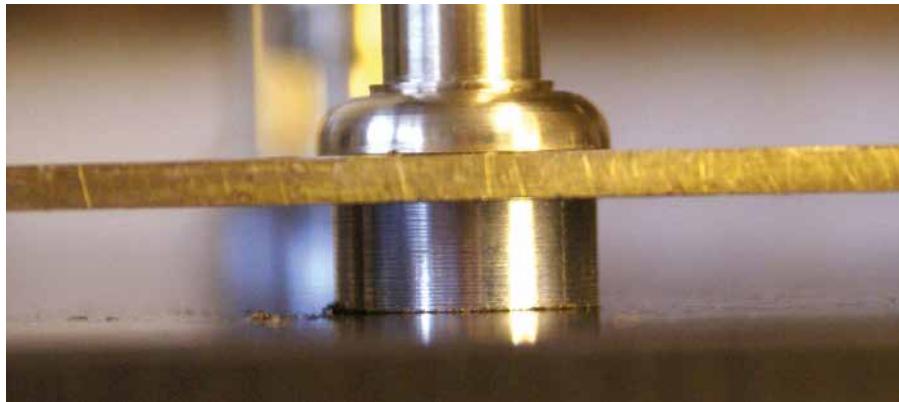


Figure 1. Support button.



Figure 2. Hole prepared for riveting.



Figure 3. End of pillar ready.



Figure 4. Rivet complete.



Figure 5. Rivet after filing.

When originally constructed, the pillars were attached to the back plate with pins so that the frame could be dismantled fully for holes to be drilled. Once the last holes (for the suspension pillars) had been drilled and bored, the pillars could be riveted in place. Another feature of the original construction was that the rear pegs of the pillars were made of a different grade of brass, CZ 131, which is more suitable for riveting than the CZ 121 of which the main parts for the pillars were made. These pegs were screwed into the main bodies with a fine thread. The first stage of the riveting operation was to screw these firmly into place using Loctite to ensure that they could not move.

An essential condition for successful riveting is that the work should be properly supported. To ensure this, a set of six support buttons was made. These were of aluminium, approximately equal in diameter to the flanges of the pillars and all of equal height. The plates were assembled and

placed on the surface plate using the buttons, **Figure 1**, thus providing a solid support.

The holes in the back plate were prepared with a slight countersink, **Figure 2**, and the pegs reduced in length to give a suitable amount to form the rivets, **Figure 3**. This allowance was about three quarters of a millimetre, which was probably excessive, but whilst it is easy to remove excess metal it is very difficult to add it if the allowance proves too little. Riveting was carried out with a four-ounce ball-pein hammer, taking care to spread metal from the middle of each peg into the countersinks in the plate and attempting (not always successfully!) to confine the blows to the rivet, **Figure 4**. The rivets were filed flush using 'bull's-foot' files, **Figure 5**. They were then finished with Water-of-Ayr stone and grained using the same paper that had been used to grain the plates. Ideally, the rivets are invisible and my best ones were, so a picture is not relevant.

# Birmingham City University

*School of Jewellery Graduate Show 2017*

Jeremy Hobbins MBHI



Figure 1. Left to right: Jeremy Hobbins, Thomas Wilkinson, Simon Colston, Dean Lowe, Samantha McAteer-Moreau, Adrian Tu, Ruth Dobie and Jon Parker.

Once again the School of Jewellery Horology Final Year students took part in the BCU Inspired Festival in June, and those of you who were able to come along and see their work close up certainly had much to enjoy, **Figure 1**.

We had a number of inspirational examples of horological mechanisms that clearly demonstrated the culmination of their three-year degree with us in very tangible ways. The top prize at our Industry Awards Evening went to Simon Colston and his clock entitled 'A Study of the Arnfield Escapement', **Figures 2 and 5**. Simon created a mechanism of his own design and managed to use the Arnfield Gravity Escapement coupled with a half-seconds pendulum to create a clock that effectively ticked 'seconds'. A really beautiful piece, Simon received awards from the Worshipful Company of Clockmakers, the Antiquarian Horological Society (AHS), HS Walsh, and from the LVMH Watch & Jewellery UK group for his efforts on the course. Not only did his work earn him several prizes, but his performance on the degree programme across all three years of his study earned Simon a First Class Honours degree in Horology from BCU.

The group was very closely on his tails, however, with Samantha McAteer-Moreau receiving a Highly Commended from the AHS for her Major Project, but also earning her a much prized Christopher Ward Watch for her technical innovation in creating a huge wheel for her skeleton clock with an enticing title of '*Pendule Squelette à Grande Roue*', **Figures 3 and 4**. Samantha made this clock as a wedding present for



Figure 2. Simon Colston's clock with gravity escapement.



Figure 3. Samantha McAteer-Moreau with Christopher Ward.



Figure 4. Samantha McAteer-Moreau's clock.



Figure 5. Simon Colston with the Master of the Worshipful Company of Clockmakers, Roy Harris.



Figure 6. Dean Low's regulator.

her partner, who was utterly delighted to see it for the first time in the Inspired Festival at the School of Jewellery.

Dean Lowe produced a well-executed regulator, which achieved exactly what he had set out to do, **Figure 6**. A very well made and reliable timepiece with Harrison's maintaining power via a counterweighted detent hanging upside down under the great wheel.

Other mechanisms on show, but not quite completed, were a fine fusee movement from Thomas Wilkinson, a gothic inspired skeleton clock with a tellurium complication by Ruth Dobie who also won an award from the Richemont Group for her escapement drawings, and a very bold timepiece with jump hour indication by Adrian Tu.

It is a huge undertaking to design and make a bespoke clock and the items presented clearly showed the skills of the

makers and the unification of their theoretical and practical abilities. That said, it must not be forgotten that these new horologists also complete a wide range of repair portfolios that showcase their servicing/restoration skills in a way that also clearly reinforces their employability. A former student of BCU, and indeed of West Dean, Max Van Brauge ([www.vb-watches.com/](http://www.vb-watches.com/)) very generously sponsored a prize that was awarded for servicing skills and this was given to Thomas Wilkinson for his excellent work.

The BCU BA Horology doesn't just allow the students to gain horological skills, however, the transferrable skills gained on the degree equip them just the same as any graduate to join the employment market at graduate level, but we know their hearts lie in horology and most have already secured employment working in the industry.

# BHI Summer Show

June 10–11, 2017

Eve Makepeace



The Summer Show seemed to come around very quickly this year, perhaps an indicator of how busy the team has been recently. Both our Operations Manager and our Museum Manager, Brian Noble and Eleanor Baumber, had just passed their first year anniversaries here at Upton, so this is really the first Summer Show with all hands on deck from both the BHI and the Museum Trust.

With around 50 volunteers over the two days, we really can consider ourselves very lucky to have such a friendly and knowledgeable group to call on. For many of these volunteers it was their first Summer Show. Far from being wet behind the ears, they had honed their skills during the Friday open days at the museum and found working alongside our longer-standing volunteers and members at the Show extremely beneficial.

There was a wealth of activities and attractions on offer for attendees. In the Bateman room, the Harrison Group had the regulator on display, creating the opportunity for members to see in person, what they had been reading about for months in the *HJ* – far more impressive in the ‘flesh’ than on paper. The 2017 Photography Competition reached its conclusion with the winner being announced during the Show.<sup>1</sup> Visitors were able to see all entries on a slide show, and it was interesting to hear different viewpoints on whether the judges had made the right choice – I think it will have inspired quite a few people to give it a go next year and submit an entry. The topic of the next competition will be announced in the autumn. There were also children’s activities on offer with a family trail and an exhibition trail of five famous forefathers of horology, all who pre-dated the creation of the BHI.

In the Grand Hall, John Reynolds had his Detached Falling-Ball Gravity Clock set-up and running. I suspect that for the majority of visitors, the importance and ‘gravity’ (excuse the pun) of the clock went over their heads as true appreciation of this clock can only be gained with full understanding of how a pendulum clock works in the first place. Nonetheless, showing that you, the members of the BHI, are still at the forefront of horological innovation is very gratifying and shows the visiting public that the clock industry is not static.

Moving through into the Ballroom, visitors were greeted with a feast both for the eyes and for the belly. Smith of Derby were on hand with a turret clock that had been restored by two of their apprentices – both of whom were on hand to chat about the work they undertake on a daily basis and about processes needed during the restoration of the clock. The Palace of Westminster drew the visitors with an eye-catching display and the opportunity to examine the key that is used to wind the iconic clock, known to most as ‘Big Ben’. In a



Figure 1. David Watkinson with Anthony Mills MBHI speaking about his work..



Figure 2. Volunteers and visitors both enjoy working out how the water clock works.

change from previous years, their display was complemented by the attendance of the French polisher from the Palace, Dave Watkinson. Throughout the weekend he demonstrated methods used to restore clock cases and spoke about his work in the Palace. For those with weary legs and a grumbly tummy, the Clock House Café at the far end of the ballroom was a welcome sight. Over a cup of tea and a slice of cake, visitors were able to browse books available from Jill Hadfield Hon FBHI and discuss the displays. Of course, there was far more still to see.

Both workshops were open and in action, with live demonstrations and people on hand to answer questions



Figure 3. Colin Fergusson MBHI and Malcolm Leach MBHI with their Harrison Regulator.



Figures 4 and 5. Vintage cars were a popular attraction.



Figure 6. The Grand Hall.

and discuss timepieces brought in by visitors. On Sunday, there was the extra treat of vintage cars on show in front of the Hall. Even non-petrol heads were able to admire the beauty of these striking machines.

Overall, everyone involved can be congratulated on providing an enjoyable and successful weekend and we're already looking forward to planned events in the autumn – more on that soon.

#### ENDNOTE

1. R. Alcock, 'BHI Photography Competition', *The Horological Journal*, 159 (July 2017) 322–323.



Figure 7. Live demonstrations in the Watch Workshop.



Figure 8 and 9. Smith of Derby - Martin Butchers and Phil Thompson and apprentices Mitchell Eaton and Sam Schoonderwoerd.

# The Geoffrin Clock

*An Examination of how a Bronze Clock can be Emblematic  
of the Development of Neoclassicism in France*

Susan Teichman



## Background

Gilt bronze clocks were an important element in eighteenth century French interior décor, gaining in popularity as the century progressed. Early clocks were designed by artisans steeped in the rococo tradition, but by mid-century classically trained artists and architects were changing the visual style in France. This article analyses the development of a particular form of clock, the *Geoffrin or L'Emploi du Temps* clock, and examines how the artistic influences of Italian antiquities and contemporary French and Roman painters affected the rising neoclassical ethic and its use of allegory, and how these influences contributed to the elaboration of a variety of clocks derived from an ancient prototype.

Examples of gilt bronze clocks made in France during the early eighteenth century reveal the country's great passion for rococo, displaying unbridled freedom of form, with sweeping curves and intentional asymmetry. A majority of these clocks featured flowing contours overloaded with foliage as well as fantastical and human figures. Others expressed the contemporaneous interest in the exotic and the eastern with the inclusion of pagodas, dragons, Chinese persons and monkeys with parasols. As the century progressed and the monarchies and governments changed, so too did the ideas of art and style. By the mid-eighteenth century, the classicism championed by Louis XVI was established and the free flowing sinuous lines of rococo were gradually replaced by hard edges and rectilinear forms of neoclassicism. Far Eastern exoticism was replaced by architectural devices and allegories of the arts and sciences. These figures were classically draped representations of subjects from Ovid, Homer and Greek and Roman mythology.

Clocks were a perfect small scale vehicle for incorporating the neoclassical motif into public and personal spaces. Some of the factors that led to the popularity of these clocks as emblems of neoclassicism in France include the influence of Roman art and architecture on French artists and the culture of transmitting virtue through allegory.

The rejection of rococo and the adoption of neoclassicism is a process that occurred gradually during the eighteenth century. By the 1730s, opponents and critics of the former style had become quite verbal and criticisms included printed reproaches from such illustrious figures as Voltaire and architectural theorist J.F. Blondel, who referred to rococo as 'the ridiculous jumble of shells, dragons, reeds, palm-trees and plants which are the be-all and end-all of modern interior decoration'.<sup>1</sup> By 1745, serious questions about the 'taste' of the rococo aesthetic were being raised and trends in art and architecture dictated more structured ornamentation



Figure 1. Joseph-Marie Vien, Sweet Melancholy, 1756.

Wikimedia Commons



Figure 2. Joseph-Marie Vien, The Seller of Cupids, 1763.

Wikimedia Commons

that moved away from rounded asymmetry and unlimited embellishment. The strength of all the voices joined in condemnation finally led to the death of rococo in France.

Neoclassicism started to replace rococo with a classically inspired period under the reign of Louis XVI which lasted from 1774 to 1792. This early classical décor was well entrenched by the late 1770s, but the style still maintained rounded edges and more sinuous lines, while still incorporating themes and elements that evoked ancient Greece and Rome. When Louis XVI was deposed, the neoclassical style continued to evolve. The new government found their values reflected in this style, so rather than adopting a new image, neoclassicism continued to mature. The Directoire period style of post-revolutionary France (1795–1799) gave way to the Empire style of Napoleon (1800–1815), a period noted by its highly developed neoclassical style. Napoleon's Empire yielded to the Restoration period of Louis XVIII in 1815, and with the restoration of a new monarch neoclassicism yielded to romanticism.

Many things influenced the growth of neoclassicism in France. First, there were the archeological finds at Herculaneum and Pompeii in the early eighteenth century that spurred a great deal of interest in Roman antiquities. This coincided with the writings of Johann Joachim Winkelmann, the leading proponent of neoclassicism. Winkelmann's 1755 pamphlet, *Thoughts on the Imitation of Greek works in Painting and Sculpture* not only attacked rococo, it set forth the premise that only by imitating Greek art could modern artists become great again.<sup>2</sup> Furthering the enthusiasm for all things antiquarian, 1777 saw the discovery and excavation of the Villa Negroni, a magnificent ancient home found in Rome.

By the time Anton Raphael Mengs, a noted German ex-patriot painter and colleague of Winkelmann's, visited the Villa Negroni he was a noted neoclassicist. Despite failing health, Mengs undertook to paint a series of wall images. Many other artists took on the same project and there are several editions based on the walls of Villa Negroni. Reproduced copies of artistic renditions of the Villa's walls were available to interested artists and collectors of the time.

The third factor that influenced the development of French neoclassicism was that the best young French artists and architects were sent to the French Academy in Rome for training, returning to Paris with new ideas for art and design. Education in Rome involved several years studying antique culture and its derivatives. Italy offered not just a chance to study antiquities, but the opportunity to observe ancient sites first-hand. 'The classical ideal propagated at the Academy was complemented by the influence of contemporary art in Rome and the city's thriving artistic community.'<sup>3</sup>

Students at the Academy during the 1760s would have been profoundly affected by the writings and designs of architect Giovanni Piranesi who championed classical design in his *Diverse Maniere D'adornare I Cammini* of 1769. This publication had international impact because it was not only written in Italian, French and English but it was illustrated with Piranesi's designs. This treatise in essence was a readily available, completely accessible compendium of fashionable classical designs. It is interesting to note that several French students at the Academy in Rome assisted with Piranesi's commissions and must have carried home with them strong



Figure 3. Jacques Louis David. *Portrait of Madame de Verninac*, 1799.

impressions of the design and décor to which they were exposed.<sup>4</sup>

There were several significant painters in Rome during the second half of the eighteenth century that were important to the development of neoclassicism. Joseph-Marie Vien became director of the French Academy in 1776. Trained during the baroque period, Vien was committed to the stylistic ethic of the classical style and his work helped to establish the neoclassical movement.

Joseph-Marie Vien's style was a synthesis of the highly dramatised baroque aesthetic, full of light and shadows, and the neoclassical style that introduced lighter colours and linear form. Vien's themes and figures however, were strongly neoclassical. His painting, *Sweet Melancholy*, **Figure 1**, can be regarded as one of the first neoclassical paintings in France inspired by Pompeii and Roman antiquity. *The Cupid Seller*, **Figure 2**, similarly established itself in this same vein by incorporating Greek details into the interior space.<sup>5</sup>

Jacques Louis David, was France's pre-eminent neoclassical painter. David attended the Royal Academy in Paris, won the Prix de Rome and accompanied Vien to Rome. While in Italy, David observed the Italian masterpieces and the ruins of ancient Rome. David filled twelve sketchbooks with material that he would use for inspiration for the rest of his life. While in Rome, he studied great masters, and came to favour Raphael. In 1779, David was able to see the ruins of Pompeii, and was deeply impacted. Upon completion of five years of study at the Academy in Rome, David sought to revolutionise

the art world with his concepts of classicism.<sup>6</sup> His portrait, Madam de Verninac, **Figure 3**, from 1799 was reputed to be inspired by the ancient Statue of Agrippina, **Figure 4**, and is an example of neoclassic expression during the Directoire period. One could only guess as to how influential this statue was on the many artists who passed through the Capitoline Museum, among them Antonio Canova.

### **Neoclassicism Applied to Horology**

A discussion of the artistic influences on French neoclassicism and figural bronze clocks would not be complete without mentioning the works of Antonio Canova, indisputably the greatest sculptor of his time. Like the painters discussed above, Canova straddled the line between baroque/rococo and

neoclassicism. His early works displayed a rococo sensibility, yet by his second visit to Rome, in 1781, Canova had reached a turning point. This came as a result of studying antiquities, visiting prominent studios and associating with prominent English neoclassicist Gavin Hamilton. By the early 1800s Canova had gained international fame and his work came to define neoclassical style.<sup>7</sup> His statuary from this period, including the portrait statue of Letizia Ramolino Bonaparte, **Figure 5**, captured the essence of sculpture from antiquity, in particular the statue of Agrippina.

At the same time artists and designers were embracing the virtues of antiquity, scientists were learning how to master measured time. Eighteenth century time keeping methods were not unified throughout Europe. The French adhered to the diurnal pattern with which we are familiar. This is the pattern of time keeping that divides a day into twenty four units which is further divided into two units of twelve hours. The first being midnight to noon and the second, noon to midnight. As this system became accepted, clocks became visible in public spaces in Paris which helped to develop communal life and structured daily routines. As the century progressed, clocks came to be owned by a broader segment of society. They were a familiar site in the domestic sphere and were a visual sign of an orderly, well run home.<sup>8</sup> By the end of the eighteenth and into the nineteenth century, allegorical clocks became objects of mass consumption, and were found in stately homes and palaces across Europe.

The variety of clock cases created during this period responded to the changing fashions of architecture and interior design. As both pieces of art and scientific curiosities, clocks were most commonly displayed in prominent places within the rooms that were most frequented, thus allowing the clocks to attract the most attention. The new interiors featured symmetrically placed furniture which allowed for the clock to be the focal point of the room.

Neoclassicism introduced a revolution, not only in shapes, but in inspiration. Prevalent early allegorical motifs on clocks were figures of Chronos and Cupid carrying the message that love conquers time and Apollo and Diana representing the duality of time. The concept of time being dual natured, fleeting and finite, as well as repeating and eternal, was embedded in European thought, so it was natural for the arts, both decorative and fine, to draw on this theme for inspiration.

Bronze clocks were collaborative works made by a number of different craftsmen and designers, each belonging to independent guilds. Each part of the clock was created by a specialist: clockmakers made the movement, enamellers made the dials, clock cases varied by material as wooden cases were made by ebonistes and bronze cases by sculptors, bronziers and chasers. Often, the clockmaker was subordinate to the other artisans. According to Geoffrey de Bellaigue in *Furniture, Clocks, and Gilt Bronzes* there is no evidence that clockmakers even had a role in designing clock cases.<sup>9</sup> Further, a decree issued in 1766 established copyrighting of bronze designs, making them the property of bronze guild members. Clockmakers, however, tended to be better educated than their furniture and bronze making counterparts, with the exception of Boulle, Cressant, Gouthiere and Ravrio, to name a few.<sup>10</sup>

New clock case developments paralleled developments in



Figure 4. Statue of Agrippina, second century AD.

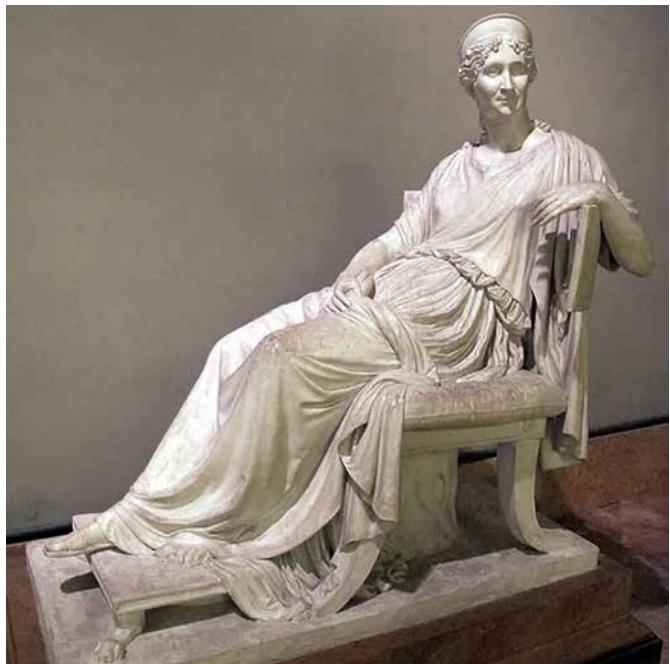


Figure 5. Antonio Canova, Letizia Ramolino Bonaparte, 1804-07.

painting styles. Clocks, like other objects of décor, reflected the ethos of the movement, developing a sense of clarity and harmony. Bases became rectilinear with hard edges and featured classic Greek moulding styles including acanthus leaves, egg and dart, Greek key, waves and fruit and floral garlands. The clocks themselves featured urns, vessels, or amphorae. Human figures were often crowned with laurel leaves, a metaphor for rewards from the gods. An important change is that the clocks no longer had colour applied, they were decorated with gilded or patinated bronze.<sup>11</sup>

Sculpted figural work became a key component of bronze clock cases. A good figural bronze case appears to be made in one solid piece but the truth is that high quality clocks were made of many hand crafted individual pieces, as opposed to those imitations of the late nineteenth century which were cast as one piece. This is actually a way to identify a good eighteenth and early nineteenth century clock from a cheap metal clock made during the late nineteenth century. Bronze casting was extremely complex and each master artisan had his own recipe concerning the proper amounts of zinc, tin, lead and copper. The goal was to create a substance that was easy to cast yet resulted in a solid surface, without pores, that was suitable for further treatment.

The true genius behind the beauty of the clocks lay in the hands of the chasers, who gave depth to the subjects by removing imperfections. They created animated surface textures that evoked the appearance of different materials and elicited shadow and light. Chasing was the most important part of the clock-making process, because it transformed the artistic idea by adding texture and depth, thereby bringing life to the metal surface. Gilding further enhanced the quality of the work and emphasized the details created by the chaser. Gilded and chased surfaces reflected light in different ways, so gifted artisans balanced the colour and light of each surface to obtain the optimal effect. French pendulum clocks were fire gilded and agate burnished to gleam like gold.<sup>12</sup>

The seated figure on the French pendulum clock style that is currently known as a Geoffrin clock was originally a sculpted portrait of Madame Marie-Therese Rodet Geoffrin, posed as an allegory of study. It was designed by Laurent Guiard and taken from a portrait painted of her when she was a student in 1738. Madame Geoffrin commissioned Guiard to provide the bronze model for the clock after he was celebrated for making a distinguished statue of Louis XV for Versailles in 1754. She also commissioned Basile Charles Le Roy, who became the Master Clockmaker to Napoleon. Although not the original, the clock seen in **Figure 6** is a Geoffrin clock and it features the figure of a young woman reclining against the clock which is housed within an arched rectangular section. The arch is surmounted with gilded oak leaves tied with a ribbon. The young woman, casually resting her left elbow upon the arch of the clock, is seated on a low classical Greek stool, reading. Placed just beneath her is a rolled parchment. The hem of her gown is chased with laurel leaves and she is wearing sandals. All of this rests upon a rose gilt plinth which itself rests on a stepped marble base, adorned with gilt bronze borders and a frieze depicting putti (small, winged infant) at play. This style of clock was originally known as *L'Emploi du Temps*, which means the usage of time. This refers to the appropriate utilization of time without neglecting the fleeting essence of



Figure 6. Geoffrin Clock or *L'Emploi du Temps*, Ferdinand Berthoud clockmaker, Fondeur Edme Roy, Ebaniste Balthazar Lieutaud, after a model by Laurent Guiard, gilded bronze, enamel dial, ebony, glass, 1770, Period of Louis XVI.



Figure 7. Allegory of Wisdom, bronze by Pierre-Antoine Foullet, fire gilded bronze, white marble, enameled dial, glass, 1765. Period of Louis XVI.

its passage. The clock was named *Pendule Horloge à la Geoffrin* by the French intellectual Diderot after receiving a copy of the clock from Madame Geoffrin as a gift in 1768. This clock became very popular and was recast numerous times, by different clockmakers, over a period of three decades.<sup>13</sup>

One of the interesting things about the Geoffrin clock is that it so closely resembles the paintings of Joseph-Marie Vien. Although the allegorical flavour of the clock differs from that of Vien's Sweet Melancholy, the visual form of the seated female is a common theme. What is most remarkable is



Figure 8. Allegory of Science, fire gilded and patinated bronze, black and white marble, partial skeletonized enameled dial, glass, 1790. Late Classical Period of Louis XVI.



Figure 9. Prudentia, fire gilded and patinated bronze, enamel dial, glass, 1810. Empire Period of Napoleon.

that Guiard left Paris for the Academy in Rome in 1755 and it is not clear whether he designed the clock before he left Paris or while he was in Rome (where he would spend most of the rest of his life). He, like the other artists discussed, became involved in Winklemann's society and embraced the concepts of neoclassicism.<sup>14</sup>

Guiard attended the Academy while it was under the direction of Charles-Joseph Natoire. After assuming the directorship in 1751, Natoire established a programme of first-hand study of the monuments and sculptures at the Capitoline Museum.<sup>15</sup> What is thought provoking about this situation is that the Capitoline Museum houses the Statue of Agrippina, **Figure 4**, to which the female figure on the clock bears a striking resemblance. If he completed the clock before leaving for Rome, it is an extraordinary coincidence that the pieces are so similar. The female figure on the clock is clad in a garment reminiscent of the dress on the figure of Agrippina, complete with a ruffled hem and sandaled feet. Agrippina rests on a klismos chair and the clock's figure sits on a stool with legs splayed like the klismos. Additionally, both figures have their left arms bent and resting behind them while the right arm curves slightly at the elbow and rests gently on either a lap (Agrippina) or atop a book (Geoffrin). None of the resources consulted for this paper offered a date for the original Geoffrin clock, only on copies made in the 1760s, after Guiard was in Rome, so it is impossible at this point to reach a solid conclusion concerning the inspiration for his design. Guiard was an early enthusiast of neoclassicism, and this clock set the stage for a series of clocks that were to follow.

The Allegory of Wisdom clock, **Figure 7**, is an early reinterpretation of the Geoffrin clock that was cast in 1765, predating the copy made for Diderot. At one time this clock was interpreted to be a representation of Cleopatra due the

graceful pose of the figure and the incorporation of a snake. This interpretation can be questioned, however, because the snake is also an ancient symbol for wisdom.<sup>16</sup> Similar to the Geoffrin clock, here a female figure sits with her left arm bent behind her, resting on the clock. The female figure is younger and she is gazing into a mirror in a moment of self-reflection rather than holding a book. This is not vanity being displayed, but the moment of self-realization needed to achieve true wisdom. The artist of this piece, Pierre-Antoine Foullet, maintained the gentle curve of the extended right arm that lends charm to the piece. The clock itself is set in a single fluted pilaster and is draped with laurel leaves. There is a significant bronze plinth and marble base that share a convex contour which is indicative of the classical period of Louis XVI. The centre of the bronze plinth is ornamented with the face of the young woman which complements the profile view of the sculpture.

In 1790, the clock was reinterpreted as an allegory of science, **Figure 8**, but with very little stylistic change. This is very clearly a Geoffrin style clock. The case features the same recumbent reading female figure, which here is finished in patinated bronze rather than gilded bronze. The artist experimented with light and dark by placing a gilded bronze book in her hand and a gilded bronze parchment scroll under her stool. The clock itself is set into white marble rather than gilt bronze, but it maintains its form of an arch set over pilasters. The marble form is decorated with ribbon-tied oak leaves cast in gilt bronze in a manner similar to the original. The clock is surmounted with a terrestrial globe, identifying the allegory as science. Clocks with a celestial globe are associated with the muse Urania and the allegory is of astronomy. The front and sides of the white marble plinth are ornamented with ormolu relief panels that depict amorini

(infant cupids) playing musical instruments. The white marble and bronze clock case is set dramatically on a black marble base. The earliest known model of this clock was the one acquired by the Marquis de Marigny in 1757.<sup>17</sup>

By 1810, neoclassicism had fully emerged in Paris and the Geoffrin clock had evolved as a representation of prudentia, which means knowledge and prudence in Latin, **Figure 9**. Like the *Allegory of Wisdom* from 1765, prudentia is also an allegory of wisdom. Wisdom is always represented as a young woman, dressed in antiquated style, yet here she sits in an Empire period chair complete with gilded bronze mounts rather than the traditional Greek stool. Here too, the clock has been placed beneath her chair, so the figure is no longer recumbent. Although she sits in a more upright position, she still sits with her left arm bent and her elbow resting on the chair back. Although missing from this example, her right hand originally held a mirror aloft and she holds a flower wreath in her left. To the right of the chair, books are stacked and topped with an hour glass and a garland of flowers. Unlike the previous representation of wisdom, this young woman is looking away from the mirror, casting her eyes towards the books, which represent comprehensive knowledge, and the hour glass that signals her acceptance of the passage of time. The base is decorated with gilded bronze swans and wreathed scales. The scales are an attribute of prudentia. They symbolize the measuring and judging of intellect. The base decorations are reflective of the style of ornament during the Empire period and are individually cast pieces that are delicately applied rather than medallions and relief panels that decorate the bases of earlier clocks. There are extraordinary details achieved through chasing: the texture of her curls, the details of the flowers, the play of matt and burnished surfaces. The shape of the base has changed from a plain rectangle to one that has canted corners, which adds more edges and lines to the overall design. Although this clock is clearly related to the Geoffrin clock, the styling visibly marks it as of another era.<sup>18</sup>

The last clock to be considered is the Alexander the Great clock, **Figure 10**, by Louis-Stanislas Lenoir-Ravrio from 1820, the age of restoration. One could question the inclusion of this clock, yet stylistically the replacement of a female figure by a male does not produce a radical change in the design being examined. This clock still features a human figure resting in a classical chair surrounded by the trophies and accoutrements that define his character. Like the initial figure from the Geoffrin clock, Alexander is seated in a recumbent position reading a scroll. He is wearing ancient clothing as well. In this case he and his armor and helmet are so finely cast and chased that every rippled muscle and each pleat of fabric seem to quiver with life. Alexander's position is a mirror image of the women, he sits with his right arm hanging over the back of the chair which is draped with his cloak while his left hand holds the scroll. Like the Prudentia clock the chair is more French Empire than klismos and the clock dial is set beneath the chair. The base is a dark patinated bronze rectangle cast with the heads of kings that Alexander conquered, and a large cast frieze with a scene taken from the painting by Charles Le Brun, *La Famille de Darius et Alexandre*. This clock is a *tour de force* created by a master bronzier. Louis-Stanislas Lenoir-Ravrio was the adopted son of André-Antoine Ravrio, who



Richard Redding Antiques Limited

Figure 10. Alexander the Great, gilded and patinated bronze, blued steel hands, glass. Restoration Period of Louis XVIII.

was himself one of the greatest French bronziers of the pre- and post-revolution period. Lenoir-Ravrio worked with his father for a number of years and became his partner in 1811. He continued the business after his father died, gaining repute for work supplied to the Garde-Meuble de la Couronne (the Crown Furniture Repository) and for his exhibited work, for which he was awarded a silver medal.<sup>19</sup>

### Conclusions

After careful examination of all the artists, art and clocks presented in this paper, as well as the discourse on the development of neoclassicism in France, it is possible to conclude several things. First, the education provided by the French Academy in Rome was essential for the development of neoclassicism in France. In order to respond to the questions raised over the 'taste' of rococo, French artists and architects had to understand the alternative. Exposure to the antiquities of Italy and the growing society revolving around Winkelmann opened the eyes and minds of the best of France's creative talent and expanded their potential. Talented artists like Mengs, Vien and David provided visual impetus for change, while the foresight of Natoire provided the students with the opportunity to learn first-hand from the collection of ancient art that had been established in Rome. The knowledge and inspiration that these artists brought back to Paris fuelled the neoclassical movement, and influenced the artisans and craftsmen who functioned in the world of the decorative arts.

Secondly, the Statue of Agrippina at the Capitoline Museum had a profound impact on the artists who viewed it. Evidence of this can be seen in the painted works of Vien and David, as well as the work of Canova. It is also reasonable to assume that Guiard was familiar with the statue when he

created the Geoffrin clock.

Lastly, Guiard's design for Madam Geoffrin's clock became a prototype for almost a century's worth of clock designs. Through the examination of clocks, from the Louis XVI period through the Restoration, it has been shown that the same basic stylistic elements did indeed repeat themselves.

It wasn't just that the same clocks were re-cast, it was that over time small changes in theme and style were made to an archetype. The minor changes kept interest in the Geoffrin clock for years, making it arguably one the most successful continental European clock designs ever created.

### **Author Bio**

Susan Teichman is a design historian with a MA in History of Decorative Arts and Design. She is currently a curatorial assistant at the Cooper Hewitt Smithsonian Design Museum in New York City.

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## **BHI South West Branch 26th Annual Auction Saturday October 21st 2017**

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Viewing 10:00am to noon ONLY.



This Drocourt Carriage Repeater is one  
of the many lots included in the sale.

# A Hunt and Roskell Carriage Clock

*The Story of its Repair*

Henry Bennett

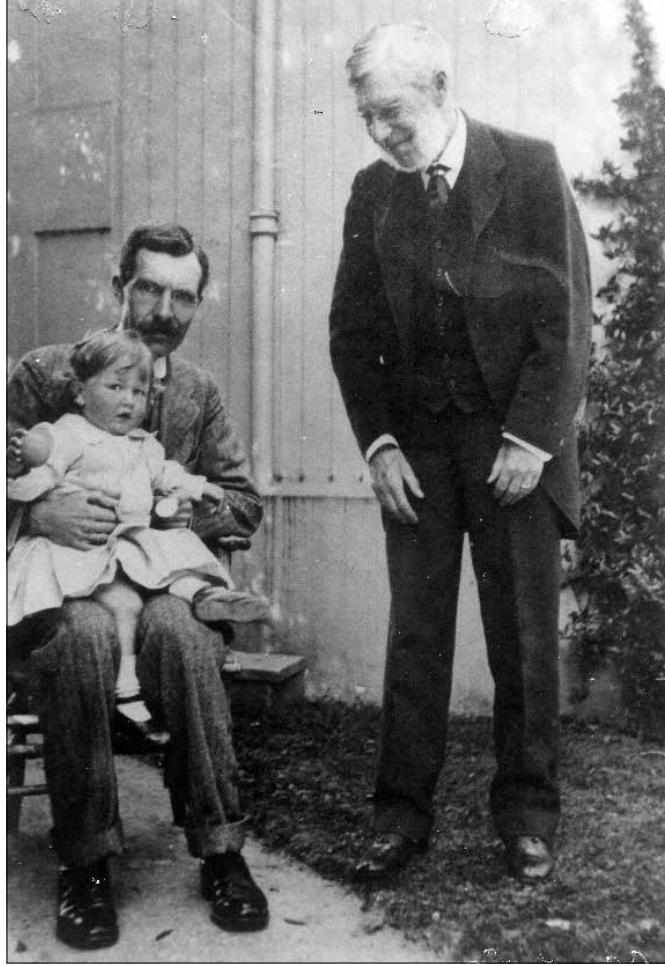


Figure 1.

Originally written as a narrative for my own family, this article concerns the life of a rather tired Hunt and Roskell carriage clock and its journey back to original glory.

The most admired of my ancestors is probably Sir Thomas Bazley, the 1st baronet, who moved from Manchester to Hatherop Castle in 1870. However, his only son, also Thomas, was a larger than life character, and more familiar to our family from the many wonderful things handed down, and from photographs such as this favourite portrait of him with his only son Gardner and grandson, whom we all remember as 'Uncle Thomas', **Figure 1**.

Father and son were aged 73 and 41 when they moved to Hatherop Castle, so one can imagine much of the energy for establishing Hatherop would have come from the son. He



Figure 2.

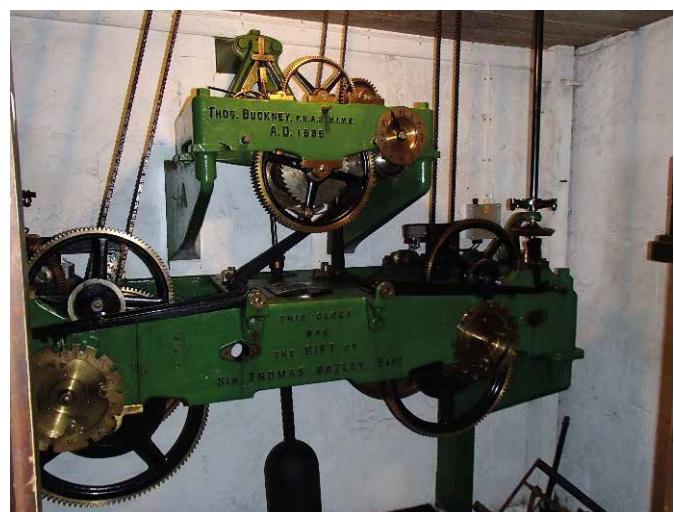


Figure 3.

achieved so much and had such wide ranging interests. This was the great age of mechanical perfection, and clocks were always one of his passions. This is the story of one little clock; but first, here are some bigger examples.

Thomas installed a wonderful turret clock in Hatherop Church by Dent, the royal clockmakers, incorporating all the latest refinements, **Figure 2**. He also donated the clock in the glorious central tower of Gloucester Cathedral, **Figure 3**; a

rather selfless gesture considering it would have no dials to spoil the lines of the tower, so it would be heard but not seen by anyone.

My story concerns something much smaller. Around 1985, I remember my mother Rachel being invited to visit her elderly cousin Priscilla Dimsdale in Bledlow, Buckinghamshire. The purpose of the visit was to see if there might be any little family heirlooms which could be passed on to the next generation as she and her brother were both unmarried.

My mother returned bearing two little clocks and allowed me to choose one before sending the other to a nephew. One of them resembled a desktop calendar, gilded and delicate but very strange in appearance, which I now know to be a strut clock by Thomas Cole dated about 1850. I chose the other one, despite its very forlorn condition, though I was a bit sad that you couldn't see all the works as you normally would with a carriage clock, **Figure 4**. Also, it had rather an inviting little button on top but this appeared to do nothing. Anyway, I took it to my good 'clock friend' Robin Edwards in Worlington, Suffolk, to check it over.

His report rather surprised me. He cleaned up the gilded case and re-silvered the dial which transformed the little clock, but the little button on top was quite another matter. This minute repeater button was intended to give the time to the nearest minute on little gongs when pressed if you woke in the middle of the night, one of the most complicated inventions of its time and highly valued by collectors. But the clock must have been serviced at some stage by someone out of their depth with such refinements, who simply removed two of the vital parts, tiny racks with teeth, and subsequently lost them. Replacing them would be extremely difficult. However, Robin also said that if ever I found a suitable craftsman, it would be well worth the trouble and cost because this was a highly interesting clock – in fact he had never seen anything like it.

This intrigued me, and prompted me to contact the BHI for a shortlist of experts. I worked my way down their list and one by one they replied in exactly the same manner – the job was too difficult for them but the clock was most unusual and would be well worth repairing if the right person were found. Last on the list came Alan Bennett in Taunton. Shortly after my initial visit, his report arrived saying 'Yes, I can repair the clock. It will cost £2,500 and my work will be undetectable'. So, that launched the project.

Alan rented a council unit on an industrial estate in Taunton. He was lively and eccentric, and clearly rather unhappy in his council unit. I told him of my brother Edward who worked as an organ builder on the Welbeck Abbey Estate, Nottinghamshire. He rented premises from the Harley Trust which had been set up by the Duke of Portland Estate to encourage and support the finest craftsmen in many fields. Alan Bennett duly contacted them, went for interview, and was allocated a tiny workshop – just big enough for his bench and his wineglasses cluttering the bench. These were all upturned to safeguard tiny bits from half-finished watches.

He explained that the clock was basically a pocket watch with a complicated minute repeater mechanism and a Duplex escapement, also quite unusual, the whole being driven by a clock-sized spring to allow it to run for a week instead of just a day.

It was made some time after 1843 and signed by Hunt & Roskell. Robert Roskell was a very famous maker of pocket watches who started creating masterpieces in Liverpool in

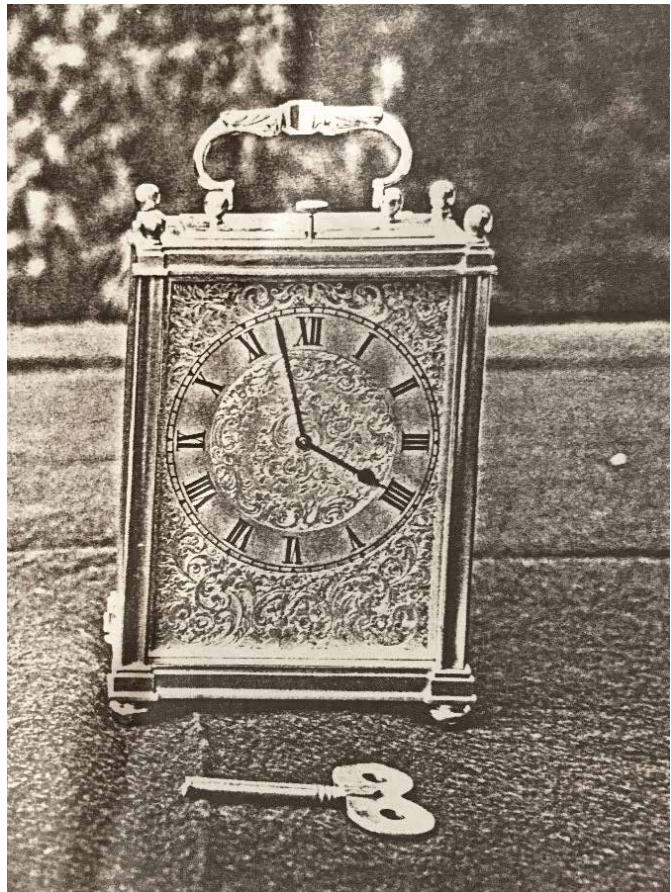


Figure 4.

1798. He moved to New Bond Street, London in 1843 to continue in his watch making career under the name Hunt & Roskell, a company descended from the famous silversmith Paul Storr. However, most clocks bearing their name were in fact made by others. This company sold some of the finest watches and jewellery and was also the London agent for Breguet, the most famous of all watchmakers. They received the royal warrant as silversmiths and jewellers to Queen Victoria. Might this little clock have been a twenty-first birthday present from father Bazley to his son? It might even have been a special commission – we cannot say. We may never know who actually made it, but clearly it was something special.

Alan Bennett had certainly taken on a challenge. He had to re-design the two missing repeater racks, **Figures 5 and 6**, and remake some equally intricate parts such as the Duplex escape wheel. Duplex was the latest development of its time in the quest for greater accuracy by reducing friction, but was soon superseded by the Lever Escapement which is still used today.

I suspect that plenty of wineglasses protected other clients' untouched watches while he tackled this one, often late into the night. Eventually, I drove up from Cambridge to collect it, and the magic button was pressed for the first time in many decades, or even a century. The two little gongs tinkled slightly unevenly because the missing parts had been cut entirely by hand, which is part of its history, but they were also out of tune. Alan might not have been musical, but a quick snip with pliers and the 'ding dong' was perfect! And all very gentle so as not to wake anyone else in the middle of the night.

The little clock came home and was much treasured by my wife Sarah and me, especially as we were newly married. Against all her advice, it was the first thing to be displayed proudly on the mantelpiece of our new home in Linton. Everything else remained packed in boxes on the floor, but nothing was safe from those eyes that must have been watching the furniture van. Just two days later we were burgled. Lots of things were taken including, of course, the gleaming clock.

What can one do? These were just inanimate objects but very sad all the same. I filled in a police report and fitted better locks to our completely unprotected house. We then had to confess all to Alan Bennett, which was especially hard. But despite his seemingly chaotic ways, he was calm and organised. He forecast that the clock would make its way on the next boat to Holland where it would lie low for ten years. It might then change hands and disappear for another ten years to earn a nice clean provenance. But, at some point, a unique clock like that would re-appear on the London market. He advised us to log its details with the newly founded Art Loss Register (ALR), and he supplied photographs and serial number.

Several years later, Alan moved to New Zealand and then, sadly, died of cancer. However, 23 years later a letter arrived in the post. The clock had been traced!

So, here begins the second part of the story.

The ALR were able to report that a gentleman from Holland had entered the clock in the next Bonham's clock sale but, beyond that, they were most mysterious. They promised to 'do their best but dealing with someone abroad might be complicated'. After several rather vague calls and emails, I began to suspect that the ALR, despite being sponsored by all the London auction houses because they valued their reputations, relied for their funding on innocent people anxious to recover cherished possessions. This little clock, though precious to me, was small fry to them, so they were very evasive. Somehow, they seemed to know that I had received an insurance payment, and therefore Zurich Insurance were now the owners. So, I joined battle also with Zurich but they dithered in just the same way, saying that dealing with someone overseas might prove complicated. Meanwhile, Bonhams themselves were extremely coy, having stored the clock in their vaults and saying they would release it only on instructions from the courts or from their 'client' in Holland. As the months passed, I sought legal advice, but quickly backed away because of the cost. My only ally seemed to be the Cambridgeshire Police, who impressed me by being able to recall the burglary report from 23 years ago while I was in mid-sentence to them on my first telephone call. They contacted Bonhams immediately, but found themselves powerless to intervene because Bonhams had acted correctly in withdrawing the clock from sale and storing it in safety.

A year passed, with endless chasing, during which time the ALR eventually passed all responsibility to the insurers. Months later, Zurich Insurance also waived their claim and abdicated in favour of Bonhams, and eventually Bonhams put me in touch with a Mr Cees Kerkvliet, a clock collector in the small Dutch village of Voorhout. This gentleman spoke little English and I resorted to Google Translate for his emails, with often comical results. Endless emails revealed that he had no evidence of how he came by the clock, and therefore could not prove title, yet nonetheless he wanted the full auction reserve price for the clock, namely £4,500. After many weeks, he reluctantly agreed to accept £1,000, which



Figure 5.

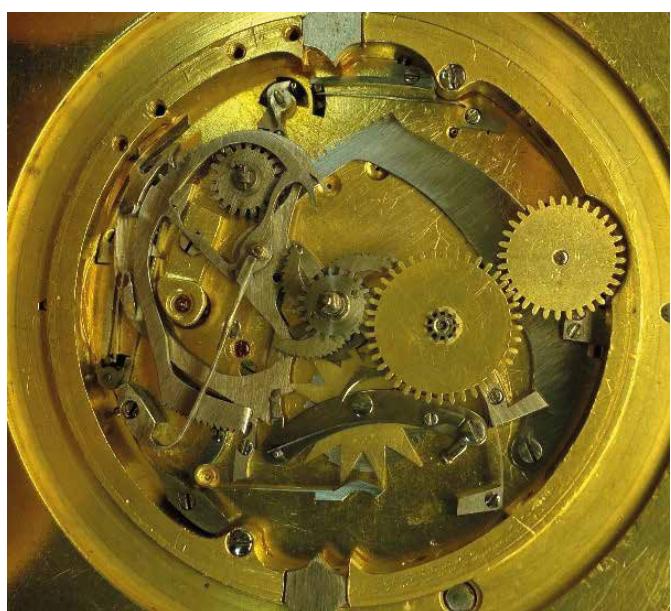


Figure 6.

I was prepared to pay since I had received that amount from insurance. But, even then there was a problem. Which must happen first: the payment or the letter to release the clock? These must, of course, be simultaneous when neither party trusts the other. Bonhams were the obvious choice as middle man. They could hand over the clock as soon as they had received both the payment and the letter of release. Initially Bonhams felt unable to take on this role though, in the end, a happy coincidence enabled it to occur. A knight in shining armour, Sholto Gilbertson-Hart, came into my life one day in his yellow E-Type Jaguar, announcing that he worked for Bonhams Vintage Car Department. He immediately recognised that good will should prevail and persuaded his Clocks Department colleague to help. At long last the clock was mine to collect on my bike from the giant furniture store where it had languished for so long.

When I came to collect it, horror of horrors, the little button on top was MISSING – the ONLY thing Bonhams had ever lost! Worse than that, the clock wouldn't go. I didn't



Figure 7.



Figure 8.

mind too much though. Possession was such a great thing, and repairs were by now in my blood. Poor Alan Bennett was no longer alive to relish the moment, but Bonhams, Christies and Sotheby's all have shortlists of repair specialists. Once again they all recognised the rarity of the clock, but that spelt only one thing – further terrifying cost to me. Luckily one of them, John Model in the village of Bushey, was already known to me and agreed to check the clock.

He is one of a very small band of master craftsmen able to tackle watches of any complexity or any age, unlike the slightly larger group of people trained specifically to service high quality modern watches. But even he began to regret what he had taken on, **Figure 7**. The totally unusual design of a small watch powered by a big spring made the clock almost impossible to work on, **Figure 8**. The Duplex escapement, which was the latest sophistication in its time, had certain disadvantages and was liable to wear. A ruby the size of a small grain of rice broke, but he carried a string of replacements dating from the 1850s. Then the mainspring broke. But eventually, after 13 months on his bench, he rang to invite me over to collect it. Quite a moment! After that, the final task was to find someone to copy the original key, a charming design with butterfly wings as shown in the original photograph, **Figure 4**. This I entrusted to Mark Clark in Sawston, a metal worker more used to making parts for Spitfires in nearby Duxford, and the little clock was at last able to take its place at home, back in the family where it belongs and complete with its little button on top, **Figure 9**.



Figure 9.

### **Update**

I have continued to research who might have made the clock and at what date. The classic reference books on Victorian carriage clocks show an almost endless wealth of designs, many of them exhibited in the Great Exhibition, and include several famous names selling clocks under the banner 'Hunt

& Roskell'. Yet, from their brief descriptions, none is remotely like this clock. It appears to be unique, and I'm sure Sir Thomas would have known that. Oh, that someone could tell us more!

### **Author Bio**

Henry Bennett, one of some 30 great grandchildren of Sir Thomas Bazley, original owner of the clock described, has inherited his love of clocks and all things mechanical. Though never more than an amateur, his interest extends equally into the past and the future, with great pride in the achievements of our Victorian ancestors but also great excitement about future prospects for computers, self-drive cars, and all the latest apps and gadgets.

Aged 16, he was deeply into restoring the same ancestor's vacuum pneumatic, self-playing pipe organ with its 25 rolls of classical music (for which expert help is still needed), and aged 70+ he is still designing computer programmes for his work in property management for Trinity House (of lighthouse fame). The Hunt and Roskell clock project has come to a triumphant end – except that its date and maker are still mysteries, and he would welcome any light that can be shed by eminent readers of the *HJ*.

## **Auction   Wednesday 4 October 2017 BHI Wessex Branch**

**250+ horological and associated lots**

**Including contents of longstanding  
clockmaker's shop with many old and  
antique tools, clocks, and parts**

**Tools and workshop equipment:** 8 mm lathe, polisher; uprighting, depthing, poising, screwhead and Jacot tools; staking sets, turns, chucks, arbors, collets, taps and dies, files, pliers, tweezers, drills, glass cutting tools, mainspring winders (watch and clock), tool, ring sizing tool, many others, etc.

**Many clocks:** Wall, carriage, mantel, balloon, drum, Vienna and other clocks, French, German, American, etc: Movements, 8-day, 30-hour, dials, spares etc.

**Watches:** Men's and ladies' pocket and wrist watches.

#### **Materials:**

Watch & clock, pendulums, bobs, keys, pulleys, weights, dials, bezels, glasses, springs, screws, bells, metal stock etc.

**Many books:** Watch, clock, reference, instructional etc.

**Still time to enter lots. Contact Ken Lee.**

**Catalogue from Ken Lee:** 01962 861110, [mklee@btinternet.com](mailto:mklee@btinternet.com) Catalogue on [www.wessexbhi.co.uk](http://www.wessexbhi.co.uk) from 20th September.

Lyndhurst Community Centre, Hampshire SO43 7NY.  
Viewing 6.30pm – Auction 7.30pm. Refreshments free.  
Buyers pay hammer price! Sellers pay £2 per lot + 5%.  
Lots accepted now for our March auction.



*As the museum staff sort, categorise and make decisions about where items should be displayed or stored, they are finding that some items have very little information about them. Over the years, the BHI has been very lucky that our members, and the public, often donate items for the museum. However, sometimes they don't know the background story of the items or the relevance of the piece.*

*In this new column, we are hoping to draw on the expertise of you, our members, to help add to the knowledge of the collection for future generations to enjoy. Please do get in touch with Alex, our collections officer, if you are able to give information on any of the items shown in this, or future, Fact Finder columns.—Ed*

The last few months have seen enormous change for the museum collection. We have been focusing our efforts on the compilation of a full inventory of the collection. The core of volunteers working on this have risen in number from just two to six, and they have a whole wealth of knowledge and experience which they bring to the project. These include photography expertise, horological training, documentation specialism and conservation expertise.

To work alongside these core volunteers at the museum we also have Emma, our intern from Culture Syndicates, here for an extra two months until September, and Rebecca, who is on a six-week work placement from Lincoln University conservation degree course. Rebecca and Emma have been assisting the collections work by creating procedures to monitor environmental factors using 'Ting Tag' data loggers and pest control insect traps. Rebecca has been working on a

preventative conservation report for the museum, from which an action plan can be devised to take better care of our collection.

In addition to the environmental monitoring, black-out blinds were fitted in the secure store room at the beginning of July. For those who haven't had the pleasure of seeing the reserve storerooms, the beautiful original windows run from floor to ceiling across the whole exterior wall of the room. The afternoon sun streams in, making the room bright and airy. While this would be wonderful in a bedroom or living space, it is far from ideal in a museum store room. The light levels and fluctuations in relative humidity, which have been quite marked, will now be controlled by the blinds and monitored by the digital data recorders.

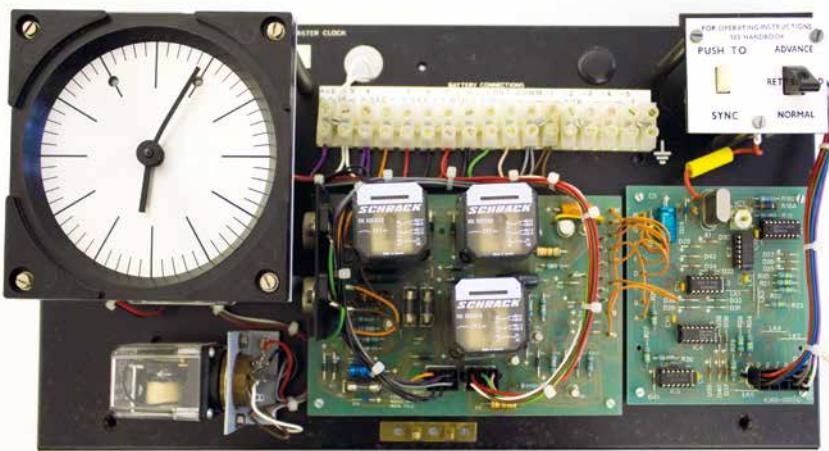
The inventory project is now in full swing, with just over 1,500 objects documented. This is a huge achievement by all involved, and the in-depth knowledge of the collection

that we are gaining through this will surely inspire future interpretations and exhibitions in the museum.

Working through the collection in the reserve store has brought to light some objects which will delight future visitors. There are also some which have left us feeling rather puzzled. Some of these have baffled us because we have been unable to find any information about them during our research and some we simply cannot make head nor tail of.

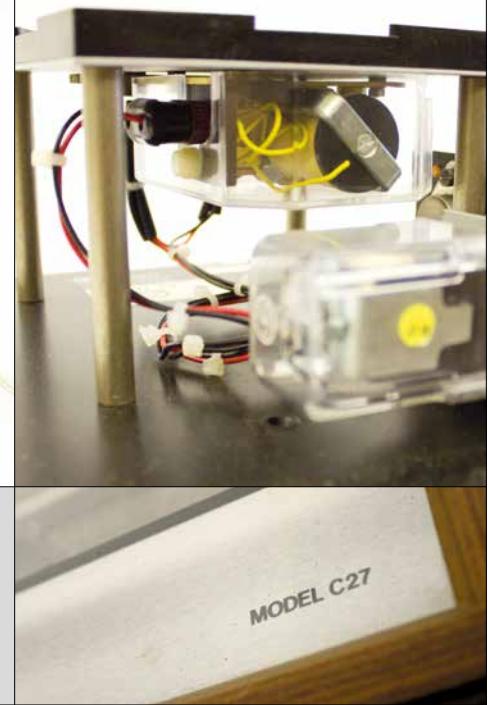
That is where this column will come in handy: we are asking you, as our expert members, for help in identifying objects and providing us with any information which you feel may be of interest about them. We are hoping to gain a broad range of knowledge from the technical to the social. In light of this, any information that can be offered will be gladly accepted.

ALEX BOND, COLLECTIONS OFFICER.



### OBJECT 1

This Gents electric clock, model number C27, is only a little larger than a shoebox. It comes in a wooden case with a glass lid showing the dial and all the circuits within. There are several Gents clocks within our collection but this is the only one of this type and size.





## OBJECT 2

This brass object looks like it should make up part of a stand for a scientific instrument. Marked 'Swift & Son of London', we are particularly curious about the potential uses of the blue hemispherical glass lens.



## OBJECT 3

There are many horologists' tools within the Museum collection, some of which we have found easy to identify and some, like this one, we have not.



## OBJECT 4

This clock has us scratching our heads. Does it have a specific purpose? Is it a prototype? Or perhaps it is a composite piece which has been made for fun by a horologist or enthusiast? If anyone can offer any insight, we would be truly grateful.

If you can help Alex with information on any of these items, please email her directly at [alexbond@bhi.co.uk](mailto:alexbond@bhi.co.uk) or write to her here at Upton Hall.

# Universal Genève Compur Chronograph

*An Overhaul, But the Dial's Originality is Questioned*

Rob Horan MBHI



Figure 1. Overall view of the watch.

It's refreshing to get something new in the shop. Although a chronograph in itself is nothing new, a Universal Genève is – I don't see this brand very often. This particular watch is a bi-compax\* 'Compur' model equipped with a manual-wind calibre 285, it is 14 lignes (31.7mm), and 6.05mm high, it beats at 18,000 BPH and has running seconds at 9 with centre seconds for the chronograph, and a 45 minute counter at 3. It was manufactured in 1940.

Overall condition was good, given the age and the fact that the crown and pushers are not sealed, **Figures 1 and 2**. Note that the dial does show slight damage, consisting of minor staining and some discolouration (more on this later). I uncased the movement and set to work. As soon as the dial was removed there were signs of water ingress, **Figure 3**, not a promising start. As expected in a watch that hasn't been recently serviced, the oil and lubricants have long ago dried and there was residue most everywhere, including on the centre wheel rim, **Figure 4**; a sure sign of over-oiling is when oil remnants are visible on the rim of a wheel. My first task was to clean up the rusted keyless work and chronograph work. All of the loose rust and dirt particles were brushed off (no use contaminating your cleaning fluid) and the rust spots were tidied up with a brush and some baking soda mixed with water to a thick paste. The acting surfaces were rust-free, therefore all the original parts were re-used. Finding spares



Figure 2. Movement view.

would be a challenge, given the age and rarity of this model. With the rust and loose particles out of the way, all the parts were run through the ultrasonic cleaner and after rinsing and drying, were inspected in detail.

Overall the remainder of the movement was in very good condition. I did find one slightly rusted pivot, **Figure 5**, but after mounting the wheel in the lathe and applying diamantine (aluminium oxide) paste with a piece of pegwood, it polished up just fine and showed no damage, **Figure 6**. Keyless work looks much better now with the rust and dirt removed, **Figure 7**. The movement was assembled and lubricated to BHI standards. Two items that I often find mis-adjusted on chronographs are the depthing between the driving wheel (attached to the extended fourth wheel pivot) and the transmission wheel; and the depth between the transmission wheel and the chronograph wheel ('seconds wheel'). The teeth on all of these wheels are vee-shaped, which means that if they are too deep, there is little to no clearance, and as a result, the slightest debris could stop the movement, **Figure 8**.

\* 'Compax' was a trade name applied by Universal Genève denoting that a watch had complications, that is, indications other than the time of day. On their fiftieth anniversary, UG introduced the now-famous Tri-Compax, a watch with three complications (chronograph, triple-calendar, phases of the moon). Some collectors later began to retrospectively apply the word 'compax' to indicate the number of sub-dials on any chronograph, but this is not strictly accurate. —Tech.Ed



Figure 3. Rust on keyless work.

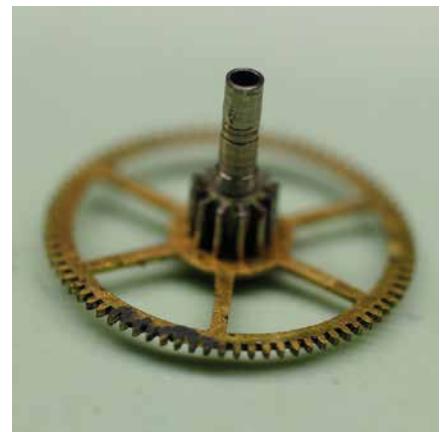


Figure 4. Centre wheel with old oil residue.



Figure 5. Rust on pivot.



Figure 6. The same pivot, polished.

The standard depth adjustment between the driving and transmission wheels should be  $\frac{2}{3}$  of a tooth, and between the transmission and chronograph seconds wheel it should be  $\frac{1}{3}$  of a tooth, that  $\frac{1}{3}$  depth being measured on the chronograph seconds wheel teeth, which are half the size of the transmission wheel teeth. I use my binocular microscope during adjustment, if you don't have one, a 7–10X loupe is required, especially for the chronograph seconds wheel teeth which are very small.

As you service more and more chronographs, you will discover that some individuals adjust the engagement of these three wheels to be as deep as possible, eliminating any backlash, in a misguided attempt to make the centre seconds 'sweep' smoothly; this is wrong. The correct way to eliminate/reduce jumpiness in the sweep-seconds hand is by the adjustment of the chronograph sweep-seconds friction spring. The friction is regulated by biasing the spring more or less against the underside of the chronograph seconds

wheel. Some botchers, however, simply adjust the spring so that it exerts excessive force, so much force that the balance amplitude is seriously affected when the chronograph is engaged, but of course the sweep is smooth, so that somehow makes up for it! I had a Speedmaster in recently that would stop when the chronograph was engaged. The depthing was misadjusted, and removal of the chronograph seconds wheel revealed a tension spring sitting at a 45-degree angle in relation to the plate, this was well beyond the normal position and it was exerting far too much force. The tension needs to be carefully adjusted until the seconds hand is just smooth, with minimal effect on the amplitude. It's important to consider as well that these vintage movements are slow-beating at only 18,000, and the hand will always have slight jumpiness to it – even with all the adjustments to optimum specs. The friction spring is not lubricated where it presses against the underside of the chronograph seconds wheel, it



Figure 7. Keyless work cleaned up.



Figure 8. The chronograph wheels require careful depthing in their various engagements.

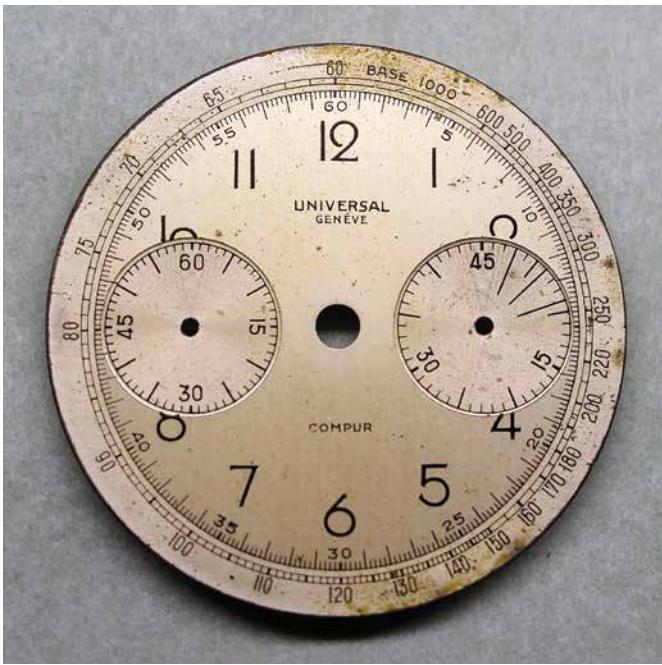


Figure 9. Overall view of the dial.

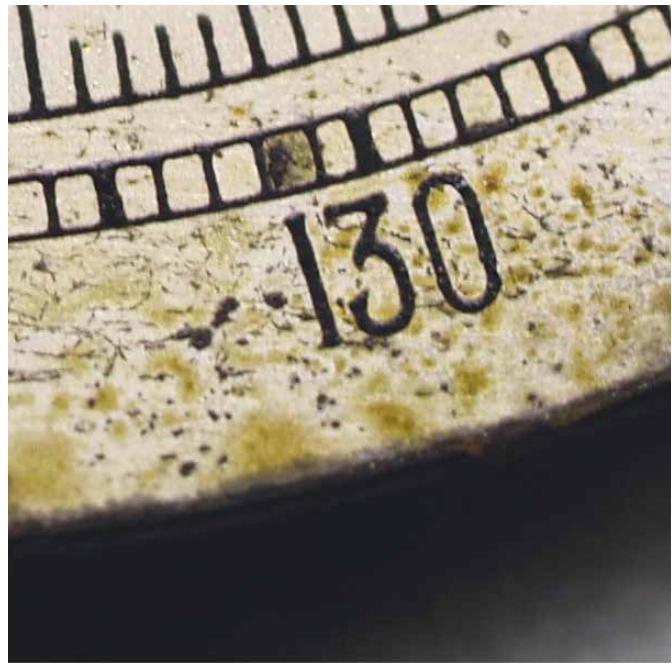


Figure 10. Close-up of the dirt on the dial.

should be clean and dry. Some customers measure the quality of your workmanship by the smoothness of the seconds hand sweep, believing that the smoother it is, the better the quality of the servicing; as we know, one has nothing to do with the other, especially on slow-beat movements. I make a point of informing the customer of these facts before I agree to the servicing, it's a good preventative measure.

An interesting discussion came up during the servicing, the owner mentioned that he was unsure if the dial was original or restored. The owner believed that the dial was original, but before sending in the watch, he had taken a few photos and posted them on a Universal Genève internet forum asking

for feedback. To no one's surprise, a self-appointed 'expert' stated that it was without a doubt: a 're-dial' (these self-appointed 'experts' are plentiful and exist on all the various forums). This expert cited numerous reasons as to why it was a re-dial, claiming that the printing was not 'crisp' pointing out a printing ink 'bleed' just before the 130 marker on the tachymetre ring, claiming that the lettering was crooked, and so on. As expected the owner was somewhat concerned and began to question his own judgment. I don't consider myself an expert in areas beyond the movement, but agreed to have a look at the dial, and share my findings.

Looking at the dial I could find no reason to doubt its

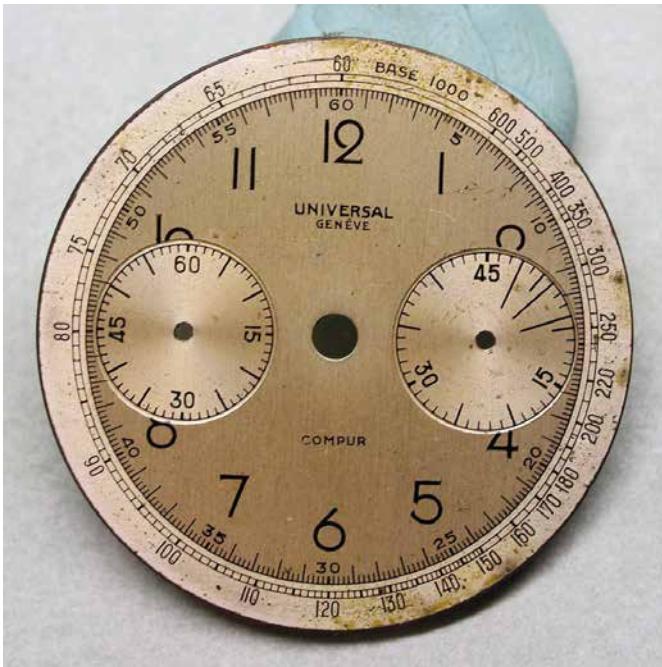


Figure 11. Two-tone dial effect.

originality, **Figure 9**. The printing looked crisp, the aging was as expected for a 77 year old dial, so I went ahead and looked at each of the points that our internet forum ‘expert’ had brought up. First off was the ‘ink bleed’ at the 130 tachymetre position, as you can see in the close-up in **Figure 10**, it’s nothing more than dirt. As for the alignment of the lettering, I laid out watch paper on the dial as a straight edge and confirmed that all the lettering was lined up and centred correctly, and a close-up view of the dial showed crisp printing. As a final confirmation, if you angled the dial a certain way,

there appears a two-tone effect, an effect that I doubt a re-dial would duplicate, **Figure 11**. I sent photos of all these points to the owner, and offered my ‘non-expert’ opinion that to the best of my knowledge and experience, the dial appeared original. After returning the watch, I never gave it much thought, that is until I started to write this article, then today, something interesting happened.

An email arrived from the owner. He sent me a link to Christie’s auction, the New York office, and their ‘Rare Watches & American Icons’ sale which took place on 21 June 2017. This watch we have been discussing is listed as ‘Lot 1’ in the catalogue, the dial is the same as I have just shown you, and includes a ‘Universal Extract from the Archives’ a document that proves without any doubt its authenticity – dial and all. As you can imagine, the owner is quite pleased, not only with seeing his watch up for sale, but getting confirmation (from the manufacturer, no less) that it’s all original, as we suspected all along. When it comes to verifying the authenticity of a watch, be careful that you remain within your sphere of expertise, if you’re not sure, seek the advice/recommendation of others. Internet watch forums, as a reliable source of information, should be approached with caution. For many years I have been a member of various forums, and I have seen far too many internet ‘trolls’ and self-appointed experts who like nothing better than stirring the pot. No doubt there are a few knowledgeable participants on internet forums, but they can at times, be outnumbered by the trolls.

Vintage watches will almost always have age-related issues: wear, damage, botched work, rust, etc. Rusted parts don’t always need replacing, if the component functions properly pitting in a non-critical area is of little concern, in many cases spares are non-existent, and making even a simple lever or arm can take up a lot of time, and cost a lot of money. Originality is important to vintage collectors, a slightly damaged original part is valued more than a perfectly-made replacement.

There are many issues surrounding the topic of dials and their originality. In next month's *HJ*, our Technical Editor, Justin Koullapis Hon MBHI, will address some of these in a short article.

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# Branch Reports



Figure 1. Roger Stevenson presenting his talk.



Figure 2. Roger with his wife (Mary) setting up, with the videos referred to in the text.

## Bristol

Despite the recent break in the gloriously warm and sunny weather, it was still hot enough for those of us in the room to feel the need for additional refreshments.

Chairman David Spicer welcomed us to the June meeting and our Programme Secretary, Owen Gilchrist, introduced our speaker. I had looked forward to this talk with some considerable anticipation (as I'm sure it had been by others). The speaker was Roger Stevenson (employed by Frodshams) who had come to talk to us about that outstanding replica of Harrison's H4, a labour of horological love started by Derek Pratt. Unfortunately, Derek died before completion but, as there had already developed a relationship between him and Frodshams, they offered to complete it.

The principal part of his presentation was a video showing the part played by Derek Pratt in inaugurating the project, the various specialists who were also involved, such as engravers and dial makers and the work done by Frodshams to complete the piece. Thoroughly interesting, engaging and absorbing. After his talk he showed us a range of tools and

various equipment used by Derek Pratt in the making of H4.

Roger and Mary, his wife, had also brought along a goodly supply of videos. There were three titles: the story of Derek Pratt and the creation of H4, including the work done by Frodshams and called *A Detailed Study of H4, Engine Turning by Martin Matthews and the third was Four Generations of Watchcase Making* (a profile of Martin Matthews). So far, I have only seen the one about H4, which was delightful, but I'm sure that the others will be equally pleasurable.

Two points worth mentioning are that the videos are very good value at only £10 each, and that all profits from the sales of these videos go to the Prostate Cancer Charity (the disease which killed both Derek Pratt and Martin Matthews). Therefore, if you buy one or all of them, you will have the double pleasure of getting something that you enjoy and doing some good at the same time.

An excellent evening.

MARTIN DICKINSON MBHI

## Lincolnshire

Members were delighted to welcome not only Ashley Strachan to speak to them but also three visitors, including a return visit by Ellie Baumber, Museum Manager at Upton Hall. Ashley's talk was ostensibly about the Japanese clocks, 'Wadokei' from 1549 to 1872. However, the sensitive background information into the Japanese culture, both of that period and today, gave us a fresh insight into this country which has had such a rich history and now, a vibrant future. The ingenuity, craftsmanship, patience and politeness of the people Ashley has met in the last seven years has obviously deeply impressed him, and the meeting found the historical and cultural information just as interesting as the horological thread.

Between 1582 and 1641, various religious groups visited Japan as missionaries, bringing with them examples of European clocks of the time. When the borders were closed in 1641 and Christians slaughtered, there was a period of 250 years, the Edo Period, when outside developments in clockmaking passed by unnoticed and, you may say, 'time stood still' in Japan.

Time was kept in the temporal tradition, six 'hours' to mark from dusk to dawn, and six to mark from dawn to dusk. Clocks just were not needed to live at that time; most people worked on the land or at sea; you got up when you could make out three lines on your hand, and stopped when you literally couldn't see your hand in front of your face. Life was slow, as

# Branch Reports

travelling by foot was the only transport for the majority, and people didn't even need to go to church, as each house had its own shrine in which to pray. Because of earthquakes and the fire risk to the Japanese wooden houses, very few Wadokei survive, especially after the 1924 disaster in which 380,000 houses in Tokyo were destroyed.

## Oxford

The presentation for our well attended June meeting was by our Chairman, David Shires, and his subject was the construction of his month going regulator.

David was keen to show to those who had not yet made a clock, that a high standard could be achieved with quite simple tools and a fairly basic workshop. Some of his many photos showed his tools and spare bedroom, which serve as his workshop.

He started by showing the progression of his clock building skills. His projects included an 8-day regulator made by following John Wilding's plans, a striking longcase clock and two wall clocks. All of these were finished to very high standards. While searching for his next challenge, and wishing to continue the regulator theme, he studied John Wilding's ideas for a month going regulator, but wanted to keep all the wheels within the plates. He also wanted to use

Space limits extending this report of Ashley's fascinating talk, but if you have the opportunity to invite him to your branch, you will not be disappointed.

ALWYN N. KIRK HON MBHI

jewels for the pivot holes and pallet, so the upshot was he had to design a clock from scratch.

David took many photos during the 12-month construction period so was able to show, in great detail, all the steps he took and the challenges he overcame, including sourcing the pivot and pallet jewels. A very timely article in the *HJ* on barometric compensation gave the finishing touch to a magnificent timepiece, which performs as well as it looks.<sup>1</sup>

Jeremy Barrow gave the vote of thanks which was echoed by all present.

DAVE HAMER

## ENDNOTE

1. M. Pipes, 'Making a Barometric Compensation', *The Horological Journal*, 158 (October 2016) 453–458.

## Sherwood

In March 2016 the Sherwood Branch held its first meeting at the workshops of Ross Alcock at Welbeck. A programme of talks and events for 2016 and 2017 was drawn up covering a wide variety of topics from horological mysteries to the racing cars of George Daniels, from the history of Upton Hall to chocolate making! All, of course, dependent on timing in all its forms.

As with many branches, finding a suitable location to which members will be attracted is vital to their success. Sherwood Branch has been extremely fortunate to have had the free use of space in Ross' workshop, however due to expansion plans this space will no longer be available from 2018. If alternative premises are to be found it is very likely there will be costs

involved that until now the current loyal band of members and supporters of the Sherwood Branch have not had to consider. This, coupled with expenses for speakers, makes it difficult to see how the Branch will be able to continue without a significant and sustained increase in numbers to help raise the necessary funds should a new venue be found. At the AGM this coming November, the committee will consider all options but currently the outcome would, sadly, seem to be the closure of the Branch.

Meanwhile the programme for 2017 will go ahead as scheduled.

ROSS ALCOCK

## South London

For our July meeting we were extremely grateful to Anna Rolls for stepping in at very short notice to give us a lecture titled 'The Ups and Downs of the Greenwich Time Ball'.

On 28th October 1833, the Lord's commissioners of the Admiralty gave notice,

*'That a ball will henceforward be dropped, every day, from the top of a pole on the eastern turret of the Royal Observatory at Greenwich at the moment of one o'clock PM mean solar time.'*

And thus, the Greenwich Time Ball was born. Anna, who works as a conservator at NMM Greenwich, then proceeded to give us a detailed history of the trials and tribulations, from its completion in 1833 to the present day.

The ball, some 5ft in diameter was to be dropped at 13:00 (not 12:00 as that was when astronomers would be making observations) to enable ships to accurately set their chronometers.

Initially the drop was controlled by hand, as Charles Dickens put it, 'a man with a practiced hand upon the trigger, and a practiced eye on the dial.' The dial was Graham No.3, originally installed at the observatory in 1750 for use as a sidereal transit clock, it was converted to show mean solar time for use with the time ball.

In 1852 the release mechanism was converted to operate by an electrical impulse from the new Shepherd master clock

(Continued on page 376)

# Branch Reports

## South London (Continued from page 375)

and, in 1919, the ball and lifting mechanism upgraded by E Dent and Co.

The weather has played its part in the ball's troubles. In 1855 disaster struck when the ball was blown down in a storm and in 1997 a lightning strike destroyed the now PC controlled timing system and again in 2011.

After completing the details of its history Anna then went

on to describe the difficulties in coordinating all the resources of a modern museum organisation to keep the ball, first installed 184 years ago, working for the public to enjoy today.

In proposing a vote of thanks our chairman Alan White thanked Anna for sharing with us the history of this iconic object and the inside story of what it takes to keep it working.

PETER STEWARD

## South West – May

Our May talk was given by Owen Gilchrist from neighbouring Bristol Branch. He presented on 'Swiss, French and Russian Watch Movements with the same DNA'. With the aid of a video camera linked to a large screen, Owen was able to demonstrate the similarity of a wide range of watch movements. This included comparison of a number of Russian and Swiss movements that have minor differences between them such as stem size, bolt screw length and setting lever layout. However, the main differences are in the quality of the finishing, with Swiss movements finished to a much higher standard. The talk generated a range of discussions, including the possibility that post war (WWII) the Swiss licenced movement designs to the Russians, hence the similarities between movement layouts.

## South West – June

Sid Lines provided our June talk with a presentation on 'The Restoration of a Bracket Clock'. The clock by 'Barling', a Kentish maker from 1845–1875 had been bought in a BHI Branch auction and came in pieces within a box. Even before inspection, Sid already knew that there was a variety of parts missing and would therefore require some work. However, without a similar clock to go by, Sid provided an insightful description of the process he went through to identify and size the required parts. This included the use of AutoCAD to allow visualisation of parts and their interconnectivity. This approach allows minor adjustments to be made on the computer, prior to finalising the required dimensions to inform part making. In total it took Sid approximately 100 hours to complete the restoration, including the odd mistake and remaking of parts along the way. In addition, the case required some attention including missing fret work, material and re-veneering.

## South West – July

July provided an RAF and Military themed Branch meeting. It started with Chris Perry-Smith providing an update on the rescued RAF dial clock that was previewed in our January talk.<sup>1</sup> The movement was stripped down for a clean with a number of issues noted during the process. Chris described, and demonstrated, some of the methods he uses, including the removal and refitting of the mainspring by hand which he was taught as an apprentice. The talk generated discussion with members including methods used to clean and dry movement parts and the use of AG140 Straight Mineral Gear Oil that has no EP (Extreme Pressure) additives, thus avoiding corrosion of alloys within bronze.

Bill Hitchings brought in a number of military pieces including a Royal Flying Corp Timer that was used for bombing raids, **Figure 1**, accompanied by a scale model of a Handley Page Heyford Mk III heavy bomber biplane. In addition, he brought in three examples of Hamilton Greenwich Civil Time watches that have 24 hour dials and included one in a rare shockproof box with papers, **Figure 2**.

To round off the evening, Lewis Spiller brought in a selection of timepieces including a Vacheron deck watch, a G.S.T.P. Omega pocket watch, a Hanhart German aviator's chronograph watch, a WWI pocket watch, a Smiths desk clock including a broad arrow mark and a 1941 Elliott clock with George VI cipher.

## ENDNOTE

1. 'Branch Reports – South West', *The Horological Journal*, 159 (April 2017) 184–185.



Figure 1.



Figure 2.

## Jeffrey Formby Antiques

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DANIELS (G.): <i>"All in Good Time"</i>	O/P 2006	£30.00
HASPELS (J.J.L.): <i>Musical Automata</i>	O/P 1994	£85.00
LUCCHINA (G.G.) & PERKINS (A.B.): <i>The Watchmakers' Staking Tool</i>	O/P 1987	£50.00
MOORE (A.J.): <i>The Clockmakers of Bristol 1650 - 1900</i>	O/P 1999	£350.00
MOORE, RICE & HUCKER: <i>Bilbie and The Chew Valley Clock Makers</i>	O/P 1995	£250.00
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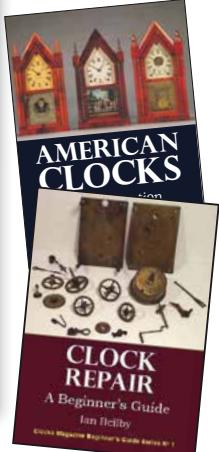
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# Horological Calendar

## August

**TBA** – **Lincolnshire Branch**, Annual Visit.

**TBA** – **Sussex Branch**, Speaker TBA, ‘Restoration of Turret Clocks and Other Public Clocks’, 7:30pm, location to be announced.

**2** – **St Albans Clock Club**, Bring and Discuss, 7:30pm, The Garden Room, The Methodist Church, North Common, Redbourn, Herts, AL3 7BU. For more information, contact Bill Wolmuth on 07802 696777.

**3** – **South London Branch**, Speaker Bill Wolmuth, ‘20th Century Domestic Clocks of England and Wales’, 7:30pm for 8:00pm start, The White Hart Barn (Godstone Village Hall), Godstone, Surrey, RH9 8DU.

**9** – **Sheffield Branch**, Bar and Discussion, 7:30pm, The Fat Cat, Alma Street, Sheffield, S3 8SA.

**19** – **Ipswich Branch**, The Annual Turret Clock Tour in the Braintree area, itinerary to be confirmed.

## September

**6** – **South West Branch**, Speaker Ben Wright, Subject TBA, 7:45pm, Exeter School Daw Building, Manston Terrance, off Magdalen Road, EX2 4NP.

**6** – **St Albans Clock Club**, Speaker Ron Rose, ‘Thomas Cole, his Business & Family Influences’, 7:30pm, The Garden Room, The Methodist Church, North Common, Redbourn, Herts, AL3 7BU. For more information, contact Bill Wolmuth on 07802 696777.

**6** – **Wessex Branch**, Speaker Clive Steer, ‘Designing and Building a Large Sculptural Clock’, doors open 6:30pm for 7:30pm start, Lyndhurst Community Centre, SO43 7NY.

**7** – **South London Branch**, The Beresford Hutchinson Lecture, Speaker Dr James Nye, ‘A Quaker Clockmaker in Chelsea’, 7:30pm for 8:00pm start, The White Hart Barn (Godstone Village Hall), Godstone, Surrey, RH9 8DU.

**9** – **Scotland Branch**, Speaker Richard Stuart, ‘Making the Magnificent and Elusive William Gray Lantern Clock’, 2:00pm, Canons’ Gait Bar, 232 Canongate, Edinburgh, EH8 8DQ.

**9** – **South London Branch** Visit to The Time Workshop.

**9** – **Yorkshire Branch**, Speaker and Subject TBA, 1:30pm, Bradford Industrial Museum, Moorside Mills, Moorside Road, Bradford, BD2 3HP.

**11** – **Lincolnshire Branch**, Quiz (Mervyn Hobden), 7:30pm, Birchwood Leisure Centre, Birchwood Avenue, Lincoln, LN6 0JE.

**13** – **Cheltenham Branch**, Speaker David Boettcher, ‘Evolution of the Waterproof Watch’, 7:30pm, The Cheltenham Area Civil Sports Association (CACSSA) Club, Tewkesbury Road, Uckington, Cheltenham, GL51 9SL.

**13** – **Sheffield Branch**, Speaker John Dutton FBHI, ‘Balances and Escapements’, 7:30pm, The Fat Cat, Alma Street, Sheffield, S3 8SA.

**21** – **Kent Branch**, Speaker Roger Stephens, ‘The Making of the Harrison H4 Reproduction’, 7:30pm, Brents Tavern, Upper Brents, Faversham, ME13 7DP.

**25** – **Bristol Branch**, Speaker Andrew Crisford, ‘Breguet Watches’, 7:30pm, The Globe, Newton-St-Loe, Bath, BA2 9BB.

**26** – **Ipswich Branch**, Speaker and Subject TBA, 7:00pm for 7:30pm start, Bramford Church Hall of St Mary the Virgin, IP8 4AT.

**26** – **Oxford Branch**, Speaker Colin Ferguson MBHI, ‘Making Your Own Tools and Making the Late Harrison Regulator’, 7:30pm, The Barn at The Crown & Thistle Hotel, Bridge Street, Abingdon, Oxon, OX14 3JD.

**26** – **Sussex Branch**, Auction, 7:30pm, Ringmer Football Club, Lewes, BN8 5QN.

**28** – **Sherwood Branch**, Speaker and subject TBA, 7:00pm for 7:30pm start, J A Alcock & Sons Workshop, 3 East Workshops, Harley Foundation Studios, Welbeck, Worksop, S80 3LW. For more information, email the Branch ([sherwood.bhi@hotmail.com](mailto:sherwood.bhi@hotmail.com)).

For ongoing updates to the Horological Calendar throughout the month please refer to the BHI website: [www.bhi.co.uk](http://www.bhi.co.uk)

### BHI Directors and Responsibilities

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# BHI Courses 2017

Date	Tutor	Workshop
<b>August</b>		
4-6	Wheel & Pinion Cutting and Making Fly Cutters	J Arnfield Clock
7-11	Basic Clock 1	S Silva Clock
14-18	Basic Mechanical Watch	J Murphy Watch
21-25	Basic Clock 2	J Reynolds Clock
<b>September</b>		
4-5	Engineers Small Lathe, Drilling and Milling Machines	J Reynolds Clock
8-10	Basic Quartz	M Selley Watch
11-15	Basic Clock 1	S Silva Clock
18-22	Service and repair of day/date automatic watches	J Murphy Watch
25-29	Antique Clock 2	J Reynolds Clock
<b>October</b>		
2-6	Basic Clock 2	J Reynolds Clock
9-13	Basic Mechanical Watch	J Murphy Watch
14-15	Basic Hand Skills	R Alcock Clock
16-20	Basic Clock 1	S Silva Clock
23-27	Basic Mechanical Watch	J Murphy Watch
<b>November</b>		
6-10	Basic Clock 1	S Silva Clock
13-17	Chronographs	J Murphy Watch
24-26	Advanced Quartz Watches	M Selley Watch

If a course is full we can put your name on a waiting list  
and let you know when new spaces become available.

## Tuition Costs

Please note new pricing for courses from January 2017.

All prices include lunch but not B&B

Clock Courses	Watch Courses
1 day - £140	1 day - £150
2 day - £280	2 day - £300
3 day - £420	3 day - £450
5 day - £700	5 day - £750

## Accommodation

We can also provide non-ensuite accommodation during the course on a B&B basis at £40 per night. Courses may change subject to demand. We cannot guarantee that a particular tutor will be teaching the course.

For bookings, syllabuses and details please contact Zanna Perry on 01636 817603, email: zanna@bhi.co.uk

**For a complete list of courses please refer to the BHI website: [www.bhi.co.uk](http://www.bhi.co.uk)**

Date	Tutor	Workshop
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## December

4-8	Basic Mechanical Watch	J Murphy	Watch	<b>FULL</b>
11-15	Basic Mechanical Watch	J Murphy	Watch	

## New Members & Upgrades

### Associates

Adrian Cole	Midlands
Alexandre Gomes Jardin	North London
Cameron Fraser	Wessex
Christopher Brown	Leicester
Darren Thomson	Milton Keynes
David Bowey	Sherwood
Donald Saff	USA
Guy Littlewood	Milton Keynes
Jochen Wuttke	Switzerland
John Skipper	South London
John Burnell	Merseyside
Karl Smith	South London
Lurisha Finger	USA
Mathew Moore	Oxford
Michael Bajenov	Australia
Nigel Willetts	Merseyside
Patrick Logsdon	USA
Raymond Wood	North London
Richard Hunt	Cheltenham
Richard Dawes	South London
Sion Roberts	South Wales
Tim Fletcher	Ipswich

## Members' Sales & Wants

**For Sale:** A stereo microscope, £275, free delivery to UK addresses. If interested, please contact Zuber Matin on 07967 425939.

Members' Sales & Wants Adverts are free to individual BHI members. Contact Eve Makepeace for more details. Tel: 01636 817602 Email: eve@bhi.co.uk

# Bench View 158

*Making Things*

Mike Flannery FBHI



**M**ost of the tools I make are made for a reason, or to be more precise, many reasons. Firstly, I convince myself that I need the tool; that bit is usually fairly easy. Secondly, I cannot find the appropriate tool to buy, cannot afford to buy it or am too tight to buy it. Thirdly, because I want to! I guess there are other reasons but I think the third is most important. However, with my sensible head on, I have to make a calculation, even if only a nominal one, as to the cost benefit of making a tool. Factoring in the cost of materials and labour, both the time taken in making the tool and the time that it takes me away from the bench, where I should be, working to make some money. That total sum has to be set against the cost of buying a tool, if one is available. However, there is an element of enjoyment in making something from scratch that I enjoy, and in this harsh world you cannot put a value on a bit of enjoyment, especially if you can partially justify it as work.

I had been searching for a long time for a vertical micrometer, sometimes called instrument makers' micrometers. They have not been listed as being available from Moore and Wright for about 40 years. Searches and personal adverts in various online forums produced nothing that I could afford, and so I set out to make something that would broadly do the job. **Figure 1** shows what I eventually carved out of a lump of aluminium. It took me quite a time, some fairly dodgy machining set ups, and a couple of heart-in-the-mouth moments, and I was wading through aluminium swarf for days after.

Once I had the shape, perhaps best called the foot, carved out of the aluminium, the micrometer body was fitted in a 19mm diameter brass insert that in turn would fit in the top of the foot. I had bought two micrometer bodies, one Imperial and one metric, I was covered for all eventualities. However, after having the foot on my bench and looking at it critically for quite a time, I decided to alter my original design and make more inserts that would fit in the foot and which would accept other tools as well as my micrometer.

Of course, fairly soon what gradually emerged started to become an oversized staking set. Friends will realize that I used to have a serious problem with staking sets, a problem of acquisition which I thought was in remission. However, I have determined that when you stop buying staking sets, but start making them, the problem, far from being in remission, might be getting out of hand. I was perhaps in staking set denial.

I made some interchangeable brass inserts which would take 10, 8, 6 and 4mm diameter stakes. Looking at good



Figure 1.



Figure 2.

quality commercial staking sets, the insert can be bored eccentrically to allow for some adjustment in radial accuracy, and this is what I did. So far so good. I also made a selection of stumps to fit in a revolving base plate, like a proper staking set.

The next part of the development came when I saw a very positive review of a clockmaker's staking set produced by J Malcom Wild.<sup>1</sup> James A Lea 'The Village Clockmaker' made a number of glowing references to the device in one of his videos.<sup>2</sup> Those of us who are fortunate to have tools made by JMW know the sort of sublime quality that he produces. I know that his clockmaker's large staking set is a precision tool, and would be a real asset to my shop. Looking at the JMW tool and my staking foot, reminded me of reading a book by Geo H Thomas, *The Universal Pillar Tool*.<sup>3</sup> This is an excellent book well worth a read, if only for lots of information on different lathe set ups. I decided that I would attempt to make myself a bench top tool that was designed to be able to support a number of functions. Sadly, however, experience shows that a tool that promises to do more than two things at a time or is prefaced with the word 'universal' is a disaster waiting to happen. There are some excellent examples to counter this rather narrow, and some might say, jaundiced view, the Swiss Army knife being but one. For those interested there is a watchmaker's Swiss Army knife which has a cutting blade a case opening blade and a handy pair of tweezers.<sup>4</sup> So setting the design bar fairly low, I took pen to paper and came up with the rather snappy title of 'the Universal Clockmaker's

## Pillar Tool and Measuring Aid' (UCPT&MA).

Normal watchmakers' staking sets are common, in fact, in my shop they are rather too common, but the much larger sets for clockmakers are not often seen. I did not have the time to make patterns for aluminium or even cast iron castings, nor do I have casting facilities to make the castings but this would have been an interesting project, again there is the time cost of going to this level of detail, and in this case it is far too much for this sort of project.

Most of the tools I make are designed around the materials and the machining facilities that I have. I am very lucky in having a fairly well equipped workshop and a fairly wide range of machine tools. I am also fortunate in having a very high quality engineering company in the next town who will let me buy off cuts at very reasonable prices. The internet is a very good place to seek materials and, while you do not have to travel to buy the stock, you will pay a premium both for delivery and for small volumes of material.

If you have a small workshop the internet method of purchase is a good option as there is not a problem of material storage. Buying off cuts, as I do, can result in making the eventual tool to suit the materials you have got hold of, and you can end up with a much more bulky device than might be the case if you had shopped for exactly what you needed, or had designed.

In fact, this was the case with my eventual device. The engineering firm had some perfect off cuts of 120mm diameter bar which I bought for the base. The column on the GHT pillar tool is  $\frac{7}{8}$ in diameter, mine is 14mm, possibly as I have a 14mm reamer. In hindsight I rather wish I had made the effort to go to the 1in or 25mm bar for a number of reasons, mainly visual, **Figure 2**, but in all honesty, I do not really need the rigidity that the large bar gives. If I had gone for the larger bar I would have had to do much more work on the top supports. From a visual sense the bulk of the base makes the 14mm dial column look rather thin. In my design, the top aluminium supports are 40mm square sections.

I have a Colchester Chipmaster on which I did most of the turning. It took me a while to get the top and bottom faces parallel but I think they are pretty close. I drilled the column hole and the two other holes on the Tom Senior milling machine. I did try to set up the base in the four jaw chuck for off centre drilling but even at lowest speed the out of balance forces made even the Colchester jump about, so I used the mill.

I made two different thickness lower anvils, mainly as I had two lumps of brass that seemed to fit the bill; they pivot on 10mm diameter silver steel pins which fit into reamed holes in the base. I very much subscribe to the view that if you are going to make a mistake then make a big one and so I did. My eagle eyed reader will spot that around the outside edge of the lower anvil I have drilled two circles of holes. I will fit a small spring-loaded detent assembly to enable me to do some limited, but fairly accurate marking out. The top series is for 60 holes and the lower one is 27 holes. The top row of 60 is quite reasonable, giving a very wide range of options but why did I choose 27? I think it was because I had a bit of a rush to the head and thought that 27 could be factorised by both 9 and 7 – what was I thinking? I will need to drill a set of 63 holes and I then can use this to divide a circle into nine or seven parts. I am sure there must be a reason for me doing this, but I can not quite remember why – I am sure it will eventually dawn on me.



Figure 3.

Once the whole thing was broadly assembled, I made brass locking pieces. I used the top support and a 6mm diameter centre punch which I made from silver steel to mark out the holes for the small stakes. I have lower stakes of 3, 4, 6 and 8mm diameter and so I have holes for these to fit into. I have a larger 10mm hole which corresponds with a hole in the base to allow me to drift right through, **Figure 3**.

I have made some larger stakes which will fit into a hole in the base allowing me to rivet a wheel even on a centre arbor. To make the stakes I ordered a few lengths of different diameter silver steel. I quite like using silver steel over normal mild steel, you have the option of hardening the stake should you wish to and with a bit of time and effort you can get a very good finish. It is pretty important to take the time to get a good finish: if you have a damaged face on the stake obviously you will transmit that damage to the work which you are supporting on the stake. I do not generally harden the stakes as quite often I find I have to modify one for a special job. If you have hardened the stake this is tricky. Having a fair number of stakes or blanks is also worth the time it takes to make them, as you can simply alter them on the lathe to suit specific needs.

I have used the device for a few months and, of course, now would like to modify it further. Fitting a small precision chuck to the central arbor would be a good plan; this would copy the idea found on the Bergeron bushing set. In addition, making the central arbor accept 8mm watchmaker lathe collets would be advantageous, as would a simple watch maker's three jaw chuck attachment. In fact, there are many possibilities for adapting this tool, not all of them sensible but they may be fun to do, perhaps at some later date when I am not quite so busy.

Looking back, was this job worthwhile? In simple financial terms it certainly was not. I should have bought the JMW tool in the first place. My UCPT&MA is nowhere near as beautiful as the JMW, but it does the job and has proved its use in the shop. It might be ugly but it works.

## ENDNOTES

1. J Malcolm Wild, [www.j-m-w.co.uk](http://www.j-m-w.co.uk)
2. James A Lee, on the internet as 'The Village Clockmaker' and can be found at [www.jamesleeclocks.com](http://www.jamesleeclocks.com)
3. Geo H. Thomas, *The Universal Pillar Tool*, (Poole: Model and Allied Publications, 1982).
4. Victorinox Watch Opener 0.2102, <https://www.swiss-knife.com/en/victorinox-watch-opener-red.html>

