Paul Roberson FBHI is the new Chairman of the Guild and takes over from Chris Papworth MBHI, who steps down after four years in the post. Robert Ball FBHI is the new Vice Chairman.

Paul was elected into office at the Guild’s AGM, which was held at The Clockworks, London, on May 9.

‘As President of the Guild, I am always interested to hear of the new initiatives which the Guild become involved with as it strives to support our Country’s working clock and watch makers,’ added Jools

‘I will watch with interest the further strides it makes over the next couple of years.’

Paul, who has held the post of Chairman before, says he is looking forward to continuing and building on the sterling work that Chris has achieved during his term of office.

He said: ‘I would like to say a big thank you to Chris Papworth who bravely took on the role of Chairman for four years, instead of the normal two year period. During this time we have made great strides at the Guild and I now feel that we are one of the most prominent horological organisations within the UK.

‘I hope I can follow in his footsteps and continue to push forward with new initiatives to support our member.’

A clockmaker at the Palace of Westminster for the last 13 years, Paul previously worked at Fish Brothers, East London, after graduating from Hackney Technical College, where he studied horology.

You can read Paul’s first ‘Message from the Chairman’ on Page 2. There’s more Guild news, including a chance to meet our two new Directors on Page 12.

£2m Royal Tompion under the hammer!

As TimePiece went to press, one of the most valuable clocks ever to appear at auction, The King William & Queen Mary Royal Tompion, was set to go under the hammer at Bonhams and expected to fetch in excess of £2million.

More details in the next TimePiece.

Tompion’s ebony repeating table clock. © Bonhams

Masterworks of Time

One of the most important and comprehensive private collections of timepieces ever assembled, including work by Breguet, Daniels, Dent and Patek Philippe, has been unveiled recently by Sotheby’s, London, and is valued at between £11-20m.

You can find out more on Page 11.

Margetts, London No1, c1778. © Sotheby’s

Supporting the Industry for more than 100 years

TIMEPIECE www.bwcmg.org
Hello and Welcome

Firstly I would like to say hello to everyone reading this column – I am Paul Roberson, your new Chairman, although it’s not the first time for me in the Chair. I held the post for two years, before Chris Papworth took over four years ago. I’d like to take this opportunity to say thank you to Chris who has done a wonderful job over his two terms. I hope I can continue to raise the Guild’s profile in the way that he has.

For those of you who do not know me, I left school (a long, long time ago) and worked as an apprentice watch/clockmaker at Fish Brothers Ltd, an East London chain of jewellers. I attended Hackney Technical College where I gained my BHI horological qualifications. I later became the workshop manager at Fish Brothers and continued to work there for many years.

Although my day job at Fish Brothers focused on watches, my passion has always been for larger mechanisms, such as clocks, motorcycles, steam engines, and anything mechanical. In 2006, I had a change of direction, becoming one of the clockmakers at the Palace of Westminster. We have plenty of larger mechanisms there, including one famous one you might have heard of, known as Big Ben…

Watches and clocks have been my life. I am passionate about them and the people who make and repair them. I am keen to promote our trade, in particular to young people at the start of their working lives who are investigating their career options.

I have no regrets becoming a watch/clockmaker myself and I feel there are lots of opportunities for those joining the trade.

The Guild today has lots of enthusiastic members. TimePiece has evolved and is now a publication members look forward to receiving, reading it from cover to cover. The current series of articles about CNC milling and how to produce watch and clock parts is proving very popular, as is the Guild’s Watch Parts Database. I have used this database myself to pass on and also to obtain parts not available from the material houses. It’s very useful and free to use – just go to www.bwcmg.org and click on the link.

The Board of Director’s has undergone a few changes of late. Sadly, long-standing and much-loved member Manny Bramsden has passed away. He will be sorely missed by everyone who knew him. See obituary on Page 13.

We also say goodbye to Roy Hunt, one of our longest standing directors, and also Howard Vyse. I want to thank them both for their service and dedication over the years. We welcome back Frank Boswell, a former director, and also greet watchmaker Alex Photi for his first term of office. I look forward to working with them both.

Bob Moir, as everyone will know by now, has stepped down from his post of Secretary – the position is still vacant – and Lionel Blowes has handed the Treasurer’s reigns over to Christian Dannemann. I’m glad to report that both Bob and Lionel will still remain on the Board. Read more about the changes on Page 12.

I will sign off now, but please do get in touch if you have any ideas for TimePiece or for the Guild in general. I look forward to hearing from you and working with you to continue developing the Guild for the benefit of both new and existing members. You can contact me on chair@bwcmg.org or by telephone on 07955 192263.

www.bwcmg.org

Message from the Chairman
Paul Roberson FBHI

I look forward to hearing from you and working with you to continue developing the Guild.

A new Watchmaker Apprentice Training School...

The new two-year watchmaking apprenticeship scheme is set to start in the autumn with apprentices benefitting from block release training at the new Watchmaker Apprentice Training School (WATS).

David Poole, Chair of GDETAC, is delighted that the scheme is almost ready to go and work on the final elements is now underway: planning the delivery, producing a budget and identifying apprentices.

David explained, ‘A Training Provider on the Register of Apprenticeship Training Providers is essential to draw government funding but these are usually commercial enterprises. They seek apprenticeships with large numbers, so the anticipated 15 watchmaking apprentices each year is not an attractive proposition.’

‘After ten rejections, there was an initial meeting with Uxbridge College to discuss delivery and we are still moving forward. They have wide experience of providing apprenticeships, although watchmaking is not one of them.’

The school for watchmaking apprentices is situated at Swiss Time Services (STS), the UK’s largest independent service centre. The MD Tony Coe and Commercial Director, Nick Towndrow, were both active members of the Industry Group developing the apprenticeship. It is a unique opportunity for apprentices to receive high quality, specialist teaching in a training room developed for the apprenticeship, facilities within the company will be used for case polishing, cleaning, etc.

If you are considering employing an apprentice, please get in touch as this is a big step forward for watchmaker training in the UK. Companies have commented that the employment of a young trainee can quickly become cost effective and, because of government funding, this scheme will reduce your training cost.

If you would like to learn more about the Trailblazer Apprenticeship, please contact: Matt Bowling, Industry Lead, matt.bowling@watchfinder.co.uk or David Poole, clocks@davidpoole.co.uk

Up-to-date reports, with photographs, on the progress of the Watchmaking Apprenticeship, by David Poole FBHI, are available on the Guild website. Go to www.bwcmg.org and follow the link.
Barrel Hooking
Guy Gibbons OBE, MIMechE, MBHI

A primary cause of mainspring fracture?

‘It’s working, see, and although it’s marked at £295, I can do it at £150 for you, Petal.’

Well something like that, I guess, as a few weeks later ‘Petal’ (one of my esteemed and regular customers) rang up to say that her flea-market acquisition, Figure 1, didn’t seem quite right. Technically it was working, but that the mainspring would take only a couple of turns before slipping meant it certainly didn’t go for a week as Monsieur Japy and his frères had intended.

‘Belge noir’ I said, thinking my sophisticated grasp of the French language might impress. And it did, even when it came to sucking my teeth and saying ‘I’m afraid it’ll be expensive as I have to strip the movement right down to get at the mainsprings’. Of course expensive is relative, but with servicing I would be charging more than the £150 she paid for the clock, a sum that she was quite ready to pay for her new acquisition.

The fault proved to be a worn barrel peg coupled with a damaged mainspring eye – Figure 2. Although seemingly in otherwise good condition, the barrels and springs had ne’er seen a trace of lubricant since their last full service probably decades ago, and the resultant shards of brass were doing the now heavily scored barrel arbor journals no favours at all.

So why do mainsprings tend to get damaged (crack at the outer eye)? As an engineer who spent much of his former career trying to understand why steel fractured (cracked), mainsprings have been the subject of some on-going research by me, but my understanding is still far from complete.

Figure 3 shows a typical going barrel mainspring both fully unwound and fully wound. Looking at the outer end, one can see that there is quite a change in angle between fully wound and fully unwound. If this occurred just once (say on initial wounding), this might result in micro-crack initiation at the eye but no subsequent crack propagation. The sharper the outer corners of the eye the more likely is crack initiation.

Unfortunately this does not happen just once, and over the years the cyclic (weekly wounding) change in the bend angle and the consequent high localised cyclic bending stress at the eye will tend to result in crack propagation from the initiation site (in this case, ‘tearing’) and consequent deformation of the eye as the tear starts to roll back like a sardine tin lid (Figure 2 inset).

Factors reducing the likelihood of crack propagation include the rotational freedom* at the hooking point, the barrel fill, the spring thickness and material properties, and whether the spring is wound hard-up every wounding. Moreover, many of the factors are difficult to control in practise, so all I can suggest at present is to ensure the barrel hook is in good condition and, to delay the onset of crack initiation, ensure the outer corners of the mainspring eye (hole) are well radiused – Figure 4.

* From a fracture point of view, the American loop-end mainspring with its freedom to rotate will avoid any cracking problems, while the watchmaker’s use of ‘resilient hooking’ will achieve much the same rotational freedom. Indeed, contrary to what is oft stated, I could suggest that ‘unbreakable’ watch mainsprings are far more the result of good spring termination than the material from which they are made.

New £20K West Dean Horology Bursary
New bursary funding is available to support horology students at West Dean College of Arts and Conservation.

A new Horology Bursary offers up to £20,000. Students need to apply for either the FdA Historic Craft Practices - Clocks, which is a foundation degree in clock-making, or the Graduate Diploma or MA Conservation Studies specialising in Clocks and Related Objects. Application deadline is 1 August.

There is also a West Dean College Bursary which offers up to £5,000. Application deadline 20 June.

For more details go to www.westdean.org.uk and search funding under student information.
The repair that I will explain here is for a GER.H Wempe Cal K31, tech, dictionary part number 210 third wheel with extended pivot to go through the back plate for part 283 driving wheel for the centre second, Figure 1. The broken end has the pinion gear and then the wheel. The pinion is approx 5mm long with the pivot for the front plate.

So now you have the perfect centre for the X and Y axis, I would use an end mill, in this case a 0.4mm, fit into your collet and set the Z axis height, see Figure 2. Move it down as close as you dare by sight, the smaller the cutter the more caution needed. I have a small camera set up interfaced with a notepad to look in real time. At this point reset the Z to 0 set jog distance to 0.1mm, type in the status bar, G21 G94 which is telling the machine in millimeter mode and feed mm per minute mode. Next set the machine maximum speed to 24000 RPM by typing in the status bar S 24000 and pressing enter. Next type in M3 and enter again, and the spindle will start in clockwise direction. Now type G1 F.1 to tell the machine to traverse down 0.1mm minute. It should be safe now to find the Z 0, press the page down key once (do not hold it down). If you look at your screen you will see the Z value changing. When it stops and the cutter has not touched the job, press the page down key again and repeat until it does, then reset the Z to 0. You can keep pressing the page down in the

With the machine all switched on, fit a 0.7 drill into the collet and manoeuvre the three axis to be somewhere near the centre of the bed with the drill bit able to go into one of the tee slots (we don't want to have the table looking as if a woodworm has got lost!) Have the Z axis as high as sensibly possible, with the Mach 3 screen visible you will see all available axis, zero them all with the cursor. Clamp a piece of wood to the bed – I find MDF fine for this job. Next type in G90 and this will put the machine into absolute mode, so you can now move X, Y axis where you wish. Remember, all you have to do to go back to the original position is type in the Status Bar G0 X0 Y0 and press enter.

Now drill a hole to the depth plus you require for the part location for repair, push the part into the drilled hole broken pivot uppermost. It should be firm but does not need to be over tight, if it is a little oil helps, likewise, a little loose, a spot of super glue does the job. A glue remover does not damage the part on extraction. I sometimes use an hairdryer to melt a spot of wax to hold the part in place and the heat fetches it off without doing any damage. If it gets in the teeth it will float off in hot water.
same way until you get to your depth. Alternatively you can type in the status bar G1 Z- .8 F3, press enter, put on a dab of cutting oil, and go away and make a cup of tea. On your return you should see Figure 3.

Make, polish and burnish a new pivot on the end of a part to fit in the hole. Don’t make it too tight or you may split the pinion. I would suggest slightly less than the hole depth. I find that the hole I have made for the new pivot is so accurate doing it this way that I do not feel the need to true up the new pivot, plus there’s no need to move the wheels for re-pivoting jobs that are difficult to spin, Figure 4.

Some eagle eyed person may point out the new pivot is a slightly larger diameter than the original. As the jewel was chipped, I thought the original diameter was an accident waiting to happen, so I fitted a new jewel for the new size. If the part size makes it difficult to locate on the staking unit, press in the new pivot while the job is still set up on X0, Y0. I sometimes put the appropriate stake in the mill and jog down Z axis to press the new pivot home. There are ways to make sure it stays where you put it but I may upset the purists, the same principle is applied for any re-pivoting watches or clocks and in between.

CNC for Dummies

If you are not computer literate, apart from getting by in basic word, I realise that the CNC package that Christian and I are describing does, on the face of it, look a little complicated, but don’t despair, there are so many inexpensive or free software programs available to help achieve a successful end result. I have grown into this way of working over many years as I have always taken an interest in the procedure to control a simple machine.

The one we are concentrating on at present is milling/drilling but do not forget that this machine is also a competent engraver. If I was thinking of acquiring a CNC mill I would also look at its other functions so I could use it firstly on general repairs and start to develop and make parts as my knowledge improves.

Without any understanding of CAD and CAM, I would expect to be able to do a large percentage of repairs to existing parts, and
tackle a large proportion of new parts from what us engineers call ‘fag packet’ drawings. Obviously time spent studying the operating codes will be very helpful in the future, these are all found with ease within the Mach 3 controller. Figure 5.

Figure 6. Note that I have picked the centre of the graph as the start point, ie P1 or <0,0>

Now look at the drawing of the Cartesian Graph, Figure 6. This is a very important part to remember and is used for plotting accurately between points. It is important to remember that incremental co-ordinates are from point to point, starting from a reference point such as [0,0], and absolute coordinates all refer back to a reference point such as [0,0].

Example of Incremental Coordinates
P1 X0,Y0  P2 X2,Y1  P3 X2,Y2.5  P4 X-5,Y0  P5 X-1.5,Y-2.5  P6 X0,Y-3  P7 X6,Y-2  P8 X.5,Y5
Example of Absolute Coordinates
P1 X0,0  P2 X,Y1  P3 X4,Y3.5  P4 X-1,Y3.5  P5 X-2.5,Y1  P6 X-2.5,Y-2  P7 X3.5,Y-4  P8 X4,Y1

The reason I am labouring these two codes is if you are in Absolute and your tool is either side of 0 on any axis say -20mm and you tell the machine to travel 20mm, it will travel 40mm. If you are not sure whether you are in the right code, just re-enter.

For more information on the series or if you have any questions on the previous articles you can email the authors.

Frank Boswell at fbrom@btinternet.com
Christian Dannemann at christian@watchguy.co.uk

If you want to have a look at the type of parts you can make with a CNC mill go to the Guild’s Watch Parts Database CNC Section.

www.bwcmg.org
A total of 58 members from as far away as the USA, Canada and Australia came together in Bath for the British Sundial Society’s 30th Anniversary Conference in April.

One might wonder how sundials can attract over 300 people (a fair proportion of whom live overseas) to join such a society, let alone see 58 turn up at a two-day conference to hear a dozen lectures on various aspects of sundialling.

The subject attracts mathematicians, and indeed, several of this year’s lectures ranged from the design of dialling scales and the design of historic dials. This area is the forte of the member from America, Fred Sawyer, also of the North American Sundial Society. Mathematics delights the Chairman, Frank King, who investigated the possibility of the sun shining through the famous Box Tunnel by Brunel, and not far from Bath.

Another expert from America, was Woody Sullivan, a retired professional astronomer, who has designed a number of sundials in Seattle. His primary talk was about William Herschel — astronomer and musician. He gave a review of his astronomical achievements and telescopes, emphasizing his years in Bath with his sister Caroline, as well as his ideas involving the role of time in the cosmos. His second talk covered two new dials in the USA, and most extraordinary of all, an altitude dial tattooed on his forearm! What began as ramble through various ‘human’ sundials evolved into a serious design. The skills of tattooists, both in blue and red, are such that a ‘diagram’ could be copied. The vertical gnomon is on a special watch-type bracelet complete with tiny spirit level. Nothing like putting an idea into practice!

The Andrew Somerville Memorial lecture was given by Michael Davis: Adelard of Bath (1080–1150). Adelard was philosopher, mathematician, geometer, astronomer, astrologer, alchemist, medic, sportsman and senior official at the court of the Norman Kings; known as ‘England’s First Scientist’.

Other talks showed dials in Northern Italy, ‘mass dials’ in Warwickshire, and an ancient temple in Malta with solar alignments. Another talk, naturally, was about the Tompion clock in the Pump Room and nearby Tompion sundial.

Following the normal pattern, an outing was arranged for the Saturday afternoon to see dials in Bath, and in particular to Kingswood School to see several dials and inscribed plaques by one of the expert dial makers, David Brown. Unusually, a second outing was arranged for early Sunday morning to visit the specially opened Pump Room to see the Tompion clock and dial, and as a bonus to see the Roman Baths below. Again, a special opening was available to visit the small Herschel museum in King Street. Displays are part of the conference, including an anniversary cake, dials and publications.

An interesting fact is that in the space of 30 years, the Society has produced over 20 publications on all aspects of dialling. The Society publishes a quarterly 40-page Bulletin and maintains a website www.sundialsoc.org.uk, and welcomes enquiries from the general public. It also maintains a very large Register of Dials in the British Isles. One can be confident that sundial societies in the UK and other countries have a good future.

www.sundialsoc.org.uk
We have been having a right Royal time at Overton Clocks of late with the arrival, for restoration, of one of the most unique and unusual clocks from Scandinavia’s horology industry – a very rare clock made for the King of Sweden!

Made by A G Johanson in 1873, it must have been one of the most complicated clocks of its time having four subsidiary dials for seconds, day, date and month. It also features a full perpetual calendar with leap year adjustment, via an epicyclic gear.

The Clock has a vertical straight rack with 31 teeth. The position of this rack is determined by what can only be described as a 12 sided ‘snail’ with different length sections for each month. The rack (via a lever) rests upon the snail at the first day of the month.

Each day a pusher increments the day hand via a seven-sided star. This pusher also lifts the rack by one tooth. At the end of the month whether it is 28, 30 or 31 day duration, the rack comes against a reset lever that disengages the rack, allowing it to fall back down against the next months snail section.

Within the snail, an epicyclic sun gear rotates – it takes four years for this gear to rotate. On the fourth year, the sun gear presses against a recessed ‘pip’ that then protrudes the February snail section. This protrusion adds another day to the month allowing for leap year adjustment.

As you can see, this is a very handsome and unusual looking clock. It is around 6 feet in height with a pendulum bob that is 12 inches in diameter. Due to the dead-beat escapement, the swing of the pendulum is very precise and only just misses the sides of the mahogany case.

Interpreting a label on the rear of the clock and text on the dial, it appears that it was later improved by the famous J P Johanson.

J P Johanson was a prolific inventor who created the modern adjustable spanner amongst many others things. He is referred to as an inventive genius and has over 100 patents in his name. I would need quite a few pages to fully explain his endeavours, but I would encourage you to research this very interesting man.

The clock was provided by a company called Skultuna which was founded in the year 1607 by King Karl IX of Sweden as a brass foundry.

King Karl IX was desperate to implement his long held plans for a Swedish brass industry. During the time of Gustav Wasa and Erik XIV, Sweden had become indebted to the Hanseatic League. Refining copper into brass would reduce imports of brass and increase income from exports.

The King had a man sent off on the Crown’s business to find a suitable location for a brass foundry. Skultuna, was the obvious choice as the Svartån brook provided sufficient water power. Charcoal was also available and the copper mine at Falun was also close.

For over 400 years Skultuna has produced objects of the highest quality. Today, it is one of the oldest companies in the world and it is still a purveyor to the Royal Court of Sweden.

Overton Clocks of Chesterfield is a specialist restoration business based in the heart of Derbyshire, working for a small number of the Country’s leading clock dealers.

www.overtonclocks.co.uk
Opportunities arise from time to time to visit the workshops of others doing repair and construction work. I have always taken these up when offered and also the chance to visit craft workshops of any sort. I have found that they always give me an increased insight into the in-house skills and how these are applied by the craftsman, as well as into unexpected areas. This may be in aspects such as types and uses of machinery and their accessories, workshop layout and material storage. In return I have always offered to reciprocate their offer. I also like to visit manufacturing premises for many of the same reasons since they usually offer a wider range of processes and experienced workers.

In this context I was approached in the middle of 2018 by a young jeweller who wished to visit my workshop and subsequently asked if I would be her mentor. We had met previously at the Birmingham School of Jewellery, both enrolled as leisure students using the workshops. She knew of my interest in engine turning and enamelling and had seen some of my singing bird projects. Her particular interest was in developing the knowledge and skills to design and make automata to add to her complex jewellery creations. In particular she wanted to make, (in her words) not the ‘clicky-clacky’ type of automata made from wooden dowels and pins, but those made in metal to a good and durable standard. Her objective is to add additional ‘dimensions’ to her creations, a programmed sequence of appropriate movements and preferably with the addition of a ‘song’.

The topic of mechanical automata is one which I suspect is not fully catered for by any normal educational course, although some parts will be met by craft, horological or instrument servicing courses. Publications on automata can be rather expensive since they do not have a wide appeal. It is clearly desirable to be able to meet an existing practitioner of a specialised activity which appears to have ‘closed doors’ and this is an ideal way to pass on these skills. I developed much of my own understanding from handling and studying collectible singing bird type mechanisms and again this is a hard route to access.

She clearly has good hand skills for working and shaping metals, and enamelling, as shown in two of her finished pieces, Figure 1 & 2, but no machining skills necessary for creating mechanical mechanisms. Her goal is to be able to create about five finished pieces so that she is able to exhibit at events such as the Goldsmiths Company to advertise her work and skills, with a view to taking commissions. She has already dabbled in adding movement to her creations using magnets and with extra features such as fibre optics and micro-mosaics. She has lots of enthusiasm and living 50 miles away is no problem for her – her weekly morning visit to a jewellery class in Birmingham provides an easy route to my home in Solihull, eight miles south.

Although I have taught the theory of horology to university students I had never considered one-to-one personal mentoring having no significant experience, although it has always been my policy to share my work and projects through occasional talks to the groups I support and through articles for journals. We decided to develop our own way of operating. She asked what I would charge for occasional sessions. My response was that money was not appropriate but we could have time to think of a few tasks which she could do in return. In making my decision to help her I also knew that there would be areas where I would gain additional knowledge into aspects of design, suppliers or processes.

Overall my plan was to guide her in the process of self-learning; showing her the sources where good information could be found; suggesting or loaning relevant books; providing details of any appropriate upcoming meetings, fairs or exhibitions; inviting her as a visitor to groups (such as the Society of Ornamental Turners and the Musical Box Society) which I belong to, arranging

It has always been my policy to share my work and projects through occasional talks and articles for journals.
Mentoring is the type of activity which many with our skills and experience could probably pursue and it really is proving to be a win-win situation.

introductions to others who would be happy to share some of their knowledge (an extension of my own process of visiting workshops).

She is unlikely to need to learn the broad range of horological skills but some of these would be essential in her design and make projects. I decided that technical areas where I could support her were:
- planning the simultaneous and sequential actions on graphs or charts
- designing and creating cams with sprung followers to reproduce these actions
- using one cam to create multiple actions to add realism
- being aware of the different ways of providing linkages to the moving parts
- giving proper consideration to being able to take a mechanism apart easily and also put it back in the correct location
- fitting steady pins
- pinning of pairs of plates together to ensure correspondence of holes for axles
- issues of friction and necessary power requirements
- design of springs and how dimensions influence their strength
- options for making relevant noises to support the actions
- design of bellows, air valves and whistle
- hand cranking as means of power and speed control.

We have always met at my house where I have a small private workshop, at the frequency of about every three weeks. This has included not just principles of design but also sources of components such as small gears and ball races, linkages, the level of accuracy required when mounting gears and axles in metal, the type of equipment she may need to add to her own, and how to overcome the inevitable failures and disappointments.

She is contributing by making considerable preparations for each meeting. Her design book shows her good artwork and sketches of practical design options. In this way she is maximising the value of the time together. When I invited another maker/enthusiast, a big topic in design was that of the 'wow factor' – that part of the presentation and design which gave it its personality. Examples are humour, unexpected actions or noises. Another key topic was the degree of complexity which is warranted and how this related to the likely commercial sale value of finished items. All very important for a newer professional maker.

Topics for the future are the best sequences of steps in a design/build project, such as: when it is desirable to build as a set of separate modules, each of which can be made, and tested, before fitting to the rest of the modules; lubrication, where it is desirable or a potential problem; the standard of finishing of mechanisms not in view.

Has it progressed as expected? Would I recommend it to others who wish to pass on their skills, especially on a topic not easily accessible elsewhere? Lots of information has been exchanged. Real design progress has been made, best options selected and mock-ups compared. No disputes yet, no shortage of aspects to discuss.

Have there been any disadvantages to date? Domestic life has not been disturbed because the two hours after lunch every three weeks or so is easy to accommodate. A bit of prior thought is necessary on areas of input so that the session provides a variety of topics apart from design. Tasks have been identified and carried out by her to provide for my efforts – such as copying some Musical Box Society made DvD's and removing enamel from silver with her supply of hydrofluoric acid.

Issues raised have already helped with my own projects - a recent visitor suggested including a bird noise within my very small violin/automata project and brought a commercial bird call device with pewter rubbing on wood. A great idea – could it be engineered within the small space available?

Mock up of axles and linkages for desired movements.

This is a type of activity which many with our skills and experience could probably pursue and it really is proving to be a win-win situation.

Whistle and air valve cams for bird song.

Yes, we now cheap!
As we continue dismantling the movement we will look this time at probably the most important of all issues with spring driven clocks – the motive force itself – yes the mainspring!

With your movement now on the bench with hands safely and carefully removed, we can now take off the dial and start to dismantle the rest of it. On most small clocks the dial is held in place with tapered pins, so you can use the same rule of thumb as with the hands to squeeze them out. In most cases the pins pull outwards. Once the dial has been removed remember to store it safely away.

Now you can move on to the mainspring and you must remember to proceed with extreme caution. Firstly identify how the mainspring is wound. Some clocks have an external ratchet and click – the operation of which will be obvious, while others will have an internal ratchet while still using the same principal – the latter are usually more difficult to access.

The spring will have to be let down before you begin dismantling the movement – NEVER release the ratchet to do this as it is both hazardous to you and to the clock and damage will almost certainly result. It’s a good idea to buy a set of usually double ended keys, but with a round handle.

Place the key onto the winding square and hold firmly in one hand, at the same time grip the movement with the other hand and using spare fingers rotate the let down key as if to wind the clock. At the same time manipulate the click away from the ratchet wheel until it clears – you can then slowly and controllably let down the power in the other direction by allowing the round handle to rotate in your hand, you may wish to use gloves. Sometimes this can be done in one operation but sometimes it needs to be done in small stages until all the power has been let down. You can establish that this is the case by testing the ratchet with the let down key.

Once complete, you can now dismantle the movement from the outside in. Remember to remove all outside parts before separating the plates. Note that sometimes the cannon pinion will remain against the front plate, and we will deal with this separately. Drawings or photographs may help you with unfamiliar movements and save you time when re-assembling.

Once you have the plates of the clock apart (again they will either be pinned or screwed as mentioned previously) we will deal with the mainspring and you need to be careful as it will be still wound up inside the barrel.

On no account should anyone wishing to conduct repairs to any type of spring driven clock do so without the use of a mainspring winder – or indeed a let down tool. To do so will risk injury to the repairer and could also seriously damage the clock or its components.

Now remove the lid off the barrel with a small screwdriver blade. If the clock has Geneva type stopwork or star wheel set up gear this needs to be dealt with separately – we will refer this later. Carefully remove the barrel arbor by twisting it against the coil of the spring and pulling out at the same time. It may resist at first but will come out with persuasion. Now you can see the mainspring, Figure 1.

Now using your mainspring winder – with the correct size of arbor in the tool and holding the outside of the barrel firmly in the left hand (reverse for left handed people) – wind the spring slowly. Prevent the barrel from turning by gripping firmly, gloves may help. When the outer coil of the mainspring comes away from the inside edge of the barrel insert the clamping tool and tighten onto the spring, Figure 2.

Once secure give a slight anti clockwise twist for clockwise wound springs, at the same time as gripping the barrel carefully pull out the wound spring – put the barrel away immediately and hold the spring firmly in the left hand whilst releasing the power carefully with the handle of the winding tool until the mainspring is completely unwound and devoid of any stored power, Figure 3.

You can see how the mainspring will look when it is held in the winder in Figure 4.

Next time we will look at cleaning re-bushing, examining the escapement and work toward replacing the spring in the barrel and re-assembly. It’s tea time now!

www.theclockmakersworkshop.com
Robert Loomes has been accepted as a Member of the Goldsmiths’ Centre in Clerkenwell – a honour that is only bestowed on a few individuals.

Funded largely by the Goldsmiths Company, the centre is the leading provider of the five-year goldsmiths apprenticeship scheme. It is also home to some 30 experienced craft people, operating at the top of their trade, not just goldsmiths, but engravers, casters, polishers, stone cutters, silversmiths – and now for the first time a watchmaker! Some are Royal Warrant holders, all are prize winners in some way.

Members share modern workshops and offices at the Goldsmiths Centre on Briton Street. For those of a historic bent, it was once known as Red Lion Street and was perhaps the most productive London street in the watchmaking trade, turning out over seven thousand watches a year at one point.

Members are expected to expand the skills and knowledge of one another and also undertake lecturing or masterclasses for the senior apprentices who come through the centre. Since its inception in 2007 the Briton Street Centre has accepted only thirty members and each must go through a rigorous application.

Robert explained: ‘I was prepared for ‘an informal chat’ and to take two finished pieces. I took a gents and a ladies watch, both in 18ct rose gold with enamel dials.

‘A formal panel of three peered over my work without passing any comment. It was more nerve shredding than a driving test. Finally one pronounced the enamelling ‘quite good’ and they proceeded to ask a string of ‘how do you?’ questions.

‘When I left I genuinely had no idea if I had got in, so was thrilled to hear the news that we had been successful. Every time I go to the centre I am charmed by the quality of workmanship on display. I will be pinching myself for quite some time to think we belong there.’

www.loomeswatches.com

MASTEROBJECTS OF TIME
– A LANDMARK COLLECTION
TELLING THE STORY OF TIME

One of the most important collection of timepieces still in private hands will be offered at four dedicated sales by Sotheby’s in London, Geneva, New York and Hong Kong, between July and October, and is expected to realise between £11-20m.

Chronicling the history of watchmaking from the Renaissance through to the present day, the collection has over 800 long-unseen pieces and has been put together over a lifetime, encompassing all the ground-breaking technological and artistic innovations of the last 500 years, from early watches with German ‘stackfreeds’ to double dialled astronomical timepieces, enamels, form watches, musical and automata pieces, tourbillons and complicated timepieces.

The makers read like a ‘Who’s Who’ of horological giants, including Lange & Sohne, Breguet, Dent, Berthoud, Patek Philippe, Vacheron Constantin.

An example of Robert’s work.

Robert Loomes – the future is golden.

The first of the four sales takes place in London on 2 July and include 160 rare and important pieces, headlined by the legendary George Daniels Space Traveller I. The following day, Sotheby’s Treasurer’s sale will include a further selection from the collection. For more details go to: www.sothebys.com

WINSTON CHURCHILL
TRAVELLING FELLOWSHIPS
– TIME TO APPLY

Applications are now being sought for the next Winston Churchill Memorial Trust Travelling Fellowship.

The trust was set up in 1965 to enable British Citizens living in the UK the chance to travel overseas to study areas of topical and personal interest. The new knowledge and best practice is then shared for the benefit of others, their profession and community.

Mike Flannery FBHI was the first ever horologist to receive the award in 2015 and he chose to study clocks in America and the Black Forest.

He said: ‘It was an amazing opportunity to learn new things and I would encourage other horologists to apply.’

Each year up to 150 Travelling Fellowships are awarded across ten categories. For more information and to apply online www.wcmt.org

COUSINS V SWATCH
– CASE RETURNED TO BERN
COURT AGAIN

Cousins, along with their Swiss lawyers, attended the Swiss Federal Supreme Court in Lausanne on 23 May to hear the outcome of the appeals by themselves and Swatch in relation to where the ‘spare watch parts supply’ case will be heard.

Anthony Cousins explained that the proceedings were conducted by the five Supreme Court Judges in a combination of German and French.

He said: ‘The Court did not provide a translator, nor would it allow us to bring one with us because, whilst the hearing was open to anyone, only the Judges are allowed to speak. We will need to wait until we have a translation of the written decision to give more detail.

‘All we can say at the moment is that the Judges voted by four to one to overturn the decision of the lower Court in Bern that it only had jurisdiction over one of the three Swatch companies. The case brought against Cousins will now deal with the issue of whether or not Swatch are required to supply us.’ he added.

www.cousinsuk.com
Changes to the Guild Board

New Directors

We are pleased to welcome two new members who joined the Guild's Board of Directors recently.

Frank Boswell

Frank did an indentured Engineering Apprenticeship at Slack and Parr Ltd, Kegworth, before later working at Metal Box. Over the years he has worked in a wide variety of engineering and production roles, up and down the country, never settling too long in one place. During this time he has amassed an impressive number of qualifications on a wide range of subjects from hydraulics, welding and scaffolding to computer and information technology, CAD design, programming CAD/CAM, machine setting and delivering learning.

He took up watchmaking in 1962 and in 1992 became self-employed in the clock and watch trade.

Alex Photi

Alex Photi, a watchmaker, who runs Perpetual Time in Liverpool, has a wealth of experience and a keen interest in helping the Guild to progress further.

From a young age Alex says he was always interested in micro mechanics and fascinated by the elaborate craftsmanship of the traditional mechanical movements and how precisely parts must work together to measure a passage of time.

His career in watchmaking started in his early twenties when he completed the WOSTEP course (Watches of Switzerland Training and Education Programme), later working as an apprentice for Watches of Switzerland, which also included Mappin and Webb, in Manchester.

He earned his MBHI having worked for companies such as Time International in Malta as a Service Workshop Manager.

On moving back to the UK, he worked as a freelance watchmaker for two years, before opening his own business. He says he is very much looking forward to working with the Board and becoming more involved in helping the horological industry to grow.

www.perpetual-time.com
www.perpetualtimeliverpool.co.uk
Instagram - perpetual_time_ltd

Retiring Directors

Roy Hunt

A fond farewell and a very big thank you goes to two members who have served the Guild's Board of Directors over a number of years.

Roy Hunt, is one of the longest standing members of the Guild and his experience and commitment over many years will be hard to replace. He formerly worked at Mercers, the chronometer makers.

Howard Vyse

Howard Vyse, a more recent Board Member has decided the time is right for him to step down too.

At May's Board meeting, Chairman Chris Papworth, thanked both Roy and Howard for their great contribution to the Guild over the years.

'I would like to thank both of them for their dedication to serving the Board and wish them well in the future.

Lionel steps down as Guild Treasurer

Lionel Blowes, who has been Guild Treasurer since 1998 has reluctantly stepped down from the position due to ill health. He will still remain on the Board as a Vice President.

Lionel has been a key figure in the Guild for more than 50 years. He joined in 1968 and has served on the council since 1982. He was Vice Chair from 1991-1992 and Chairman from 1993-1995.

During his term as Vice Chairman Lionel conceived the Guild newsletter (now TimePiece), the first issue being circulated to members during April 1992, and undertook the editorship for a number of years.

He was thanked by the Board for his long and unstinting service.

Christian Dannemann has taken over the Treasurer’s responsibilities.
OBITUARY
MANNY BRAMSDEN 28.02.1935-21.04.2019
FORMER GUILD CHAIRMAN

Long-time Guild member, former Chairman and a much-loved Director of the BWCMG Board, Manny was born in Port Louis, the capital of Mauritius, in 1935. During his time on the Island, he loved to cycle and swim. He was also a keen body-builder and enjoyed the good local food and wine.

His romantic love of the movies and commercial head for business led him to save up and to seek out opportunities in the wider world and, in 1960, he boarded the **Mahe de Labourdonnais** and embarked on a month-long voyage to the UK.

He spent the 60s in Kensington, London, where he set out to become an optician but soon realised that he would need to undertake a lengthy programme of study in order to achieve this. However, as he already had experience in watchmaking and jewellery with the family business in Mauritius, he decided to train as a watchmaker and worked for Rotary in Hatton Garden. In his spare time, he pursued his love for film making and photography.

Manny loved to travel around Europe visiting friends and he would think nothing of driving to Switzerland for a weekend.

In the 1970s he met Angela whom he married and had two sons, David and Jason. The family moved to Langley and Manny found he had a passion for golf, which stayed with him all his life.

He opened his shop, Precision Monstre Bijoux, at 61 Queen Street, Maidenhead, in 1979. His skills as a watchmaker and jeweller became renowned in and around the area and he was spoken of as one of Maidenhead’s well-known gems and go-to watch and jewellery expert.

During the 1980s, Manny devoted his time to working hard in his shop and also improving his golf – his aim, to get his handicap under 10, which he achieved. He spent Monday to Wednesday in the shop, on Thursdays the shop was closed and he would be in Hatton Garden, and then back in the shop for Friday and Saturday. Sunday was his golf day at Maidenhead Golf Club.

Manny always wanted to better himself and he studied during evenings and any other free time available to achieve a degree in Gemology. He joined the British Watch and Clockmakers’ Guild, later becoming a Director on the Board. He served as Chairman from 2001 to 2002.

He was initiated into the Golf Society of London at Stroud Green Masonic Lodge in October 1987 and also his involvement in Maidenhead Golf Club and a number of friends have spoken about how warmly and supportively he introduced them into the Lodge and the Golf Club and how he liked to connect friends together in this way.

Another passion was football, and he was a season ticket holder at Chelsea Football Club and enjoyed watching the team for many years.

Whilst, frustratingly for him, he was not able to be so active after his initial illness, he remained busy seeing friends and also enjoyed his four granddaughters, Hannah, Isabel, Olivia, and Emily, always interested in how they were getting on and what hobbies they were enjoying.

He was diagnosed with lymphoma three years ago and went into remission after lengthy treatment. Unfortunately, he started to feel unwell again in the Autumn and his health declined rapidly from February this year. During both times of illness, he was regularly visited by close friends which he greatly appreciated.

He sadly passed away on Easter Sunday, 21 April, this year at Wexham Park Hospital. His son Jason says he feels sure that he timed this perfectly as he passed at 6:01 on the Queen’s birthday, which is representative to his successful career at 61 Queen Street.

Manny was always looking for opportunities, the opportunity to discover a new culture, the opportunity to make money, the opportunity to network and make friends, the opportunity to learn and then pass on his skills and knowledge to others. He demonstrated great courage and strength to achieve all that he did and to choose the path that felt right to him, even if it wasn’t the easiest one. He was very proud of his life and his skills in watchmaking and jewellery, and his happiest times were when he was working in his shop.

Jason Bramsden, Son.

Manny Bramsden, who was Chair of the Guild from 2001-2002.

MEMBER SALES

For Sale
QP Magazine Issues No 1 (April 2003) through to No 45 (November 2010). All are intact and in very good condition Issue No 1 is quite rare and sought after.

Ideal for anyone looking to complete a set from scratch or simply wishing to have a detailed insight into some very high-end watches.

The face value of the collection is £236 but I would accept the best offer in excess of £45, i.e. minimum £1.00 each. I do not wish to divide the collection.

The downside will be the weight of the collection which is 18kg in total, therefore I prefer the transaction to be cash on collection at Romford, Essex.

Contact Alan Coxon
Email: akcoxon@gmail.com
**ENGRAVING**

The finest horological engraving for backplates, dials, cocks, hands, watches, bird box grilles and cases, etc, in brass, steel, gold and silver

**MICROWELDING**

Restoration of worn pinions, pallets, etc, without loss of original material using state-of-the-art argon welding techniques

Richard Higgins Conservation Ltd  
01939 210765

office@antiquesconservation.com

---

**Time Well Spent**

30 Rose Street, Wokingham  
Berkshire, RG40 1XU  
Tel: 0118 375 8883  
Mob: 07917 406486  
Email: info@orawatch.co.uk  
www.orawatch.co.uk

Shuajb Berisha MBHI Watch and Clock Specialist

---

**LBS**

Supplying watch straps, batteries & horological tools for over 30 years.

T: 01992 470 369  
www.lbslondon.co.uk

**UK OFFICE:**

LBS  
Unit 9 Ducksbury Industrial Est  
Charlton Mead Lane  
Hoddesdon  
EN11 0DJ

More retailers are buying their watch straps and batteries from LBS than ever before...

...But don’t take our word for it – call us today to receive a FREE sample pack of watch straps.

LBS are official distributors of RENATA, MAXELL and RAYOVAC watch batteries.
Adam Phillips  
Clock/Watch Case Repairs  
35 years experience as a Goldsmith

I make and repair all types of watch cases, from antique pocket watches to modern wrist watches.

www.watchcaseworks.co.uk

Adam Phillips 07767 678926

CLOCKSPARES.ORG.UK

THE LITTLE BUSINESS THAT CAN BE A BIG A HELP!

Browse our catalogue and order online.

A 30 day account facility is available to all Guild members

Email an order with your account number to clockspares@yahoo.com

Phone: 07761 361903

Freephone 0800 1931232

Come and meet us at Birmingham or Brunel Clock Fairs

PAINTED DIAL RESTORATION

Robert B. Loomes FBHI

Family business since 1966.  
Prompt turnaround.

4 Saint Mary’s Hill, Stamford, PE9 2DW

Tel: 01780 481319

Email: robertloomes@gmail.com

www.dialrestorer.co.uk

THE COMPLETE GILDING SERVICE TO THE HOROLOGICAL TRADE

Refinishing & Burnishing  
Satin & Polished Gilding  
Replacement of Missing Pieces  
(Over 30 years experience)

RAY WALTON (SILVERSMITH)
CREEK CREATIVE, 1 ABBEY STREET, 
FAVERSHAM, KENT, ME13 7BE
TEL: 01795 538674

www.raywaltonsilversmith.co.uk

Looking for a Spare Watch Part?  
or  
Want to get rid of some workshop surplus?

Why not take a look at the Guild’s  
‘Spare Parts Database’.  
It's free and easy to use and already there are thousands of individual parts listed.

Go to the BWCMG website  
www.bwcmsg.org and follow the link or go directly to  
www.watchparts.org.uk

Church and Public Clock Specialists

Reports and quotations are undertaken free of charge and without obligation within the UK

Tel/Fax: 01768 486933

Email: info@clockmaker.co.uk

Website: www.clockmaker.co.uk
**Guild Board Meeting**

The Guild Board Meeting was held on Thursday 9 May 2019 at The Clockworks, London, at 2pm, attended by nine directors. There were no apologies for absence and the minutes of the last meeting were accepted and signed.

**Matters arising**

**Guild Secretary**

So far no-one has come forward to take on the role of Guild Secretary. It was proposed that a meeting be arranged by the outgoing Secretary, new Chairman, Treasurer and Editor to determine a way forward, perhaps by devolving the role into specific areas of responsibility to be undertaken by individual directors.

**Subscription Increase**

It was agreed that subscriptions should be increased next year to £65 for full membership and £45 for retired members, which will hopefully cover any unexpected outgoings caused by the lack of a substantive secretary.

**Treasurers Report**

Christian Dannemann, Guild Treasurer, gave his financial report for 2018 (see insert with this TimePiece) and reported that the Guild was still in a good financial position.

**Secretary’s report**

The Secretary reported that to date he had sent out 90 standing order reminders as well as 157 membership renewal reminders – which proved to be a time-consuming and costly exercise. He urged members to pay promptly.

**Editor’s report**

The Editor reported that the new series on CNC machining, which launched in the last TimePiece, had been very well received, stimulating much interest.

**Any Other Business**

Alex Photi presented ideas to help the Guild raise funds. He will progress his ideas and report back to the next meeting. The meeting concluded at 1540 hours.

**The 111th Annual General Meeting**

The minutes of the 110th AGM were agreed and signed and the annual report and accounts were taken as read.

The following were elected to office: Paul Roberson, Chairman; Robert Ball, Vice Chairman; Christian Dannemann, Treasurer; Secretary, Vacant; Alex Photi, Director.

Messrs Gregory Rowcliffe & Milners were re-appointed as Guild Solicitors.

Messrs Harvey Smith & Co were re-appointed as Guild Accountants.

There being no other business the AGM formally closed at 4pm.

The 112th AGM will be held on Thursday 14 May 2020 at a venue to be notified.

---

**DIARY 2019**

**August**

8 BWCMG Board Meeting, The Clockworks, 6 Nettlefold Place, London, SE27 0JW.

**September**

8 Ryton Clock and Watch Fair (formerly Midland Clock and Watch Fair), Ryton-on-Dunsmore, Leamington Road, CV8 3FL. Tel: 01895 834694 www.clockandwatchfairs.com

**October**

26 BHI Awards Day, Upton Hall, Upton, Newark, Notts NG23 3TE. www.bhi.co.uk

27 Fall Back Open Day, Upton Hall, Upton, Newark, Notts NG23 3TE. www.bhi.co.uk

**November**

14 BWCMG Board Meeting

24 West Country Clock and Watch Fairs, Holiday Inn, Taunton, Somerset. TAI 2UA www.westcountryclockfairs.co.uk

27 George Daniels Lecture, City University, London, by Roger Smith OBE, on The Development of the Mechanical Watch.

**December**

1 Brunel Clock and Watch Fair, The Sports Hall, Brunel University, Uxbridge, Middlesex UB8 3PN. 01895 834694/834357 www.clockandwatchfairs.com

---

**Green Book Questionnaire**

If you haven’t already returned your Information Update and Income Survey questionnaire, sent out with the March/April TimePiece, now is the time to do so as the closing date is July 1. Please return the completed forms to BWCMG, Unit 2, Merretts Mill Industrial Centre, Bath Road, Woodchester, GL5 5EX or email them through to sec@bwcmg.org

---

**PLEASE BEAR WITH US**

Please bear with us over the next few months until we have a new secretary in place. In the interim period your questions and queries, either by phone or email, will be answered as soon as possible.

In the interim, please send all Guild correspondence, including membership cheques, to BWCMG, Unit 2, Merretts Mill Industrial Centre, Bath Road, Woodchester, GL5 5EX.

If you want to get in touch by phone, please contact the Chairman, Paul Roberson, on 07955 192263 or by email on chair@bwcmg.org

---

**GUILD DIRECTORS:** Chairman: Paul Roberson FBHI; Vice Chairman: Robert Ball FBHI; Treasurer: Christian Dannemann; Honorary Secretary: Vacant; Vice Presidents: Angus Matheson, Lionel Bowes, Jean Jones; Directors: Frank Boswell, Robert Ball, Shuja Berisha; Christian Dannemann; Bob Moir; Chris Papworth, Alex Photi; Keith Scobie-Youngs; Howard Vyse; TimePiece and Web Editor Jayne Hall.

**Guild Communications to:** BWCMG, Unit 2, Merretts Mill Industrial Centre, Bath Road, Woodchester, GL5 5EX Email: sec@bwcmg.org

Website: www.bwcmg.org – Instagram: @bwcmg

The British Watch & Clock Makers’ Guild is a Company Limited by Guarantee. Registered in England & Wales No 4613321. Registered Office: 1 Bedford Row, London, WC1R 4BZ.

Copyright © 2019 The opinions expressed herein are not necessarily those of the officers and council of the Guild and no responsibility is accepted for the content of any article or advertisement. No article may be reproduced without prior permission being obtained.

Printed and distributed by: MYPEC, 10 Festoon Rooms, Sunny Bank Mill, Farsley, Pudsey, West Yorkshire, LS28 3UJ.