

# WORKSHOP COURSES

## Lathe Course - Saturday 3<sup>rd</sup> August

The workshop would like to conduct another of our popular Basic Lathe courses. If anyone is interested in attending on Saturday 3<sup>rd</sup> August from 10am to 3pm Trevor Keast on 07507-142-704

## Workshop Milling Machine Courses

The workshop are offering an introductory course in the use of the Milling machine.

This will cover safety rules and basic use of the machine.

The mill is locked and can only be used with the tutors permission so unless you have completed this course you will not be allowed to use it.

You should be aware that it is a dangerous piece of kit and should be used with care and knowledge.

Dates to be decided.

Maximum of three attendees to each session.

Cost - 20 pounds per person

**Please contact Trevor Keast on 07507-142-704 to book**

**FREE ADVERTISING FOR MEMBERS**

Contact Bill 01543506195 or electricwilliam@gmail.com



**South London Branch**  
**British Horological Institute**

*Newsletter No. 545 AUGUST 2024*

*Meetings are held on the 1st Thursday of each month*

*At The White Hart Barn (Godstone Village Hall)*

*Godstone Surrey RH9 8DU at 7.30 p.m. for 8 p.m.*

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*"Time is a created thing. To say 'I don't have time,' is to say, 'I don't want to.'"*  
Lao Tzu

**Next Month's Meeting at the White Hart Barn**

**1st August 07.30 for an 08.00 start**

**Richard Steedman**

**"How Computers tell the time"**

Richard is Hon Secretary of the BHI Wessex Branch and a strictly amateur horologist. He works as a consultant in the semiconductor industry and has a keen interest in electrical horology. His talk arose from a request by the Technical Editor of the HJ, Justin Koullopos, for an article about how NTP (the protocol that computers use to synchronise their clocks over the internet) works. Richard prepared the talk during Covid lockdown to get his thoughts straight and eventually produced a written article which was published in the January 2024 issue of HJ.

Richard's talk will cover in detail the various messages that computers send to each other over the Internet to set their clocks as accurately as possible. He will conclude with some photos of his electrical horology collection, some of which use the NTP to keep accurate time.

## Last Month's Meeting DOUGLAS BATEMAN

### TIME KEEPING (The hobby of a lifetime)

In 1972 Douglas developed a precision regulator style pendulum clock with invar pendulum rod and lead bob. LED control for the seconds and another for the amplitude. The clock was good enough to detect barometric pressures. The motion work was demonstrated on screen clearly explaining the functions of the component parts.

There was a need to check the accuracy of the clock, so Douglas made a "Radio Check Rate" device with quartz Crystal inside which was started by the clock and stopped by the Rugby time signal to the accuracy of a millisecond. The clock met the criteria set by Harrison of one second in one hundred days.

Wanting to pursue the Q factor of the pendulum Douglas arranged for an inmate at Broadmoor to make several bob weights, 10cm in diameter all the same mass and density. The result of this experiment found that the parabolic spindle and the parabolic sphere showed the least resistance.

On another occasion, Jonathan Betts asked Douglas if he could make the Greenwich Time Ball operate from the Rugby signal also alter the time changes for summer and winter. A specification was drawn up and effected, which worked well for several years until The Observatory was unfortunately struck by lightning, causing considerable damage to the electrics which were repaired and continued to give service. Later Keith Scobie Young was commissioned to update and fit a GPS controlled system.

The sundial at Qinetiq, formerly the Royal Aircraft Establishment, was refurbished, but it did not have a gnomon. A new one had to be made with the correct declination from the house wall to give the required accuracy. Douglas drew up a suitable design. He afterwards, went on to describe the Analemmaas seen on some Atlases and its purpose which was well explained on screen in relation to the sundial.

Douglas was asked to give a talk to a large gathering in [Neuchâtel](#), Switzerland, where automata capable of writing letters were to be seen. Anthony Randel's tourbillons were there and W5, Philip Woodward's dual

pendulum clock which was to have been displayed at Greenwich. As this did not happen, it was on show at Neuchâtel. That evening, during the dinner Douglas pointed out that the new Worshipful Company's exhibition at the Science Museum would be an ideal location for the Woodward clock. After negotiation it was returned and awaits fitting into this new location. Douglas spoke of his article "The Antidote to John Harrison" BHI Journal January 2017. As there was no one to defend, we leave the subsequent discussion to the letters of the Journal.

On a recent visit to Nidderdale Douglas saw a Trig point remembered from his youth. It was in a poor condition, so he contacted the Ordnance Survey to enquire if it could be refurbished. They pointed out that the Trig point was located on the Windsor Estate, and it was for the Crown Estate to give permission if there were any repairs required. Permission was granted so Douglas took the opportunity to repaint the pillar and attach a plaque dedicated it to his late wife.

Duncan thanked Douglas for a very interesting and instructive talk by presenting him with a bottle of lubricant.

This technical lecture on varied subjects from Douglas's interests kept our constant attention and enthusiasm, which was shown by our loud applause.

Michael McDonnell

### George Alexander Pantograph

Hugh Richards (one of our members) has a George Alexander Pantograph, (complete with lots of bits that go with it) he no longer needs it. It would need to be collected from Clerkenwell and carried up 2 flights of wide stairs. Anyone interested contact Hugh [hugh.richards9@icloud.com](mailto:hugh.richards9@icloud.com)

