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**Interview: pianist  
James Rhodes**

**The colourful world  
of artist Joanna Kirk**

**Hidden corners  
of London**

**A fitness holiday  
in Spain**

**FREE**

# Hidden Corners of London

BY DUNCAN J. D. SMITH

## Kirkaldy Testing Museum

Victorian South London was once an area packed with different industries. Although long since abandoned they have left some fascinating remains. A unique example is the Kirkaldy Testing Works at 99 Southwark Street, once a global centre for measuring the tensile strength of construction materials.

The works were founded by the Scottish engineer David Kirkaldy (1820–1897), who as a young man was apprenticed at an iron foundry in Glasgow. He quickly moved from workshop to drawing office, where between 1858 and 1861 he undertook a ground-breaking series of tensile load tests. With the Industrial Revolution in full swing, steel was replacing wrought iron, and tests were necessary to better understand the new material's strengths and limitations.

In 1863 and by now an expert in his field Kirkaldy left Glasgow and relocated to London to establish his own testing works. He designed and patented a large hydraulic tensile test machine, or tensometer, which was manufactured in Leeds and sent down to Southwark in 1865. The machine was moved to its present custom-built location in 1874, where visitors can still see it operating today.

Over 14 metres in length and weighing in at 116 tons, the tensometer is designed to work horizontally, with the desired load applied by a hydraulic cylinder and ram. With a load capacity of around 450 tons it can test samples up to six metres in length in either tension or compression, and up to eight metres in bending. Crushing, shearing and torsion tests are also possible. Powered originally by high pressure water from the London Hydraulic Power Company the tensometer is now worked by an electric pump. In deference to the machine's antiquity a load not exceeding 20 tons is used when breaking specimens for visitors.

Until its closure in the 1960s the Kirkaldy Testing Works tested materials sent from all over the world. Locally they tested parts used in the construction of several Thames' bridges, as well as the Empire Stadium at Wembley (1923) and the Skylon at the Festival of Britain (1951). Metals suspected of having failed were also tested, including the remains of a de Havilland Comet aircraft that crashed off Elba in 1954. Most famously the works tested samples for the official inquiry into the Tay Bridge disaster. The bridge had collapsed during a storm in 1879 claiming the lives of all 75 passengers in a train crossing over it at the time. Using his tensometer, Kirkaldy demonstrated categorically that the cast iron lugs used to connect the framework of the bridge to the columns supporting it had failed. Little wonder the phrase "Facts not opinions" is inscribed over the works' entrance!

Members of the Greater London Industrial Archaeology Society first visited the abandoned works in 1974, as a result of which the building and its contents were listed for preservation (the first time in Britain such a joint listing had occurred). The ground floor and basement of the works were subsequently

converted into a self-financing museum and the upper floors turned over to offices. Since its opening the museum has become a resting place for numerous other testing machines making it a one-of-a-kind collection.

*Getting there: Jubilee line to Southwark. Open first Sunday of each month 10am–4pm, [www.testingmuseum.org.uk](http://www.testingmuseum.org.uk)*

## London Necropolis Railway

A curious Victorian building stands at 121 Westminster Bridge Road not far from Waterloo Station. Rising four storeys with an ornate stone and terracotta façade, it features an unusually grand entrance. Nothing today suggests why it was built and only a trawl through the history books provides the answer: the building was once the entrance to the London Necropolis Railway.

The origins of the railway date back to the early decades of the nineteenth century, when London's population more than doubled, and with it the demand for burial space. The City's existing medieval parish churchyards became so congested that bodies were buried one on top of another. That of St. Botolph's-without-Aldersgate eventually rose several metres above the surrounding streets!

The health hazards were obvious and were highlighted by several outbreaks of cholera. As a result a Royal Commission was established to investigate the problem. It revealed that each year some 20,000 adults and 30,000 children were being buried in barely a square kilometre of existing burial grounds. Gravediggers were forced to dismember old bodies in order to cram new ones into what little space remained.

In the wake of these grisly findings several Burials Acts were passed. Under their terms the old churchyards were abandoned in favour of seven new garden-style cemeteries created in a ring around what were then the outskirts of London. Endorsed by Parliament they were laid out by private companies between 1832 and 1841. Subsequently dubbed the 'Magnificent Seven' they are Abney Park, Brompton, Highgate, Kensal Green, Nunhead, Tower Hamlets and West Norwood.

The Acts also saw the establishment of the London Necropolis Company (LNC). Its board of directors looked even further ahead to a time when all burials could be made in a single out-of-town cemetery. Accordingly in 1854 they opened Brookwood Cemetery in the Surrey countryside, where land was cheap and plentiful. With little chance of it ever being affected by urban growth, the LNC predicted that Brookwood could accommodate 50,000 funerals a year – and would continue doing so forever.

The dead and the living were ferried out to Brookwood on private funeral trains using the existing London & South Western Railway (LSWR) out of Waterloo. The LNC only needed to install sidings at either end to reach the company's own stations. Mourners' anxieties would be eased by the journey being

through what at the time was predominantly open country.

For its London station the LNC initially selected a site off York Road abutting the arches of an LSWR viaduct. Coffins could easily be brought here by road or river and then hoisted by steam lift to an elevated platform, where they were loaded onto waiting funeral trains bound for Brookwood. But when Waterloo Station was enlarged in the 1890s this station was demolished and replaced by the one on Westminster Bridge Road. Here First Class mourners were welcomed through the grand front entrance still visible today, and then reached the platform by lift. Third Class mourners were relegated to a rear entrance on Newnham Terrace and had to use stairs. Frosted glass screens and distinct waiting areas ensured the classes remained segregated even at platform level.

In this form the new station serviced funeral traffic until it was badly damaged during an air raid in 1941. By this time, however, usage of Brookwood had already fallen far short of the LNC's original projections. The outward journey had ultimately proved too time-consuming, especially once further cemeteries were opened in the London suburbs. The London Necropolis Railway never ran again and today the old station building has been converted into offices. The only real reminder of its former function is a stretch of abandoned elevated railway track visible to the rear.

But this was not the end for Brookwood, indeed it still serves as a cemetery and can be reached easily by car. Visitors can also take the train but only as far as Brookwood mainline station, since the LNR's siding has now been taken up (the separate platforms for Anglicans and Dissenters still exist though). Bolstered by remains relocated from cleared London churchyards and the subsequent burial of Commonwealth and other military personnel, as well as many Muslims from London's Turkish community, Brookwood today lays claim to being the largest cemetery in the United Kingdom.

*Getting there: Bakerloo line to Lambeth North; Bakerloo, Jubilee, Northern, Waterloo & City lines to Waterloo. Unfortunately the building is not open to the public.*

**This article is adapted from the book *Only in London: A Guide to Unique Locations, Hidden Corners and Unusual Objects* by Duncan J. D. Smith (The Urban Explorer). For more information visit [www.onlyinguides.com](http://www.onlyinguides.com).**

