The New River

A river that's not a river (and is hardly new); a castle that's not a castle.

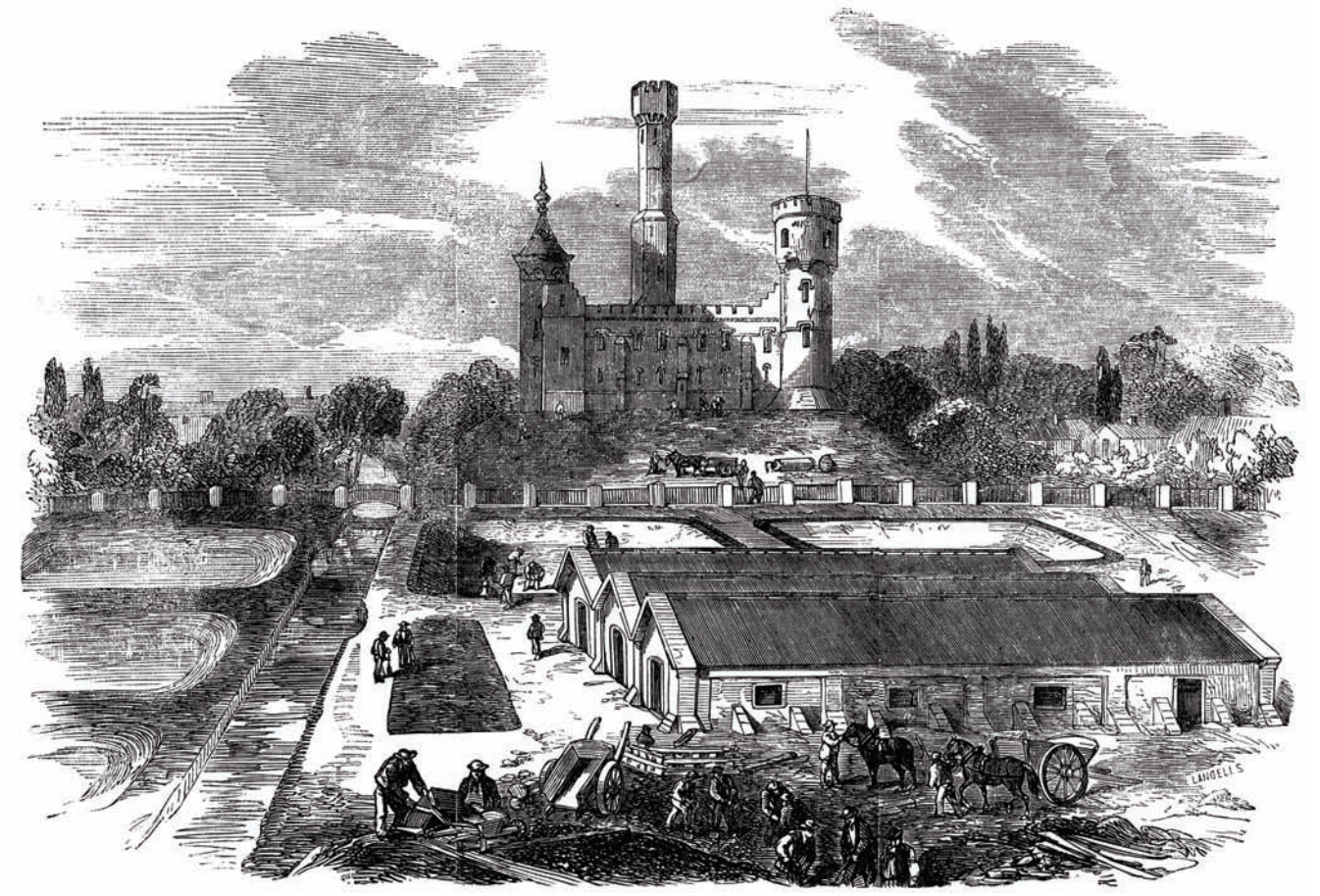
by Peter Stone

I have the good fortune to enjoy a view from my home across to one of London's most unusually-designed industrial buildings. My street name is not generally known to taxi drivers but I need only say: "opposite the castle at Stoke Newington" and they know exactly where I want to go. In fact I am looking out to what at first glance appears to be a fortification of a Scottish baronial kind. I had at first little idea of its origins so began to investigate the history of this striking landmark. For the beginning of the story we have to go way back to the reign of Elizabeth I.

During the Middle Ages the people of London relied on rivers, springs, conduits and public fountains for their water. In 1582 the Dutch engineer Peter Morice established an ingenious mechanism at London Bridge that pumped river water into a system supplying premises in the immediate area to the north of the bridge. However it only worked at high tide and provided water for a limited area.

About twenty years later one Captain Edmund Colthurst devised a plan to bring fresh water from springs in Hertfordshire to London by means of a six feet wide canal. Queen Elizabeth gave her provisional consent but died before a charter could be issued. King James provided the necessary approval in 1604 and work began on Colthurst's 'river'. His route would be through Broxbourne, Wormley, Cheshunt, Theobalds Park and Edmonton, down to Islington.

Three miles had been completed when the City of London Corporation started to take a greater interest in the advantages of the scheme. An alternative plan was drawn up using a wider channel but most likely along the same route. They ensured that an Act of Parliament was passed, effectively over-ruling the King's Letter Patent of Colthurst's scheme. In 1609 the Common Council of the City announced that it had accepted the new plan by one of their inner-circle, Hugh Middelton, to complete the work based on their Act. Myddelton was the son of the governor of Denbigh Castle in Wales but, more importantly in this respect, a member of London's Goldsmiths' Company. He raised money for the initial work by issuing thirty six shares, some sold for one hundred pounds each and some kept by Myddelton himself. Clearly his scheme relied heavily on that of Colthurst who was given four shares and a salary in compensation.



The pumping house shortly after its completion in 1856. In the foreground are the filter beds to cleanse water to prevent further outbreaks of cholera. London Illustrated News, November 1856

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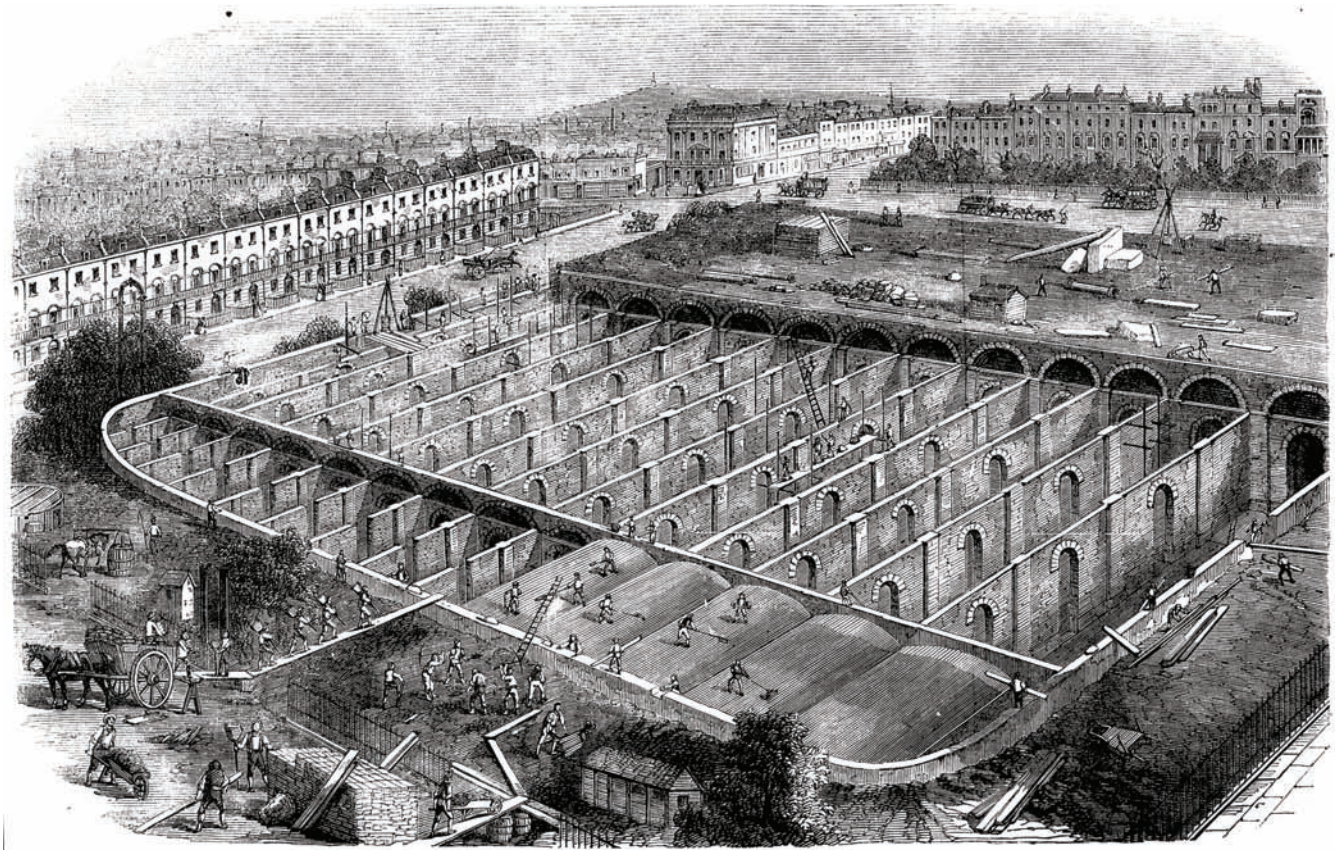
Work recommenced in 1609. It was a massive and cleverly calculated undertaking for the time. Ten feet wide and with a water depth of four feet, it gently sloped five and a half metres over its sixty kilometre journey, or just five inches every mile, allowing the contents to flow at exactly the correct speed and volume. In order to achieve this it was necessary to follow the contours of the land, thus creating many twists and turns along its length (some of which were straightened out in later years to shorten the waterway).

Work suddenly ground to a halt when owners of land through which the canal had to pass objected to Parliament, which King James (for bigger political reasons) subsequently dissolved, leaving the matter unresolved. Myddleton's solution was to approach the King who, perhaps seeing the potential for a scheme that was for the general good but also one from which profit could be made, agreed to fund half the cost in return for half the profit. It was Myddelton's master-stroke. Not only had he raised further finance but now had a backer against whom no landowner dare complain. Indeed, the King commanded that no-one should object to the work "…upon paine of his majesties highe displeasure…". Work resumed in early 1612 and by that summer as many as three hundred men were employed on the undertaking.

Myddelton's plan was to end his 'New River' just below the summit of Islington Hill, where an old duck pond was enlarged to become a reservoir, to be known as 'New River Head'. There the 'Water House' was built, housing a workman controlling the flow of water into pipes, as well as being where money could be paid by customers who received their supply. Construction of the waterway was completed in September 1613 and an opening ceremony at New River Head attended by the then Mayor of London, together with Myddelton's brother Thomas (who that same day was named the new Mayor of London), and many of the City aldermen.

The top of Islington Hill, roughly where you will find the Angel tube station these days, then overlooked London across open meadows. The reservoir was located a short way down the hill, between what is now the Angel and Sadler's Well's theatre. A system of pipes made from hollowed-out elm trees began to be constructed to take supplies from the reservoir, across the meadows and down through the streets of London. Each tree trunk was joined to the next by carving the end into a point which then fitted into a tapered hole in the next trunk. It was not the ideal system because the joints leaked and the tree-trunks lasted only a few years before rotting away, requiring frequent replacement. The leaky joints also prevented pressurisation and wherever the route took it across low-lying ground the mains pipes had to be built up on trestles to create an overall gentle downward gradient. Within the city streets pipes were laid underground. London's terrible congestion meant that it was impossible for work to be carried out during the day so it was



Claremont Square reservoir at Pentonville under construction in the 1850s. Despite its age it still remains part of London's water-supply system. London Illustrated News, November 1856

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undertaken at night by candle and torch-light.

The first main pipe travelled as far as Smithfield and Newgate, then branched east to Cheapside and Aldgate and west to Temple Bar and Fleet Street. Smaller pipes branched off the main pipes. By the end of 1618 around one thousand five hundred premises were connected and soon the entire City of London was covered except for the area already supplied by the competing waterworks at London Bridge. Later in the 17th century the network was extended to supply Covent Garden and as far as Piccadilly, St.James's and Whitehall.

It is hard to imagine that this tranquil scene is in the otherwise very urban London Borough of Hackney! The New River in the foreground continues to flow past the Stoke Newington East Reservoir, now used for yachting and canoeing. Photo: Peter Stone

The problem of leakage meant that the pipes could not be left permanently filled. A system of stopcocks controlled the flow, with each area supplied for an hour or two several times each week. Premises connected to the pipe network had their own water tanks which filled when water was flowing. Any premises that wanted to buy New River water was required to install a thin lead 'quill' up to the main supply to which the New River Company would solder a brass ferrule to be inserted into their pipe. Each building paid an initial fee (normally of one pound but up to twenty five pounds for owners of larger trade premises) and thereafter a quarterly 'fine' depending on the type of establishment.

Although various people had put money into the enterprise it still remained the property of Hugh Myddelton, which was far from satisfactory from the point of view of its biggest investor, King James. Therefore in 1619 the King issued letters patent that converted it into a new legal entity known as 'The Governor and Company of the New River', with Myddelton as its first Governor and a specified number of elected officers. At the same time the King took the opportunity to slip into the founding charter a clause giving the company an effective monopoly of the supply of any new water supplies into London and Westminster. That privilege had never been granted in the original Act of Parliament but by 1619 James was the biggest shareholder so he was cleverly protecting his own investment without having to argue the case with a dissolved Parliament.

Over the centuries water continued to flow along the New River from Hertfordshire to Islington. New River Head became a favourite place for Londoners to take a walk, a pleasant spot from where they could gaze down over the entire metropolis, from Mile End in the east to Westminster in the west and Southwark in the south. It was most probably in 1665 that the artist and engraver Wenceslaus Hollar escaped to Islington from the plague-ridden London and whilst there sketched evocative pictures of New River Head. In around 1750 the Venetian artist Canaletto sat on Islington Hill to take in the incredible panorama and produce one of his celebrated London views, with the New River reservoirs in the foreground.

In 1759 a competition was held to design a new bridge over the Thames at Blackfriars. All the famous architects of the time submitted plans but against the odds the chosen entry was by an unknown Scottish design student. His name was Robert Mylne. Propelled to fame by London's new bridge, he went on to become a successor to Sir Christopher Wren as Surveyor to St. Paul's Cathedral, the engineer of various canals and harbours, and the first of a dynasty of engineers to the New River Company. Such was Mylne's dedication that he named his second son after one of the sources of the New River, at Chadwell. So we arrive at William Chadwell Mylne, the engineer responsible for the view from my window.

As London and its population grew during the early 19th century, as well as the demand for the New River Company's water, William Chadwell Mylne recommended to the company's Board the creation of two holding reservoirs beside the canal north of the village of Stoke Newington. They were created between 1830 and 1833. London Bridge was being rebuilt at the same time to replace the one that had stood since 1759 (of which parts had survived since medieval times). Mylne used wood from the old bridge to line the reservoirs at Stoke Newington in order to protect the banks.

In the 1830s London was plagued by outbreaks of cholera but it took until the 1850s for John Snow, a doctor working in Soho, to realise the disease was being carried by the city's dirty water supply. The Metropolis Water Act of 1852 stipulated that all water supplies brought by open aqueducts must be cleansed by filtering, and supply channels within five miles of St.Paul's Cathedral must be

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covered. That affected the New River in two ways. Firstly the previously open canal had to be covered for its final section into London and secondly the water must be cleansed. Mylne recommended the creation of cleansing filter beds close to the Stoke Newington reservoirs and an engine-house to pump the filtered water through an underground iron pipe to a new covered reservoir at Claremont Square at Pentonville.

The pumping-house at Stoke Newington – the building I can see from my home – was designed by Mylne, assisted by Robert Billings, and inspired by Sterling Castle in Scotland. Drawings of it were exhibited at the Society of British Artists in 1856. It may seem a fanciful work but almost everything other than the battlements had a practical purpose. The main tower was a chimney, with others containing an iron standpipe and spiral staircases that gave access to the enormous engines. The buttresses are not structural but are hollow and contained the huge fly-wheels of six Boulton & Watt beam engines, each twenty five feet in diameter, weighing thirty five tons, powered by eighteen boilers and producing two hundred horsepower. They were so large that the building was erected around them. The buttresses are adorned with the monograms 'MYLNE 1855'.

The old pumping house as it is today, now converted into a popular indoor climbing centre. Photo: Peter Stone

What of the New River today? The New River Company existed until 1904 when it was taken over by the Metropolitan Water Board. New River Head at Sadler's Wells continued in use (latterly as filter-beds) well into the 20th century until being filled in so the land could be used as offices and a laboratory for the Metropolitan Water Board. However, the nearby reservoir at Claremont Square, bordered by the busy Pentonville Road along one side, remains part of Thames Water's water storage facilities. During the Second World War the pumping house and reservoirs at Stoke Newington, which were still part of the water-supply system for London, were targets for German bombers. Luckily they never scored a direct hit but did great damage to the surrounding areas, where council flats were built after the war. One reservoir is now used for sailing and canoeing and the other a protected nature reserve. After the war the pumping house eventually fell into disuse. When the massive steam engines were scrapped in 1952 they had to be cut into pieces to get them out of the building. The building itself was listed as Grade II in 1972, much to the annoyance of its then owners, the Metropolitan Water Board, who learnt about it in the Times newspaper. In 1995 the inside space was converted for use as a climbing centre and is now one of the most popular in London, known as 'The Castle'. A statue of Hugh Myddelton stands on Islington Green at the junction of Upper Street and Essex Road and a number of streets, schools and buildings along the canal's route are named after him. After four hundred years the New River continues to supply a significant amount of London's water supply.

For those wanting to read more about the history of the New River I recommend *London's New River by Robert Ward* (Historical Publications).

The New River makes for an interesting walk, which is detailed in Michael Essex-Lopresti's *Exploring the New River* (Brewin Books).

Although the last section of the New River from Stoke Newington to Islington has long been covered over it can still be traced through the city's streets, making a fascinating exploration along the way. Information is provided in Mary Cosh's *An Historical Walk Along the New River* (Islington Archaeology & History Society – contact Catherine Brighty, 020 7833 1541).

About Peter Stone

Peter Stone has lived all his life in London, with a special interest in the capital's development. He has studied London's history from its Roman origins onwards and is currently engrossed in the early Georgian period.