



What's Inside a Gasholder?

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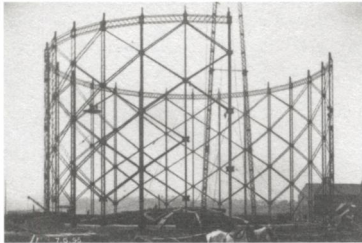


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What's Inside a Gasholder?

Andrew Crompton



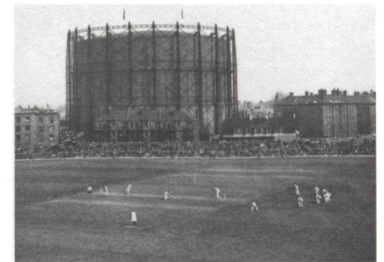
Hendon, London

The interesting ones were the original British type, with an exposed frame and a telescopic cylinder that went up and down. The gasworks they belonged to have all been demolished, although a few gasholders – like the ‘Siamese Triplet’ at King’s Cross, or the grade II-listed Gasholder I at the Oval – have been spared. None of them actually work any longer. Why, then, should we suffer any kind of anxiety about pulling them down?

Holdings were air-tight containers designed to store highly poisonous coal gas, which made their interiors some of the most inaccessible and hazardous spaces imaginable. If you’d ever encountered an active one, you would have found that its central cylinder sat within a basin of water. This water continued inside the cylinder, creating a deep pool upon which – you might be surprised to learn – a small boat would be moored, just like Gollum’s underground lake in Tolkein’s *The Hobbit*. In the old days, gasholders were inspected internally every 20 years or so. First the holder would be lowered, though never completely, and then the gas inside purged before an engineer with a torch climbed through an air-tight hatch. At that time, the engineer would have been a man and so it is unlikely that any woman has ever been inside a working gasholder. Breathing apparatus might be used in an emergency. The boat, quite naturally, was used to get around. Sometimes engineers turned up bodies and discarded firearms that had worked their way inside from the outer basin. But other things also lurked in the dark.

Gaythorn Number IV, an early Victorian gasholder in Manchester, was decommissioned in 1986. The water inside was drained before its columns, in the stretched Tuscan order typical of a holder’s frame, were deliberately shoved in to smash its dome. Photographs of this decommissioning in the National Gas Archive in Warrington reveal a sort of hill inside the gasholder, similar to the cone at the bottom of a wine bottle. Known as a ‘dumpling’, it formed an island in the centre of the pool. The Gaythorn cylinder was so light it took only eight inches of water pressure to lift it into the air. Gasholders like these were soft machines similar to airships, and were spoken of in aerial terms. Prior to its destruction it had stayed aloft for 125 years. The domed crown was its sky. It bounced if you walked on it, and in icy weather you had to tread carefully. An empty holder was said to have ‘landed’ – something that was hardly ever attempted because, like an airship, it would buckle without any gas pushing it up. As a precaution, a prop was therefore placed on the centre of the island of every gasholder, with the water gently lapping around it, to support the dome if it ever came down.

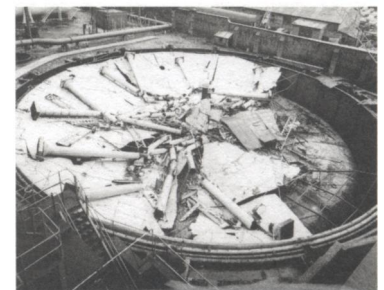
When Belfast Gasworks closed in 1979 the coal gas industry reached the last of its many ends. Personal knowledge of the industry is now vanishing and there might already be no one left alive to tell of rowing by torchlight to inspect the thing that stood waiting to hold up the sky in the middle of an island in a lake. Often these props were made of concrete, a few were wrought-iron posts, as at



Kennington Oval, London



Sevenoaks, Kent



Gaythorn, Manchester

Gaythorn, but the oldest were stacks of pitch pine – Ezekiel 41:22, ‘a wooden altar three cubits high and two cubits square’, comes to mind.

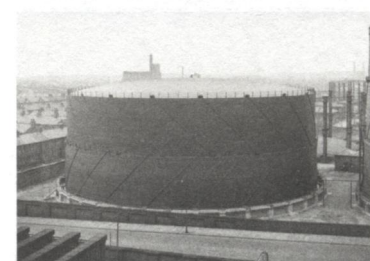
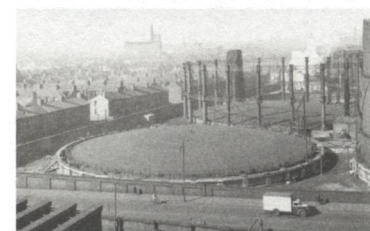
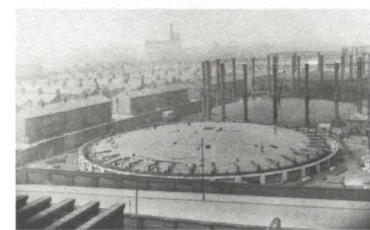
Gaslight was the master invention of the nineteenth century, the greatest breakthrough since oil lamps were invented in the Palaeolithic era. Prior to this, the best light had come from whale oil lamps or candles. Gaslight immediately made these look feeble. Its success drove down the price of spermaceti oil and saved the whale from an early extinction at the hands of whalers like Ahab, just as nitrocellulose later saved the elephant from billiards.

It did not take long for every town in Britain to have its own gasworks. These followed a standard layout, with a wall and a gate behind which a community of engineers, scientists, clerks, salesmen and three shifts of workers distilled coal into a solid, a liquid and a gas. The solid residue this process produced, foamed like an Aero bar, was coke. The liquor was sold as raw material for chemicals, dyes and drugs. And the gas, a mixture of hydrogen and carbon monoxide, was stored in holders that rose with the sun then sank when the lamplighters went to work. All this was overseen from adjacent laboratories where chemists in white coats analysed, calculated and controlled. These scientists knew their coals and were taught to be cautious, because if the gas supply failed then not only would the lights go out but, even worse, poisonous gas could escape. Holders, therefore, might go up and down but they must never, ever land.

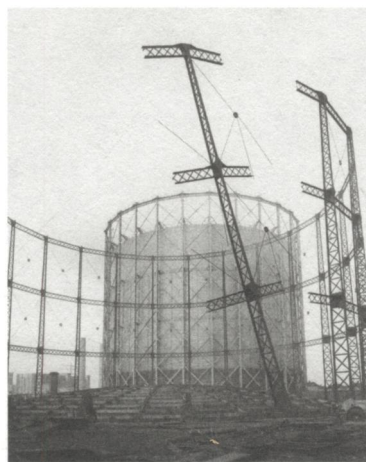
Gasholders all look roughly square from the side because a cylinder as high as it is wide has the greatest volume-to-surface-area ratio of any shape that can collapse by sliding along itself. In other words, their design is the answer to a question in geometry. They were not meant to look like temples but they did. In 1853 John Ruskin noticed a recent one from his bedroom window. He knew the enemy when he saw it. This is from the preface to *The Stones of Venice*: ‘There is not the remotest possibility of any success being obtained in any of the arts by a nation which thus delights itself in the defilement and degradation of all the best gifts of its God; which mimics the architecture of Christians to promote the trade of poisoners.’

Croydon Gasworks take that! Of course, the irony is that many of those who read Ruskin’s rebuke would have done so by gaslight. If you could travel back in time you would see gaslight as yellow, but the Victorians saw it as brilliant white, and so would you too when, after half an hour or so, your eyes had adapted to it. Gaslight was the sign of civilisation itself, at least until the electric lightbulb appeared. Even then, gas gave electricity a run for its money – the invention of the gas mantle in 1890 increased its brightness and it survived well into the twentieth century.

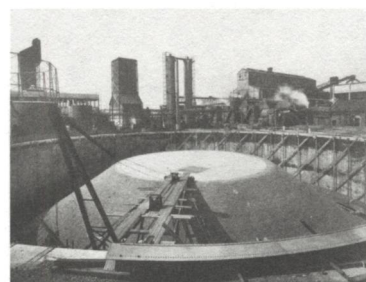
Jane Austen wrote by candlelight, Dickens by naked flame gas and Sherlock Holmes by gas mantle, though you would not know this from reading them. The light itself is never described and no novel ever visits a gasworks. Gas is invisible in more ways than one and its effects were never to be spoken of. It was taboo in the gas industry to mention suicide. Who minded that every street in the country was dug up, that gas caused explosions, that it was smelly, that gas mantles were radioactive or that gasworks generated horrid toxic waste. Early gas also contained so much sulphur that when it burnt it produced sulphuric acid which rotted clothes. Yet all this did not stop people demanding the light it provided. And apart from Ruskin, not many people seemed bothered. Mostly they just laughed at the gas industry, as in the song *The Gas Man Cometh* by



Linacre, Liverpool

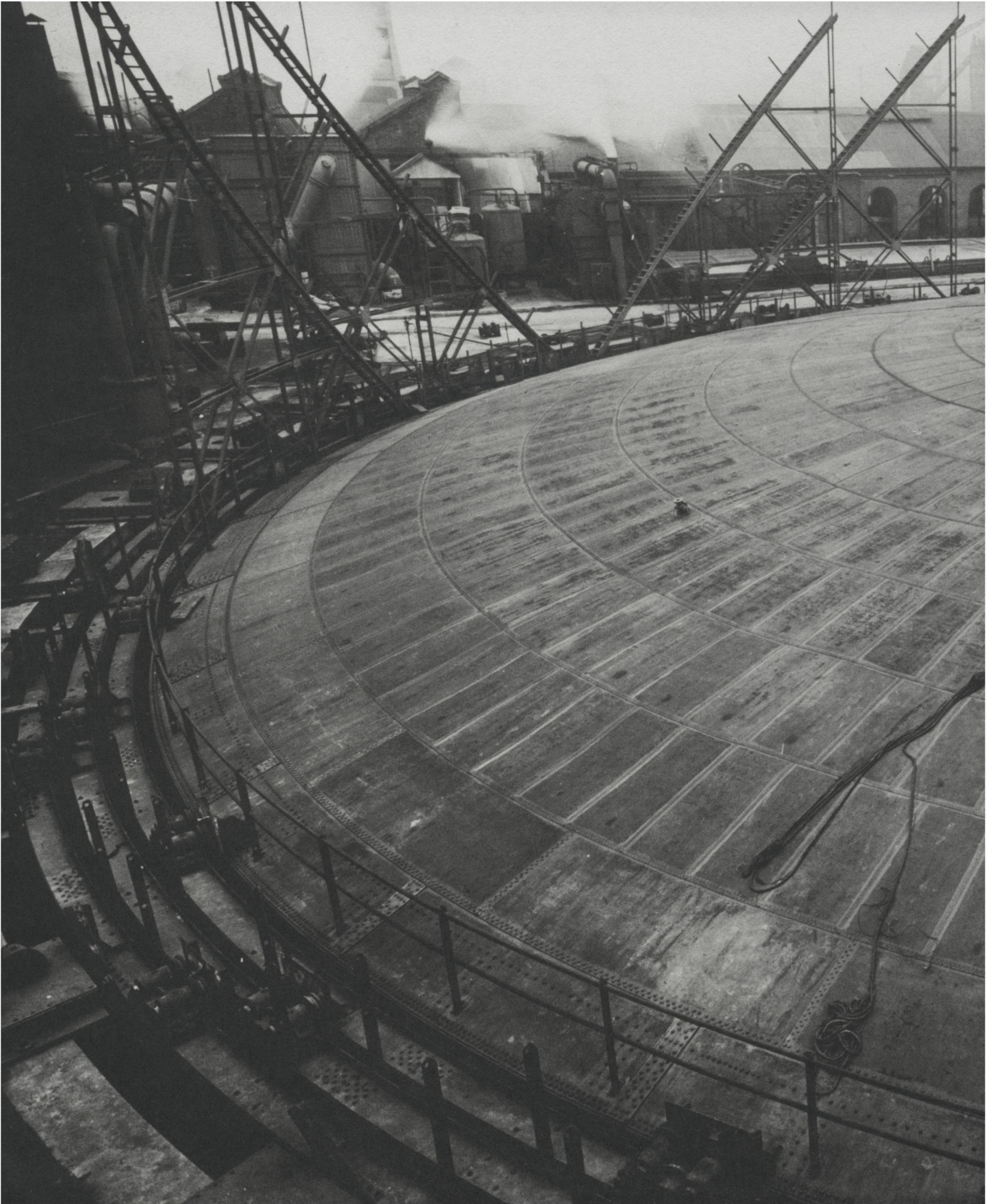


Croydon, London



Bow Common, London

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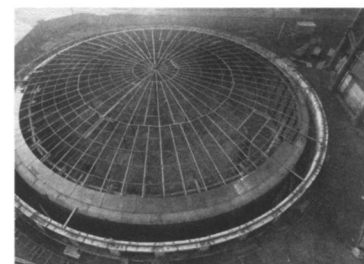
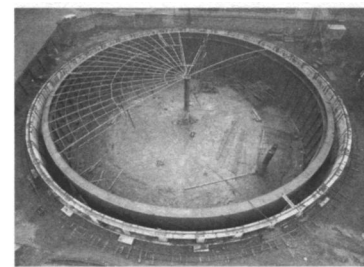
Flanders & Swann ('Twas on a Monday morning the gas man came to call / The gas tap wouldn't turn, I wasn't getting gas at all / He tore out all the skirting boards to try and find the main / And I had to call a carpenter to put them back again'). Nor did these drawbacks stop the technology spreading to Europe, South America, Hong Kong, Cape Town, Bombay, Delhi and Australia. A well-known pair of holders still stand in Venice next door to the Biblioteca San Francesco della Vigna. In Rome, between 1852 and 1910, a cluster stood in the Circus Maximus. You can even see them in plate xxxv of Rodolfo Lanciani's *Forma Urbis Romae*.

In Britain the gas network has been spreading underground for 200 years and is now the largest single object in the UK. How strange to think that no one person has ever set eyes on more than the tiniest part of it. For safety reasons gas pipes are completely buried, with no manholes like those for water or electricity. All you can ever find are small signs to warn excavators and, out in the countryside, little Day-Glo red roofs on poles. These wayside shrines mark the path of high-pressure mains through which gas, which today is methane, flows at about 25 miles per hour – hidden streams of energy connecting towns in long straight lines.

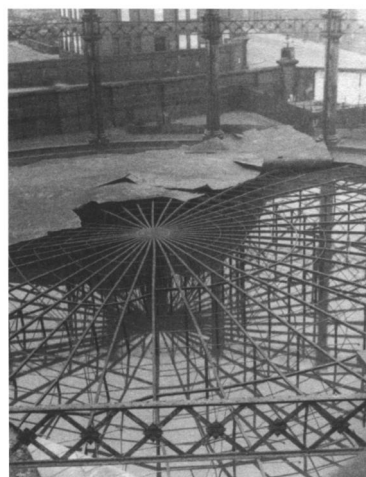
Wherever the gas network does come to the surface there will be a gas meter. These are things we avoid touching or even looking at. Instead, an inspector reads it on our behalf and at the same time surreptitiously checks its seals to see that we have not tampered with it. Meters are delicate low-power devices that tick over using only the energy generated by the flow of the gas itself. Its metal case is a vessel that fills with gas and in the process compresses a set of bellows making the whole meter function, in the same way an iron lung makes a paralysed patient exhale. When they are exhausted a valve switches the flow back into the bellows, thereby expelling the gas into the body of the meter. These measured breaths are counted by clockwork. It therefore follows that with its bellows, levers and gears, the device that a gas meter most closely resembles is a cuckoo clock.

The more one looks at the paraphernalia of gas the odder things get. One would like to ask: what exactly is this single biggest thing that has spread among us? Perhaps the reason we do not see it clearly is because it is part of our environment. Marshall McLuhan put it this way: 'Environments are invisible. Their ground rules, pervasive structures and overall patterns elude easy perception.' Indeed, we are inside gas like we are inside our clothes, but with this difference – the pervasive structure of coal gas belongs to Victorian society, not our own, so the social structures and ideas embedded in coal gas are now beginning to look conspicuously odd, just as nineteenth-century dress would look out of place today. Traditionally, inside an oil lamp there was a genie. Inside a gas light, inside the entire gas industry, was something no less peculiar. Let's test this peculiarity by taking a sideways look at how coal gas is made.

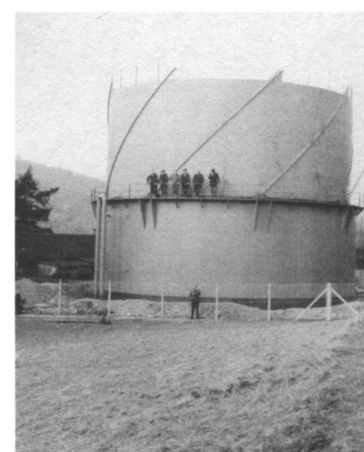
In darkness miners harvest the carbonised remains of an extinct tree which is immolated on an everlasting fire supervised by figures in white coats who account for all parts of the sacrifice in the correct manner. The vital product, the apotheosis of coal, is stored within a darkened chamber inside a circular temple that rises on an island in a lake. In the middle of that temple is an altar ready to hold up the sky should it ever fall. The law demands that the sky must never fall or people will die. The fruits of this process travel in long underground lines of power to every household where a tin god ticks in the lobby. This is a smelly fetish to which we are bound by contract



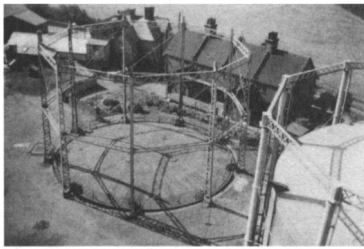
Linacre, Liverpool



Linacre, Liverpool



Llanidloes, Wales



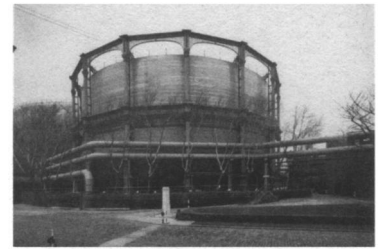
Sevenoaks, Kent

and which is attended by a uniformed official who once a quarter sees that the householder is solvent and collects a tithe. The gas man cometh and we laugh at him as we laugh at the vicar. Thus light and death enter the modern home.

In the coal gas industry, society and technology are enmeshed in a vivid example of what Bruno Latour calls 'symmetrical anthropology'. A whole mythology is deposited in our language and, it ought to be added, in our material culture as well. So perhaps Ruskin was right after all, and it really was a temple he saw from his window, and not a Christian one either.

So what's inside a gasholder? Gas, and other things. Gasholders were leviathans that rose out of dark pools whose huge interiors contained an internal landing device similar in function to an aircraft undercarriage which stood untouched, unseen and unused for generations. It is easy to invest them with numinous significance. Images of their demolition therefore show both the destruction of a storage vessel and the desecration of an altar.

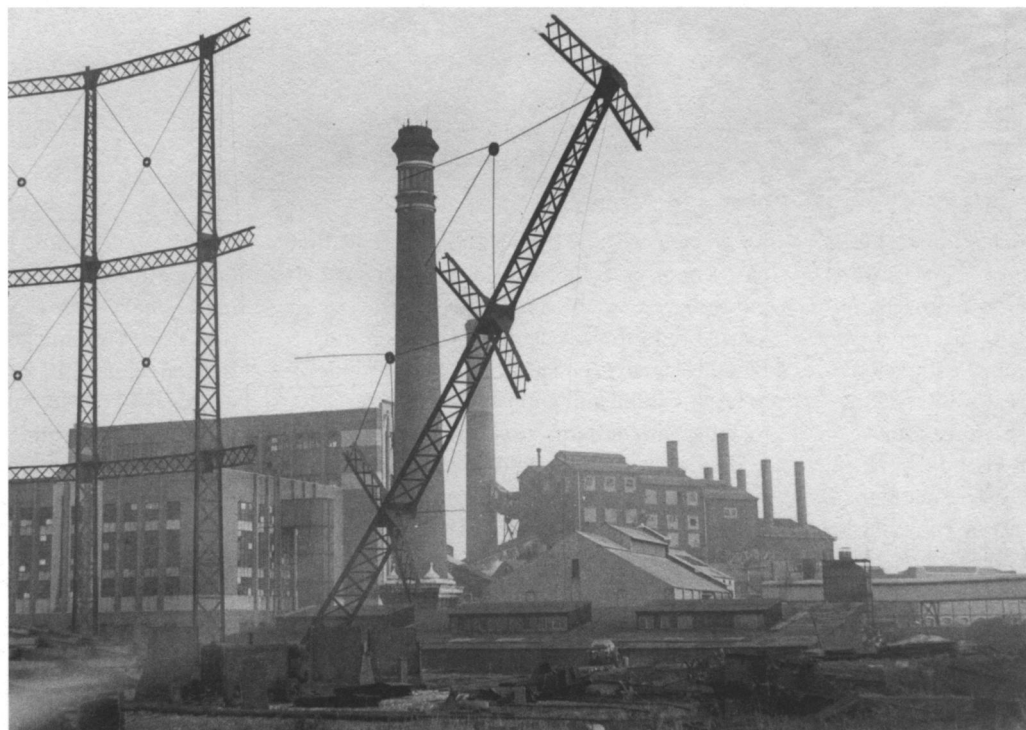
In 2016 the four remaining holders at King's Cross were reworked. Three of them are so close together that their frames kiss each other. This famous triplet has been converted into flats; one is reminded of how housing was similarly slotted into the Avebury Henge complex. The fate of the fourth survivor, King's Cross Number 8, is perhaps even stranger. It has been reconfigured as Gasholder Park and the circular space inside is now filled in with a lawn. It is the wrong shape for croquet and too small for bowls. When I stepped towards its centre a uniformed attendant immediately appeared and told me to clear off. Theo Crosby once wrote that grass is the enemy of cities, and instinctively one agrees with him. All the same, laying down some turf was probably the right thing to do here. The important thing is that the cone and the thing in the middle have vanished as anything remotely authentic might attract the wrong sort of visitor and obviously nobody wants that to happen.



Fulham, London



Stapleton Road, Bristol



Croydon, London

Thanks to Greg Keefe and Kerry Moore,
National Gas Archive, Warrington
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