



Sunfish and coal-gas: public lighting in Cork city, 1717-1826

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IT COULD BE SAID THAT WIDESPREAD STREET LIGHTING IS A DEFINING FEATURE OF OUR cities, and that modern lighting has enabled nightlife as we know it, changing the focus of entertainment from the parlour or fireside to pub, club, theatre and cinema. As one major manufacturer of lighting in the nineteenth century phrased it: ‘the requirements of modern civilisation necessitate an increasing attention to the use of Artificial Light for both public and private purposes.’¹ The connection in people’s minds between civilization and lighting is also revealed by the following dialogue in Cork writer Frank O’Connor’s short story, *Old Fellows*: ‘The north side of the city, said the sailor ... what is it only foreigners? People that came in from beyond the lamps a generation ago. Tramps and fiddlers and pipers.’²

It is perhaps hard for modern city-dwellers to appreciate the level of darkness in a Georgian city, even those relatively well illuminated for their time, such as London. When venturing out after dark, most people lit their way with a ‘lanthorn’, while the wealthy hired men called ‘link-lighters’ to carry such lanterns ahead of them. These lamps were glazed with panes of cow’s horn, a natural plastic, which had been softened by soaking it in water and then rolled into flat, if imperfectly transparent sheets. Either way, illumination was little more than a candle sputtering in the gloom. It is probable that the combination of slippery pavements, poor lighting and especially the fear of crime meant that many city-dwellers kept to their hearths after dark.

Unfortunately, very few of the thousands of oil- and gas-fired lights which once graced Cork’s streets are left today, and it is therefore hard to imagine the appearance of earlier street lighting. This paper will advance a design-historical approach to this subject, using the design of the objects as a prism to elucidate the conditions of the period.

1 – James Beale, *SKELLIG NIGHT ON THE GRAND PARADE, 1845* (detail)

The street-lighting shown in the scene would probably have been gas-powered by this date.

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Comparisons will also be drawn between street lighting in Cork and in the cities of Limerick, Dublin and London.

LIGHTING IN CORK IN THE GEORGIAN PERIOD

THE TOPOLOGY OF THE MEDIEVAL CITY OF CORK WAS ESSENTIALLY SIMILAR TO A FISH'S skeleton, with one main street (spine) and many side alleys (ribs). The main street was also a significant north-south thoroughfare, and it is therefore likely that public lighting followed established practices of cities such as London: there, in 1405 and at various times throughout the Middle Ages, each household along a thoroughfare had to display a light annually at the Christmas watch, as much a festive tradition with Roman roots as a practical gesture.³ Animal byproducts provided material for the first lighting systems in medieval cities, and given Cork's early importance in the animal-slaughtering trade, the city had ready supplies of beef tallow for fuel and horn for glazing lanterns. It seems likely, therefore, that the first public lights in Cork would have utilised such materials.

Although the renowned historian W.G. MacCarthy stated that as late as 1768 'there were no public lamps whatever in Cork, except one on the drawbridge' (over the canal where St Patrick's Street now runs), it is now clear that the city maintained a relatively good provision of street lighting by then.⁴ As early as 1717, for example, there was some, albeit limited, oil lighting provided on 'each dark of the moon'.⁵ The periodic nature of this service is significant, as it reveals how dark streets really were: the oil lighting was evidently provided only as compensation for the lack of moonlight once a month.

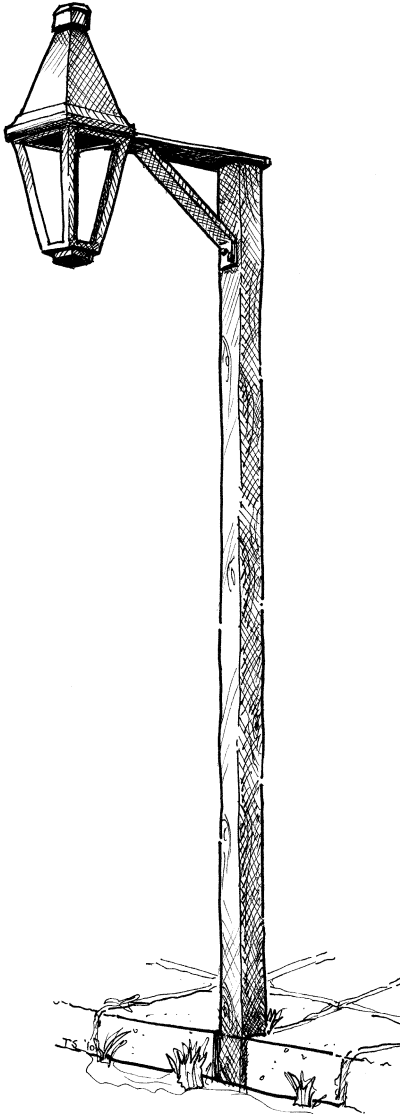
As the city expanded beyond its medieval core, with extensive quays and a grid pattern for the new streets, the City Corporation realised that public lighting was becoming increasingly essential. An Act of 1698 had inaugurated lighting in Dublin (9, Wil. 3, c.17),⁶ and when this came up for renewal in 1719 it was extended to provide public lighting for twenty-one years in both Cork and Limerick (6, Geo. 1, c.18). Significantly, the initial legislation concerning Dublin's street illumination predated the equivalent Act in the City of London by approximately forty years.⁷ Indeed, while most London boroughs had lighting Acts by the end of the 1750s, the outer London suburb of Marylebone had to wait until 1770, perhaps due to the myriad municipal authorities in that city.⁸ The resulting improvement in the brightness of London was noted by, among others, Tobias Smollett in *Humphrey Clinker*.⁹

The 1719 Act in Ireland is notable for several reasons. In the preamble to the details of the scheme's implementation, the primary driving force behind the legislation is revealed: 'it has been found by experience, that all cities, well furnished with publick lights in the dark nights, are much freer from murders, robberies, theft and other insolences.' Records show that there were a number of high-profile murders in Cork city around this date and a serious mutiny in 1716, events which must have troubled the

authorities.¹⁰ In addition, by this time the city of Cork was especially densely populated, particularly in the vicinity of the lanes off the main street. Dr Joseph Rogers, writing about Cork in the period 1707 to 1731, paints a gloomy picture, describing how ‘the Marshes both to the East and West (of the city) are constantly covered by the overflowing of the Spring Tides’, and noting ‘the great Quantities of Filth, Ordure and Animal Offals that crowd the streets, particularly in the close confin’d Allies and Lanes’.¹¹ This must have made life very difficult for pedestrians, especially at night. The development of street lighting can also be seen in the context of a general physical improvement in the city which saw the North Gate Gaol, a new barracks, the North Infirmary, Christ Church and St Anne’s Church, Shandon, built between 1715 and 1722. More important from a design-historical point of view is the fact that the Act represents a very early (pre-industrial) attempt to create and enforce a de facto national standard of design for a mass-produced product. As Clause 2 of the Act put it:

...each lanthorn shall contain in tinwork from the top of the glass to the top of the lanthorn fourteen inches and a half; with four glasses; each glass containing thirteen inches by nine and a half, and four and a half in breadth; the whole glass making three foot and a quarter; to be set up nine feet high ... projecting two and a half feet into the street, upon irons erected for the purpose.

The details of the new design were the initiative of Dublin’s lighting contractors, who, in the words of the Act, had ‘at their own expense, procured lamps of a larger and better size than the former ones’. A conjectural sketch of how one of these lanterns may have looked can be seen in Plate 2. The Act also specified that ‘patterns’ or mastercopies be kept by the mayors of each city to ensure design standardisation across the country, and that the materials specified for use accord with those actually employed in manufacturing lamps, as recorded in the minute books of Cork Corporation.¹² In order to copperfasten compliance, the Act also stated that lighting contractors would not be paid for light provided from non-standard lights. Lamps



2 – Conjectural sketch of 1719
‘standard’ streetlamp
(drawn by the author)

were to be set twenty-two yards apart on main streets and thirty-three yards apart on side streets, and were to be lit from 1st September to 15th April. Cork's first contractors were William Maynard, Samuel Wilson and Jeremiah Foster, all described as merchants, and they were to hold the contract for twenty-one years.

As the end of the Act's twenty-one-year term approached, the Corporation was criticised for failing to perform their duties, presumably for failing to lobby effectively for renewal of the legislation.¹³ It also seems that the service of the first contractors was somewhat substandard,¹⁴ and in September 1743 two new lighting contractors, Thomas Mitchell and Henry Wheatcroft, were instated.¹⁵ Information about many of these contractors has been preserved, and to judge by their surnames they were generally Cork-based Protestant merchants, mostly of English extraction.¹⁶ Only one, John Fitzgerald, who held the contract from 1781 to 1784, has a clearly identifiable Irish name.¹⁷ Of the twenty-two men described as lighting contractors in the minutes of Cork Corporation for the period under consideration, the business of seventeen can be ascertained. While four are described only as merchants, four are grocers (and so may have had easy access to rape oil), and three each were involved in the clothing or food-processing industries. The last three were a pewterer, a glazier cum plumber, and an ironmonger, all trades related to the manufacture or maintenance of lamps.¹⁸ In 1771 the contract length for the provision of street lighting was reduced by parliament to three years (11/12, Geo. 3, c.18), but prior to that the City Corporation regularly changed contractors in an attempt to keep costs under control. Dublin-based contractors were tried on two occasions, at least one of which ended in dispute and litigation.¹⁹ The first contractor to be described as a 'gentleman' was a Jeremiah O'Leary, who, judging by his surname, may have been a Catholic.²⁰ This was in 1820, and hence pre-Emancipation, a sign of the direction which commercial activity in Cork was to take as the century progressed. His title suggests that he subcontracted the work to tradesmen, overseeing the implementation of a contract that stipulated cleaning, fuelling, maintenance, lighting and extinguishing all the lamps at specified times.²¹

RAPE, WHALES, SHARKS AND SUNFISH

IN THE 1719 ACT, IRISH RAPESEED OIL WAS STIPULATED AS THE APPROPRIATE FUEL FOR street lamps, but a supplementary Act of 1730 (3, Geo. 2, c.22) stated that the Cork lamps 'shall be constantly kept and supplied ... with a sufficient quantity of rape-oyle ... or the oyl of the sun-fish made in this kingdom and no other oyl'. Traditionally, the name 'sun fish' was applied by Irish fishermen to the basking shark *Cetorhinus maximus* rather than the ocean-going sunfish *Mola mola*. Oil was commercially extracted from the liver of this shark, which appears today off the coast of Ireland during the summertime but was evidently quite common in times past.²² Although whale oil was widely used in the United States and elsewhere, it does not seem to have been important in Cork: only between 1790 and 1793 was sperm whale oil specified by the Corporation.²³ The fuel for

these lamps burned from cotton wicks, and the flames were smoky and odorous. Lest we forget the primitive nature of this technology, it is worth quoting from a contemporary Londoner's account:

The lamp consisted of a small tin vessel, half filled with the worst train oil ... In this fluid fish blubber was a piece of cotton twist, which formed the wick ... A set of greasy fellows ... were employed to trim and light these lamps, which they accomplished by the apparatus of a formidable pair of scissors, a flaming flambeau of pitched rope and a rickety ladder, to the annoyance and danger of all passers-by. The oil vessel and wick were enclosed in a case of semi-opaque glass ... which obscured even the weak light it encircled. These gleaming meteors loomed through the darkness ... of London to little other purpose than to warn the inhabitants to avoid the posts on which they were placed.²⁴

THE DEVELOPMENT AND ORGANISATION OF CORK'S LIGHTING SYSTEM

FIGURES CONCERNING BOTH THE EXPENDITURE ON STREET LIGHTING AND THE POPULATION of eighteenth-century Cork make it possible to tabulate the number of citizens per lamp (Table 1, below). However, it is important to emphasise that, due to these extrapolations and the uncertainty about population levels during this period, this data should be seen primarily as indicative. Nonetheless, it seems probable that the number of residents per lamp fell from ninety-four in 1743 to sixty in 1772. The city grew strongly in size and population during the 1770s, and by this time it appears that the surge in population had started to outstrip the growth of the lighting service.

The original Lighting Act of 1719 had a fixed life and had to be regularly renewed. The city council was duly called on to do this in 1760.²⁵ Under the terms of the new Act of 1761 (1, Geo. 3, c.17), Cork Corporation received a loan of £938 15s 7½d at 5% per annum (totalling approximately €160,000 today) from the Dublin exchequer to provide more city lamps.²⁶ The plan was for the Corporation to recoup this from taxpayers – in addition to ongoing lighting costs²⁷ – and to repay it by 1771, but this ‘was not carried into compleat or effectual execution’, and when the Act was again renewed the deadline was extended until 1780 (11/12, Geo. 3, c.18).

Although there were signs of crisis in the level of lighting provision in 1772, thanks to the Government loan the city boasted a total of 900 lamps by 1781.²⁸ By this date the Corporation took the issue of street lighting very seriously, and its management was undertaken by an Overseer of Works; the first of these, a Mr Sober Kent, was appointed in 1770.²⁹ By 1784 the city had 1,000 lamps, approximately one lamp for every fifty-one citizens, comparing well with a rough estimate of one per fifty-three for London.³⁰ In this respect it is worth noting that London was considered well lit by the standards of some continental cities.³¹ The total in Cork was 2,188 lamps by the close of the century, and

<i>year</i>	<i>no. of Corp. lights installed</i>	<i>total lighting cost p.a.</i>	<i>total lighting cost p.a. (1820 money)³²</i>	<i>cost of each lamp (1820 money)</i>	<i>approx. pop. of Cork city³³</i>	<i>no. of citizens per lamp</i>
1717	4	£2 8s	n/a	n/a	26,945	6,736
1718	11	£3	n/a	n/a	26,945	2,449
1743	400	£300	£688 5s	£1 15s	37,570	94
1744	438	£284 14s	£653 3s	£1 10s	37,570	86
1772	800	£856 13s	£1,354 4s	£1 6s 7d	47,963	60
1774	800	£1,000	£1,560	£1 19s	48,517	61
1778	800	£509 10s	£1,300 3s	£1 12s 7d	49,902	62
1781	900	£1,235	£2,189 6s 8d	£2 9s	50,455	56
1784	1,000	£1,350	£2,078 6s	£2 1s 7d	51,286	51
1787	1,500	£2,012 10s	£3,270 6s	£2 3s 7d	52,167	35
1788	1,600	£2,146 13 4d	£3,348 15s	£2 1s 7d	52,493	33
1790	1,600	£1,520	£2,371 4s	£1 9s 7d	53,146	33
1793	1,638	£1,392 6s	£2,088 9s	£1 5s 7d	54,126	33
1796	2,088	£2,349	£2,748 6 8d	£1 8s 4d	57,033	27
1799	2,188	£3,117 18s	£3,684 16s	£1 13s 7d	58,769	27
1807	2,593	£3,370 18s	£3,206 9s 5d	£1 5s	63,398	24
1820	3,000	£3,750	£3,750	£1 5s	71,500	24

Table 1 – Expenditure on street lighting and population of eighteenth and early nineteenth-century Cork.

3,000 (or one lamp for every twenty-four citizens) by the time Jeremiah O’Leary took over the contract in 1820.

In London, responsibility for public lighting (and much else) was delegated to its 200 parish vestries and then to private contractors, creating a system that was widely criticised for both its inefficiency and duplication.³⁴ An identical system seems to have operated in Dublin.³⁵ In Cork, perhaps due to its more modest size, overall expenditure appears to have been more satisfactorily controlled by the Corporation but with parish vestries collecting the ‘lamp tax’ and deciding how much each household had to pay (under the terms of 15, Geo. 2, c.11). However, despite early attempts to standardise the system of lighting the city, parochial influence led to different lamp designs being specified by different parishes and, occasionally, different contractors being used.³⁶ According to Henry Jefferies, St Fin Barre’s episcopal authorities specifically opted out of these early attempts to standardise arrangements in an attempt to prevent the Corporation from meddling in their affairs.³⁷

HEAVY DUES FOR LIGHT ?

THROUGHOUT THE GEORGIAN PERIOD, A VARIETY OF IDEAS WERE EXPLORED IN ORDER to fund public lighting. The 1719 Act had set a flat charge for each household of three shillings per annum (two shillings for residents of less well-lit streets) regardless of income. This proposal unsurprisingly ‘proved unequal’ and a new model was envisaged when the Act was renewed in 1741 (15, Geo. 2, c.11). In that Act it was intended that each corporation – in Dublin, Cork and Limerick – would assign responsibility to parish vestries to appoint ‘valuators’ to rate each property and introduce a sliding scale of household charges from one to five shillings. However, this model proved equally unsuccessful, and the later Act of 1771 removed all citizens from the ‘tax net’ who lived in properties with a rentable value of less than £2 (11/12, Geo. 3, c.18). Interestingly, the comparable tax in London applied to households rated above £10.³⁸ While the difference between the taxation thresholds in Cork and London might be attributed to the relative wealth of the cities, it is also possible that the tax-base had to be wider in Cork to pay for a similar level of service. Freeholders with property values above £2 (forty shillings) had the right to vote, and it is possible that this pre-existing criterion was adopted. Either way, the lamp tax was resented by some of Cork’s relatively well-to-do citizens, and oil lights were pointedly vandalised between 1771 and 1773 in protest.³⁹ As we have seen, the ratepayers were already obliged to repay the Corporation’s debt to the Exchequer. In addition, due to the swift increase in the number of lamps, the cost of each lamp was borne by fewer taxpayers. This may explain why a minority of comparatively fortunate and privileged ‘vandals’ took their revenge on a public service.

The cost to the citizens of Cork for the provision of public lighting throughout the Georgian period demonstrates some interesting facts. While there is an inherent risk in the investigation of commodity prices, such as oil, at this remove, inflation in general was quite low as ‘prices roughly doubled between 1750 and 1800’.⁴⁰ However, there were significant annual fluctuations, especially during the 1780s. It should be noted that while the total cost to the citizens of Cork steadily increased as the level of lighting improved, the cost per lamp in real terms actually fell by 30%, from fifteen shillings in 1743 (equivalent to about £1 15s in 1820 money) to £1 5s in 1820.⁴¹ Overall, the budget for lighting grew more than fivefold, from £300 (£688 5s in 1820 terms) to £3,750 over this period. One way of putting these figures in context is to compare them with the amount of money passing through the city due to trade. As much of Cork’s business was export-oriented, the receipts for HM Customs during the eighteenth century are an indicator of the overall level of economic activity at the time.⁴² It appears that, despite protests about the lamp tax by a relatively wealthy minority, the cost of street lighting was equivalent to only 1% of customs receipts over this period.

THE DESIGN OF OIL LIGHTING IN GEORGIAN CORK

GIVEN THE DESIGN-HISTORICAL EMPHASIS ADVANCED BY THIS ARTICLE, IT IS WORTH investigating the style and materials used in the design of street furniture. It has already been noted that the 1719 Act represented a very early attempt at creating a national standard for a mass-produced product, albeit with details left open to interpretation. The Act of 1771 gave the city Corporation further leeway to decide on the ‘kind of lamps necessary’, which led to parochial variations,⁴³ and by the time of the city’s Wide Streets legislation in 1822, all attempts at national standardisation had been abandoned, the Commissioners being given free reign to source ‘such and so many Lamps of such Sorts and Sizes, and Constructions’ (Cork Improvements Act, 1822 [3, Geo. 4, c.85]).

Given that, by the close of the eighteenth century, 3,000 lamps had been installed in a relatively small city, one might think there would be many extant; sadly, this is not the case. However, some examples of contemporary privately installed oil lighting survive on North Mall and South Terrace (Plates 3-5). Although not provided as part of the public lighting programme, these lamp standards are likely to share certain designed characteristics with their public counterparts. Dating from 1750 to 1830, and apparently never adapted for gas, it is probable that they were locally made in the city’s nascent iron works industry.⁴⁴ In general, the lamp brackets and arches are formed from high-purity wrought iron – requiring high-temperature processing and forging – and are symmetrical in form with coiling tendrils and curves. The lamps on South Terrace are more rectilinear, including a squared-scroll detail towards the top which can be read as a vestigial Ionic capital. As well as being aesthetic choices, these forms are also the result of the material and manufacturing processes employed: namely, forging the hot metal over an anvil or into a simple mould, as well as welding the different elements together while they were still hot. The volute designs of the lamps complement the stays and decorative grilles on the railings to which they are attached. While the rails and finials of Cork’s domestic railings are simply detailed, many feature ornate grilles at key points; this introduces variety and provides a compositional focus. A fine example of this existed on the rails which once surrounded the equestrian statue of George II, erected in 1761 (Plates 1, 6). Similar features can be found on railings in Bath.

Other contemporary glimpses of Cork lamps can be found in the busy streetscapes of the artist Nathaniel Grogan (1740-1807). An etching of the Batchelor’s Quay area shows lamps bearing a striking similarity to the standard ordained in the 1719 Act, and may represent evidence of one of the first national standardised designs used in Ireland (Plate 7). The lights on Old St Patrick’s Bridge were apparently closer in appearance to those remaining on the North Mall (Plates 8, 9).

With respect to Dublin, James Malton’s well-known series of engravings published between 1792 and 1799 and in a compendium entitled *A Picturesque and Descriptive View of the City of Dublin* in the latter year, provide a superabundance of images of oil lamps. Old Essex Bridge at the foot of Capel Street appears to have had twenty lamp-



*3 – No. 1 North Mall, Cork
(all photos by the author, 2009)*



4 – No. 15 North Mall, Cork



5 – No. 31 South Terrace, Cork





8 – Nathaniel Grogan

OLD ST PATRICK'S BRIDGE, CORK, c.1790

9 – *OLD ST PATRICK'S BRIDGE, CORK: sketch of eighteenth-century oil lamps on balustrade*
(drawn by the author after Nathaniel Grogan)

opposite

6 – James Beale, *SKELLIG NIGHT ON THE GRAND PARADE, 1845*

The street-lighting shown in this scene would probably have been gas-powered by this date.

7 – Nathaniel Grogan, *NORTH GATE BRIDGE, CORK, c.1790*



(all paintings © 2010
Crawford Art Gallery, Cork)





left to right: 10 – No. 1 North Mall / 11 – No. 15 North Mall / 12 – No. 31 South Terrace

posts, itself a testament to their feebleness as street lighting.⁴⁵ Perhaps due to his architectural training, Malton's illustrations focus on the built environment, and seem strangely idealised and underpopulated; however, his view of Capel Street clearly shows a man attending to a spindly lamp standard from atop a ladder.⁴⁶ While the lamp in Plate 10 carries a square lantern bracket, suggesting the lantern itself was pyramidal, Plates 11 and 12 feature circular brackets, implying a globular or bowl-shaped lantern, as shown in Malton's images. Sadly, Cork's remaining Georgian lamps are generally in poor condition and are likely to degrade further without a significant application of funds in the near future.

THE INTRODUCTION OF GAS LIGHTING IN CORK

COAL-GAS-POWERED LIGHTING HAD BEEN FIRST INSTALLED AT BOULTON & WATT'S factory in Birmingham in 1802, where it presented to the public 'a grand luxurious spectacle, which astonished by its brilliance'.⁴⁷ Considering that those present were so astounded, and recognising that early gas lamps were incredibly inefficient – with perhaps 97% of the available energy wasted – one can perhaps appreciate how weak oil lighting must have been in retrospect.⁴⁸ Between 1807 and 1814, Westminster Council converted from oil to gas,⁴⁹ and in 1816 Cork saw its first demonstration of coal-gas in Tuckey Street.⁵⁰

It seems that the aforementioned Jeremiah O'Leary may have been one of the last oil-lighting contractors in the city. His contract ran until 1823. In 1825 (or 1826) the Wide Streets Commissioners, who had by then assumed responsibility for street lighting, began to implement gas lighting (31/32, Vict., c.32). The gas was locally manufactured by a London-registered firm, the United General Gas Company.⁵¹ This company operated as a monopoly, and it is likely that the lamps themselves may have been imported.

CONCLUSION

THE INTRODUCTION IN 1826 OF PIPED COAL-GAS TO CORK WAS THE BEGINNING OF THE end of oil lighting in Cork. However, this would have been effected gradually – no doubt unfolding over a number of decades – and it is notable that rape oil (or colza) continued to be used domestically well into the twentieth century. Cork itself was well placed throughout the eighteenth and early nineteenth centuries to develop a serviceable street-lighting system. With its widespread maritime-based trading network, the city could source fuel and technology relatively easily. Cork was also becoming industrialised by the end of the eighteenth century and possessed a good degree of local knowledge and talent, witnessed by the early experiments with gas, the probability that early lighting standards and lanterns were locally made, and the fact that, in general, Cork entrepreneurs and merchants provided the lighting service to the city.

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ENDNOTES

The following abbreviation is used:

CCC Richard Caulfield, *The Council Book of the Corporation of the City of Cork from 1609 to 1643 and from 1690 to 1800* (Guildford, 1876).

- ¹ David S. Mitchell, *Macfarlane's Castings Catalogue*, 2 vols (Glasgow, 1882; reprint Edinburgh, 2009) 437.
- ² Frank O'Connor, *Larry Delany: Lonesome Genius* (Cork, 1996) 39.
- ³ Peter Ackroyd, *London: The Biography* (London, 2001) 441.
- ⁴ W.G. MacCarthy, *A Short History of Cork* (Cork (1869), 1996) 47.
- ⁵ CCC, Minutes, 15th January 1717.
- ⁶ Year of reign, name of British monarch, chapter of relevant statute book.
- ⁷ The year 1736 is given in Stephen Inwood, *A History of London* (London, 1998) 365; 1750 is given in Geoffrey Warren, *Vanishing Street Furniture* (Newton Abbot, 1978) 76.

- ⁸ Inwood, *A History of London*, 365.
- ⁹ Tobias Smollett, *The Expedition of Humphrey Clinker* (London (1771), 1985) 118.
- ¹⁰ For example, in 1716 a woman was burnt just outside the city for poisoning her husband, and in 1720 two men were hung and quartered for enlisting for the Pretender. Francis H. Tuckey, *The County and City of Cork Remembrancer* (Cork, 1837) 125-27.
- ¹¹ Joseph Rogers, *An Essay on Epidemic Diseases* (Dublin, 1734) part 2, 36-37.
- ¹² CCC, Minutes, 24th November 1772.
- ¹³ CCC, Minutes, 17th December 1739.
- ¹⁴ Henry Alan Jefferies, *Cork: Historical Perspectives* (Dublin, 2004) 150.
- ¹⁵ CCC, Minutes, 19th September 1743.
- ¹⁶ Apart from a short period in the late seventeenth century when Catholics could sit as city councillors, the Williamite siege of Cork in September 1689 placed the Protestant population firmly in control of the commercial and political life of the city, a position they retained well into the nineteenth century.
- ¹⁷ CCC, Minutes, 25th September 1781.
- ¹⁸ Richard Lucas, 'The Cork Directory for the Year 1787', *Journal of the Cork Historical and Archaeological Society*, 72, 1967, 135-57. See also William Holden, Holden's triennial directory, 2nd Edition, 1805-1807 (London, 1805); William West, *The Cork directory, 1809-1810* (Cork, 1809); and James Pigot & Co., *The commercial directory of Scotland, Ireland and the four northern most counties of England for 1820, 21 & 22* (Manchester, 1820).
- ¹⁹ CCC, Minutes, 21st August 1789 and 6th July 1790.
- ²⁰ This may well be the same man described as a 'Linen Draper and Hosier' of North Main Street in the street directories listed in note 18 above.
- ²¹ Cork City and County Archives, Wide Streets Commissioners Accession 1999, box 10, bundle 2/4, Contract for lighting lamps from 1820 to 1823.
- ²² Simon D. Berrow and Clare Heardman, 'The basking shark *Cetorhinus maximus* (Gunnerus) in Irish waters: patterns of distribution and abundance', *Biology and Environment: Proceedings of the Royal Irish Academy*, 94b, no. 2, 1994, 101-07.
- ²³ CCC, Minutes, 23rd July 1790.
- ²⁴ John Richardson, *Recollections, political, literary, dramatic, and miscellaneous, of the last half-century*, 2 vols (London, 1856) I, 31-32
- ²⁵ CCC, Minutes, 5th January 1760.
- ²⁶ The original eighteenth- or nineteenth-century cost has been converted to euro at 2009 values to enable the reader to readily appreciate it. The original cost was converted to 2003 pounds sterling using Table 1 in Jim O'Donoghue, Louise Goulding and Grahame Allen, 'Consumer price inflation since 1750', *Economic Trends*, 604, 2004, 38-46. This price was then converted to euro, and finally it was adjusted for increase in the Consumer Price Index from 2003 to date (2009). (2003 annualised exchange rate of £0.692/€ from Central Bank statistics, www.centralbank.ie/data/site/FXRA9904.xls, CPI data from Central Statistics Office data from, <http://www.cso.ie/releasespublications/documents/prices/current/cpi.pdf>, available online, 15th December 2009.
- ²⁷ CCC, Minutes, 28th October 1772.
- ²⁸ *ibid.*, 25th September 1781.
- ²⁹ *ibid.*, 15th May 1770.
- ³⁰ London's population of about 780,000 (extrapolated from Inwood, *A History of London*, 270) enjoyed 15,000 lamps according to Warren, *Vanishing Street Furniture*, 76.
- ³¹ Ackroyd, *London: The Biography*, 442.

- ³² Jim O'Donoghue, Louise Goulding and Grahame Allen, 'Consumer price inflation since 1750', *Economic Trends*, 604, 2004, 38-46, Table 1. The historic cost has been converted to pounds, shillings and pence at 1820 values to enable the reader to compare the costs.
- ³³ David Dickson, *Old World Colony: Cork and south Munster 1630-1830* (Cork, 2005) 662, Appendix Table XVI. For years a figure is unavailable, I have made linear extrapolations between population figures in adjacent years from this table.
- ³⁴ Inwood, *A History of London*, 360-64.
- ³⁵ Brendan Twomey, *Dublin in 1707: a year in the life of the city*, Maynooth Studies in Local History, 87 (Dublin, 2009) 17.
- ³⁶ CCC, Minutes 22nd and 26th September 1778.
- ³⁷ Jefferies, *Cork: Historical Perspectives*, 150.
- ³⁸ Warren, *Vanishing Street Furniture*, 76.
- ³⁹ Charles J. O'Sullivan, *The Gasmakers* (Dublin, 1987) 31, and Michael Lenihan, *Hidden Cork: charm-ers, chancers and cute hoors* (Cork, 2009) 190.
- ⁴⁰ O'Donoghue, Goulding and Allen, 'Consumer price inflation since 1750', 40.
- ⁴¹ €374,000 in 2009 terms. It is instructive to note that the present cost for lighting the 1,750 electric lamps in the part of the modern city equivalent to its extent in 1800 is €270,000; however, the considerable cost of refilling, lighting and snuffing lamps is no longer incurred. In conversation with Ian Winning, Executive Engineer, Cork City Council Traffic Department, 8th April 2008.
- ⁴² Dickson, *Old World Colony*, 652, Appendix Table VIII, i.
- ⁴³ CCC, Minutes, 22nd and 26th September 1778.
- ⁴⁴ Cork's iron industry can be dated back to the great forestry clearances of the seventeenth century, with the resulting glut of charcoal as fuel for smelting. The industry declined in the next century, but by 1787 there were thirteen firms involved in the iron business in Cork city, and twenty-four by 1820. These laid the basis for an industry which survived well into the twentieth century. See Tom Spalding, *Cork City: A Field Guide to its Street Furniture* (Cork, 2009), and Colin Rynne, *The Industrial Archaeology of Cork City and its Environs* (Dublin, 1999)
- ⁴⁵ Interestingly, the plate of Essex Bridge was dedicated by Malton to the Commissioners for Lighting and Paving. See Desmond Guinness, *Malton's Dublin, 1799* (Dublin, 1978) description of pl. 28.
- ⁴⁶ For more on Malton's views, see Edward McParland, 'Malton's Views of Dublin: too Good to be True?' in Brian P. Kennedy and Raymond Gillespie (eds), *Ireland: Art into History* (Dublin, 1994) 15-25: 23.
- ⁴⁷ Warren, *Vanishing Street Furniture*, 73.
- ⁴⁸ Archibald Williams, 'Lighting: by gas, oil & electricity' in J.A. Hammerton (ed.), *Harmsworth's Universal Encyclopedia*, 9 vols, (London, 1922) VI, 4868.
- ⁴⁹ Warren, *Vanishing Street Furniture*, 78.
- ⁵⁰ Rynne, *Industrial Archaeology*, 246.
- ⁵¹ *ibid.*