

## **Manufacturing industries:**

**Lime:** Sunderland, the only exporter of lime between Humber and Forth, long enjoyed a virtual monopoly on this trade in north-eastern England. Magnesian limestone could be quarried conveniently close to the Wear, and lime was produced commercially, for agriculture, building and other industries, by the 17<sup>th</sup> century. Several lime workings in Bishopwearmouth were leased by Frevile Lambton in 1684. North of the river, Sir William Williamson was involved in quarrying and lime-burning at Fulwell and Monkwearmouth by 1714. There were old kilns around Southwick, already out of use by c. 1770. <sup>1</sup> Hylton was also an early centre, with a quarry and two limekilns near the North Farm in 1750, and riverside developments from 1801. <sup>2</sup>

The trade grew to vast size, much lime-burning taking place on the riverside using stone brought down from quarries by waggonway, and dross coal shipped in by keel. A range of great kilns was constructed below Southwick and at the Fulwell quarries, before and after 1800, for the Williamson enterprise, the largest of five such businesses north of the Wear. <sup>3</sup> On the south were 15 kilns at Pallion, burning 30,000 tons of limestone annually by 1820. Older ovens on the margins of the town moor worked into the 19<sup>th</sup> century, until swept away by the sea. In total, 100,000 tons of limestone were exported each season, the kilns lit in spring and extinguished in autumn. A fleet of 25 to 30 ships, each of 40 to 100 tons, carried lime to Scotland and Yorkshire. <sup>4</sup>

Lime-burning had a harmful impact on the environment, and its bright lights misled seafarers into mistaking Fulwell for the Tyne entrance, so that from 1759 the River Wear Commission insisted that kilns within four miles of the harbour be shielded by walls. <sup>5</sup>

**Glass:** Glass – window glass, bottles, and later fine flint glass or tableware – was a leading export in the 18<sup>th</sup> century, and continued to be a significant industry into the 20<sup>th</sup>. The Company of Glass Owners of Sunderland was probably responsible for the first glass-houses, in the 1690s: at Southwick, next to the ferry landing; at Ayres Quay, Deptford; and at the Panns. Glass bottles were exported in bulk during the 17<sup>th</sup> century, and by 1700 were shipped out by the thousand. <sup>6</sup>

Glass had first been made on Wearside in the time of Bede, and the industry revived in the late Middle Ages with the availability of sand ballast. Later, specialist glass-making sand was imported, especially white sand from King's Lynn, and soapers' ashes from Yarmouth and London, serving as ballast and sometimes bartered for Sunderland coal. <sup>7</sup>

A first flint glass factory opened in 1769. A boom began in the 1790s, with two new flat glass works. By 1820 there were 'two bottle houses at Ayre's quay; one above the bridge; two bottle and one brown glass-house at Panns; one flint glass and one bottle house at Deptford; one crown glass house at Southwick; and one bottle-house at the Hope quay'. A glass-cutting craft developed which specialised in souvenirs for

seafarers, especially views of the Wearmouth bridge. The main trade, though, was in wine and beer bottles. In this branch the politician John Candlish (1816-74) made his fortune, with works at Seaham and Diamond Hall.<sup>8</sup>

The old-established firms declined around the mid-19<sup>th</sup> century, and by 1877 the Ayre's Quay Bottle Co. was the sole survival. Two new companies profited from technological advances in glass-making. James Hartley opened the Wear Glass Works in c. 1836 at Hylton Road, developing German technology into his own rolling method for plate glass, patented in 1838. Hartley produced a third of English glass of this type in 1863, and employed as many as 700 people. His heirs lost and then regained control of the business in the 1890s, but the factory closed in 1915. James Hartley jun. had earlier established a business making antique coloured glass at the Portobello Glass Works in Monkwearmouth, which continued as Hartley, Wood and Co. into the 1990s, taken over by Pilkingtons in 1982.<sup>9</sup>

The second new business, the Wear Flint Glass Works at Millfield, was launched in 1858 by Angus and Greener. James Augustus Jobling acquired the business in 1885. Jobling and Co. enjoyed great success from 1921 producing heat-resistant Pyrex domestic ovenware, licensed by the American Corning company. From the 1930s they also made scientific glassware, building a laboratory apparatus factory at Pallion. The company was taken over by Tilling and Corning in the 1940s, and was fully absorbed in 1973 into Corning. The 3,000-strong workforce of 1968 was reduced after Corning sold the laboratory division in 1982. Many of the 1,200 employees in 1988 were women on flexible shifts, working at sites in Millfield and Deptford which still covered 35 acres. The business was sold to Newell Ltd in 1994, and then to Arc International. When production shifted to France in 2007, this marked the end of commercial glass manufacture in Sunderland.<sup>10</sup>

The closure of Hartley's in 1997 raised fears that the secrets of antique-glass making, known to only a few craftsmen, would be lost. Capturing these skills was the driving force behind a new National Glass Centre, built on North Sands, the site of Thompson's shipyard, in 1998. The Sunderland Glassworks company recruited former Hartley Wood workers, but crashed in 2000 with debts of £1.5 million. The Glass Centre subsequently became a part of the University of Sunderland.<sup>11</sup>

**Pottery:** From Pott House farm, noted in Silksworth in 1717, and other place-name evidence, clearly numerous small potteries were at work around Sunderland. The industry grew rapidly after white earthenware was introduced into Co. Durham in the 1730s, concentrating on the banks of the Wear. White clay from Devon and Cornwall was imported as ballast.<sup>12</sup> The first large works was at Newbottle in 1755, and in time there were as many as 16 potteries around the district. Sunderland pottery included coarse brown kitchenware, creamware and lustre, by 1820 produced in 'vast quantities, particularly of the coarser sort'. A valuable export trade served northern Europe, and as with cut glass, a popular market grew in souvenir printed transfer pieces featuring in particular the Wearmouth bridge.<sup>13</sup>

Rich clay at Wood House, near Hylton ferry, attracted the best-known of the 18<sup>th</sup>-century potteries to North Hylton. The Sunderland bankers and merchants Christopher and John Malings bought the property in 1750, from 1762 producing brown earthenware, and later pink lustre products. After Malings moved to Tyneside in 1815, the Dixons of Newbottle managed Hylton pottery, until the 1850s.<sup>14</sup> The Dixon family were partners from c. 1800 in a pottery which was perhaps an older business, at the harbour mouth on Sandy Well, or Pottery, Bank. Under Dixon, the Sunderland, or Garrison, Pottery was celebrated for willow pattern designs, frog mugs, and items with bridge and Masonic designs.<sup>15</sup>

Following Newbottle, Malings and two smaller enterprises at Silksworth, a further three potteries had opened by 1800, and seven more during the 19<sup>th</sup> century. Notable firms were Scott's of Southwick, established in 1788, which produced a highly successful Haddon Hall pattern; the neighbouring Wear Pottery founded by Brinton in 1789, taken over in 1803 by Samuel Moore; and John Dawson's Low Ford Pottery at South Hylton, 'the finest buildings and best-conducted pottery on Wearside', producing the best earthenware. The industry declined rapidly from the middle of the 19<sup>th</sup> century. Scott's marked their centenary but closed by 1896, and in 1907 only two potteries remained: Ball Brothers of Deptford, established in 1857, who made brown and German ware; and Snowden & Co., founded in 1840 by Thomas Rickaby at Sheepfolds. Against the trend, Wearside Pottery opened in 1913 and flourished into the latter half of the 20<sup>th</sup> century, first at Millfield and from 1957 in Seaham.<sup>16</sup>

**Paper:** Recycled rope and canvas from the port served as raw materials for paper-makers across the county.<sup>17</sup> Experiments during the 1860s at Ford Mill led to the adoption of esparto grass from Spain and north Africa, first for newsprint, then to make quality white paper.<sup>18</sup> Sunderland had three paper factories. Wearmouth, or Deptford, Mill at Ayres Quay, converted from a saw mill in 1826, worked into the 20<sup>th</sup> century.<sup>19</sup> Ford Mill operated from 1836 until 1971, when it employed more than 400.<sup>20</sup> Hendon Mill started from a riverside business which moved to Hendon Grange in about 1872, continuing there until closure in 1980. A year later the printer Edward Thompson reopened the factory to make low grade paper for tickets. It shut down finally in 2006.<sup>21</sup>

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<sup>1</sup> T.Potts, 158-60; BAC, 38-9; Durham Chapter Lib., Sharp 2, facing p. 225; Sharp 110, p. 25; DULASC, CCDCEd 261385; 261953; Hull Univ. Lib., Burton of Cherry Burton MSS. DCCB 13/103; DCM, E/AA/4/2; *Origins*, 161; BAC, 38-9.

<sup>2</sup> DRO, D6/1/2(2); D6/1/2(2); D/St/C2/6/1; D/St/E7/7/1; D/St/E7/3/17; D/St/E7/7/3

<sup>3</sup> Sunderland Listed Buildings, 920-1/4/251; 920-1/8/294.

<sup>4</sup> Garbutt 1819, 404-5; T. Barrow, *The Whaling Trade of North-East England, 1750-1850* (2001), 9; N.T. Sinclair, 'Industry to 1914' in RTP, 23-4; Summers, 80, 276-7; Rain

<sup>5</sup> TWAS, 202/3758; 202/1102.

<sup>6</sup> *Origins*, 101-2, 161-2; BAC, 39-40.

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- <sup>7</sup> C. Ross, 'The development of the glass industry on the rivers Tyne and Wear, 1700-1900', unpub. PhD, Univ of Newcastle-upon-Tyne, 3, 7-8; U. Ridley, 'The history of glass making on the Tyne & Wear', *Arch. Ael.* 4th ser., xl (1962), 145-62.
- <sup>8</sup> VCH ii, 311; Anon., *The Glass Industry of Tyne and Wear: 1 Glassmaking on Wearside* (Tyne & Wear CC, 1979), 38-40; F. Buckley, 'Glasshouses on the Wear in the 18<sup>th</sup> century', *Trans. Soc. Glass Technology*, 9 (1925), 105-11; N.T. Sinclair, 'Industry to 1914' in RTP, 25-8, 32; B&T 1737; TNA, E190/201/6; E190/209/5; E190/216/7; Hull Univ. Lib., DDCB 13/68, 13/58; Ross, 96, 123-7, 258-61, 289-90; Garbutt 1819, 407-8; T Potts, 160-3; VCH ii, 311; C. Ross, 'John Candlish', DNB; C.J. Purser Hope, 'A Brief History of the Wear Glass Works', *Jnl Soc. Glass Technology*, xxx (1946), 198-200.
- <sup>9</sup> VCH ii, 311; T&WA, DS/HW; Sund. Lib., L666.1.
- <sup>10</sup> C. Robertson, *Wearside at Work in the Twentieth Century* (TUPS, Washington, 2005), 137-8; T&WA, DX131; Sund. Lib., L666.1; *Sund. Echo*, 19 Mar. 1981; 27 Jun. 1981; 14 Sept. 2006
- <sup>11</sup> Robertson, *Wearside at Work*, 137, *Sund. Echo*, 10 Jan. 2000; 15 Jan. 2000; T&WA, DS/HW/14.
- <sup>12</sup> BAC, 40-1; VCH ii, 312; Robertson, *Wearside at Work*, 145-8.
- <sup>13</sup> Northumbs RO, ZMI/B8/X/1; J.C. Baker, *Sunderland Pottery* (1984), 6-7, 17; N.T. Sinclair, 'Industry to 1914' in RTP, 24-5; W.R. Ball, 'Potteries of Sunderland and Neighbourhood', *Antiq. Sund.*, vii (1908 for 1906), 35-52; J.T. Shaw (ed.), *Sunderland Ware: the Potteries of Sunderland and District* (Sund., 1973); Garbutt 1819, 408; T Potts, 163-7.
- <sup>14</sup> A. Brett, *Around Hylton Castle* (Seaham, 1997), 50-1; Baker, *Sunderland Pottery*, 45-6; *Bailey's Northern Dir.* (1781), 298; Summers, 265-267fn; Guildhall Lib., RE Ms 7253/1; BAC, 40-1.
- <sup>15</sup> R.W.E. Dixon, *Brief History of the Palatine Lodge no 97, Sunderland* (1927), 20; Baker, *Sunderland Pottery*, 61-2; *Sund. Echo*, 10 Oct. 1934; Summers 255
- <sup>16</sup> Robertson, *Wearside at Work*, 145-6; VCH ii, 312-14; T Potts, 163-5.
- <sup>17</sup> J.V. Stirk, *The Lost Mills: a History of Papermaking in Co. Durham* (Univ. of Sunderland Press, 2006), 19, 23, 89, 94.
- <sup>18</sup> Stirk, *Lost Mills*, 14.
- <sup>19</sup> Stirk, *Lost Mills*, 132-8; C.F. Maidwell, *A Short History of Papermaking in the North East* (1959), 18-19; *Illustrated Guide to Sund. & District* (1898), 69; R. M. Richardson, 'The Hutton Family (Papermakers)', *Antiq. Sund.*, ix (1908), 169-79.
- <sup>20</sup> Stirk, *Lost Mills*, 142-57; J. P. Cornett, 'Local Paper Mills', *Antiq. Sund.*, ix (1908), 162-7; C B Walker, 'Ford paper mill, 1836-1971', *Antiq. Sund.* ii (xxix OS) (1984) 47-73.
- <sup>21</sup> Stirk, *Lost Mills*, 172-9; Maidwell, *Short History of Papermaking*, 21-2; *Sund. Echo*, 31 Dec. 2009.