

The Industrial Archaeology of West Yorkshire

Introduction:

The impact of the Industrial Revolution came comparatively late to the West Yorkshire region. The seminal breakthroughs in technology that were made in a variety of industries (e.g. coal mining, textile, pottery, brick, and steam engine manufacture) during the 17th and 18th centuries, and the major production centres that initially grew up on the back of these innovations, were largely located elsewhere in the country. What distinguishes Yorkshire is the rate and density at which industry developed in the region from the end of the 18th century. This has been attributed to a wide variety of factors, including good natural resources and the character of the inhabitants! The portion of the West Riding north and west of Wakefield had become one of most heavily industrialised areas in the Britain by the end of the 19th century. It was also one of the most varied - there were some regional specialities, but at one time or another Yorkshire manufacturers supplied everything from artificial manure to motorcars. A list of local products for the 1890s would run into hundreds of items.

Textile Manufacturing:

The most prominent industry in the region has always been textile manufacture. There was a long tradition in the upland areas of the county of cloth production as a home-based industry, which supplemented farming. The scale of domestic production could hardly be considered negligible - the industry in Calderdale was after all so large that in 1779 it produced the Piece Hall in Halifax as an exchange centre and market. However, the beginnings of the factory system, and the birth of modern textile mills, dates to the introduction of mass-production techniques for carding and spinning cotton. These were brought over the border from Lancashire in the late 18th century, when purpose-built spinning mills were constructed at Keighley and Addingham. As powered mechanical techniques for fibre preparation, spinning and finally weaving were introduced first in cotton, then in worsted and woollen cloth, then in recovered fibres, the number and types of mills in the West Riding mushroomed. Ultimately there were nearly two thousand individual mills in the region, with tens of thousands of associated buildings. Salt's Mill at Saltaire near Bradford was constructed in the 1850s by the worsted magnate Sir Titus Salt and constitutes an outstanding example of a fully integrated textile mill, and forms the commercial heart of what is a planned village. The village as a whole is an outstanding example of a type of privately funded town-planning and was awarded World Heritage Status by UNESCO in 2001.

The growth of the textile industry produced a need for dyes, sizes, bleaches and other chemicals for treating and finishing cloth. Bleach works and small dyeworks at the beginning of the 19th century provided the basis of a flourishing chemical industry in the late 19th and

early 20th century. This industry is still represented by a number of works, both large and small, in the Huddersfield area.

The growth of the textile industry was also accompanied by massive growth in industries designed to build and supply textile mills. Engineering works developed in large numbers; these ranged from small workshops producing a single type of machine or machine tool, to works providing steam engines (both locomotive and stationary), to very large firms producing everything from structural ironwork to steam engines to textile machinery. The well-preserved late 18th/ early 19th-century buildings which front Water Lane in Leeds once formed part of Fenton, Murray and Wood's Round Foundry. The Round Foundry is (with the Soho Works in Birmingham) one of only two significant survivors of the World's first generation of specialist engineering foundries, and was the second such foundry to have been built.

Potteries, Glass manufacture, and brick production:

Pottery production was not as densely concentrated here as it was in some areas of the Midlands, but it still flourished in the West Riding. Successful potteries were established at Leeds and Castleford in the late 18th century to produce finewares, and although pottery production (both coarse and fine) tended to concentrate in those areas, small local potteries came to be scattered throughout the county in the mid- to late 1800s.

Glass manufacture also tended to be concentrated in Leeds and Castleford, with Castleford becoming an important national centre for bottle production in the 1890s - a place that it held into the 1980s.

Building materials were another important regional product. Small to medium-sized quarries are still a common sight throughout most of the county, with the millstone grit of the Pennine uplands providing building stone and millstones, and the limestone of the eastern part of the county providing building stone and both agricultural and architectural lime. Brick production started in the manufacture of relatively small quantities for the construction of high-status domestic buildings such as Temple Newsam. However, with the need for brick for housing the expanding population, and for the construction of mills, works, viaducts, railway tunnels, it had become one of the most prolific manufactures in the area by the middle of the 19th century. More delicate and decorative building materials were provided by the region's terracotta industry, most notably based at Burmantofts in Leeds.

Coal Mining:

Coal production is, after textile manufacture, probably the most famous West Yorkshire industry. Coal was systematically mined in West Yorkshire from the Medieval period; technical developments in the late 18th and early 19th centuries which improved haulage, drainage and ventilation meant that coal mines could extract more coal out of deeper seams. Demand for coal as fuel, and improvements in local transport arrangements meant a vastly increased market, and by the end of the 19th century, there were nearly one hundred individual coal mines in West Yorkshire, mostly concentrated in the east of the county, and

ranging from single pits to conglomerations of several smaller pits. Protected nationally important 19th-century coal-mining sites in West Yorkshire include the pit headgear which survives at Upper Whitley in Kirkstiles (near England's National Coal Mining Museum), the remains of the horse-powered winding gear and associated features at Catherine Slack, near Halifax, and the remains of an early shaft ventilation furnace, also in Calderdale. Because of the nature of the coal measure geology, coal mining was often associated with ironstone and clay extraction. At Emley in Kirkstiles, an important fossilised landscape of post-medieval iron stone mining survives (and has been protected as a nationally important Scheduled Ancient Monument).

Food Production and Leather Manufacturing:

West Yorkshire in the 19th century was a centre of the milling, malting and brewing industries. Cattle markets in Leeds and Wakefield, in addition to providing meat for the growing urban population, also provided hides to a nationally important leather industry centred in Leeds. The Leeds tanners also imported vast quantities of dried hides from overseas, and in turn provided leather to the local boot and shoe and commercial belting factories.

Transport:

The effects of industrialisation went far beyond the development of individual factory sites. One of the most far-reaching consequences was the development of the transport infrastructure which is so large a part of the modern landscape. Pack horse tracks were well-established by 17th century, but they had a major drawback: it was generally only profitable to haul goods which had a high value in relation to their weight (i.e. - textiles, but not coal). The first real breakthrough in the cheap transport of goods came with the beginnings of the region's network of navigable waterways. The Aire and Calder Navigation, established in 1700, provided easy communication between the heart of the West Riding and the Humber estuary, and increased the national market for the region's textiles and coal, as well as opening up new sources for grain and meat. The construction of the Calder and Hebble Navigation in the 1770s provided improved transport for the upland textile manufacturers. The opening of the Leeds and Liverpool Canal in the 1790s and the Rochdale Canal in 1805 provided direct access to the markets served by the ports of Liverpool, and to the products of Lancashire. A further breakthrough in land transport came with the introduction of the railways to the region.

Railways or plateways which eased the passage of horse-drawn wagons to and from the area's coal mines and quarries were common from the middle of the 18th century, and many survived into the second half of the 19th century. The real breakthrough, however, came with the development of the steam locomotive. The introduction of steam to the Middleton Railway (which connected the Middleton Collieries with Leeds) in 1811 represented the first successful commercial use of steam traction in the world. The earliest general goods and passenger services - the Leeds/Selby and Leeds/Manchester lines - were introduced in the 1830s. Proliferation of railway lines at the end of the 19th century has left an enormous number of railway-related buildings, artefacts and civil engineering works in the West Yorkshire landscape.

(Written by Helen Gomersall, c.2005)