

WALES IN THE INDUSTRIAL & MODERN PERIOD (post 1750)

Introduction

Concentrated in south Wales during the period of the world's first Industrial Revolution were industries of international significance, particularly copper and iron-smelting, tinplate manufacture and coal-mining. The slate quarrying centered in north-west Wales and the iron-smelting and manufacturing industries of north-east Wales were also of more than national importance. The transport system that was developed to serve these early-modern industries was also of global significance. The 1851 Census reveals that Wales was the first country internationally to have more workers in industrial than agricultural employment, making the case for Wales to be identified as the world's first industrial nation.

The Industrial and Modern period, 1750 to the present day, saw the wholesale transformation of Wales from an agricultural and pastoral economy to one of the leading industrial export economies of the world.

Wales contains a remarkable variety of housing stock, the vast majority of which dates from the period 1750-2004. The housing stock includes classic examples of late-nineteenth- and twentieth-century workers' and social housing.

The rapid industrialisation of Wales after 1750 created an urgent need for transport links. These took variously the form of turnpike roads, canals and railways, as well as harbour facilities.

By the early twentieth century international industrialisation and the expansion in global markets, and widespread colonialisation in the developing world, meant that conflict between world powers was now likely to take place on an unprecedented scale. Wales was now part of the largest Empire the world had seen and two World Wars and the subsequent Cold War actively involved a large proportion of the Welsh population and have left a material legacy with international relevance.

Themes

Wales and the Wider World

What changes in technology and the scale of economic development allowed Wales to assume a leading position in the coal, iron, copper, tin, lead and slate industries?

How did each of these industries shape the present landscape and cultural inheritance of Wales?

What is distinctive about the material remains of each of these industries?

How important to the national economy of Wales were the copper, lead and woollen industries of Wales and to what extent did they underpin the international importance of Wales in the first Industrial Revolution?

To what extent do the internationally significant works of Wales and their attached mining fields, workers' settlements and water-power infrastructure survive?

To what extent do early shaft-head complexes and works and forge sites survive underground?

To what extent do mining sites represent extractive sites of the modern period and how much represents the activity of earlier periods?

How did the large water-power resources of Wales contribute to Wales becoming a centre of world industry?

To what extent did dockyards, ironworks, barracks and other installations in Wales contribute to Great Britain becoming the dominant world military power in the nineteenth-century?

What can practice trenches, aircraft crash sites, aircraft factories, maritime wreck sites, naval store sites, munition factories, submerged military archaeology, anti-invasion defences, military camps, training areas, airfields and Cold War installations and bunkers tell us about Wales's role in Global Conflict that complements, or is not already known from, existing documentary sources?

Housing and Building Stock

What changes were there in the type of domestic building materials used from the later eighteenth century onwards?

To what extent did local styles and materials continue to predominate?
Does the great proliferation of religious, educational and institutional buildings in this period represent a particularly Welsh phenomenon or are there cultural and architectural links to other communities that should be explored?

To what extent do variations in the design of industrial-period housing and religious building stock reflect patterns of migration and diversity?

What were the variations in the building and design of late-eighteenth- and nineteenth-century housing and educational and religious buildings?

To what extent were workers' settlements of the late-eighteenth and the nineteenth centuries planned or unplanned and how did patterns vary in the parts of Wales undergoing industrial development?

To what extent did buildings in the industrial period experiment with new materials?

What was architecturally innovative about the new iron-framed structures and roofs of the Heads of the Valleys area and the copper-roofed and copper-slag-built structures of south-west Wales?

What were the design and distribution trends in the evolution of industrial housing types from the Tudor period onwards?

What new types of housing were evolved for industrial workers?

- Searches for collections of original architectural and engineering drawings need to be undertaken with the Royal Association of Architects in Wales and other institutions.

What new types of communal institutions such as mechanics' and working-men's institutes and public parks and gardens evolved to serve worker and urban communities?

How extensive was the application of new ideas, industrialisation and power to farm buildings or was such innovation largely confined to the centre of large landed estates?

Transport Corridors

To what extent does the former network of turnpike roads form the basis of the modern road system in Wales?

What forms of engineering, buildings and other infrastructure were associated with them, including depots, inns and toll-houses?

What forms of engineering innovation were represented in the early suspension and iron-arched road bridges of Wales and the foundries and works that produced them?

What is the form and extent of the engineering features surviving on the Welsh canal network?

What types of early iron-built over-bridges were constructed on these waterways?

How many distinctive types of wharves, lime-kiln banks, mills and canal-associated settlements are there?

How much of the late eighteenth- and early-nineteenth-century railway system survives in recognisable form and is capable of being used as an industrial heritage walking and cycling system?

How much of the network of narrow-gauge railways in north and mid-Wales survives?

How did horse-worked mineral railways develop into locomotive-worked railways of different gauges that were copied and utilized all over the world?

How much of the formations of the early railway system can be kept and reused as cycleways?

Was the London to Holyhead (and Dublin) Road the most advanced of its time in Europe for planning and construction and did it influence the construction of roads worldwide?

How did the floating-dock system of Wales evolve from seventeenth- and eighteenth-century experiments at Neath (Melincryddan) and Llanelli?

How did the large-scale engineered ports at Barry, Briton Ferry, Cardiff, Llanelli, Neath, Newport, Port Talbot, Porthcawl, Swansea, Milford Haven and Holyhead develop?

What is the significance of the structures built for the Royal Dockyards at Pembroke Dock and Milford Haven?

By what stages did Cardiff become the largest ship-repairing centre in the world?

How did south Wales become the largest exporting coalfield in the world and how did it inter-act with markets in Europe and wider afield?

Priorities

By answering the above archaeological questions and others related to them it will be possible to address the following broader historical themes:

Wales and the Wider World

How do we assess the international significance of Welsh industries and sites so that an appropriate participation in European and international initiatives, industrial heritage routes, military archaeology initiatives and appropriate designations for all these can be achieved?

Housing and Building Stock

To what extent did the great proliferation of religious, educational and institutional buildings in this period represent a particularly Welsh phenomenon?

To what extent did variations in the building and design of late-eighteenth- and nineteenth-century housing, educational and religious buildings reflect patterns of social control, philanthropy and workers' self-advancement.

To what extent do variations in the design of industrial-period housing and religious building stock reflect patterns of migration and diversity?

Transport Corridors

Did Wales have the largest system of railways in the world in the late eighteenth and early nineteenth centuries as the modern railway evolved?

How much of this survives and with what significant features?

How significant in national and international terms were the canals, turnpike roads, narrow-gauge and modern locomotive railways, harbours, floating-docks, ship-repair centres and Royal Dockyards of Wales?

Illustrations from Coflein:

Wales and the Wider World

CWMYSTWYTH LEAD MINES, CEREDIGION C61257 GTJ28617

Housing and Building Stock

HOUSING AT THE GARN, BLAENAVON [on coflein headed as 'big pit coal mine' John Cornwell Collection] C9813 GTJ30139

Transport Corridors

BUTE EAST DOCK, CARDIFF C61275 GTJ28635

Priorities

PONTCYSYLLTE AQUEDUCT, LLANGOLLEN CANAL [on coflein also as 'Pont Cysyllte Aqueduct; Ellesmere Canal; Shropshire Union Canal Froncysyllte; Pont Cysyllte] **C413465 DI2005_0060**

