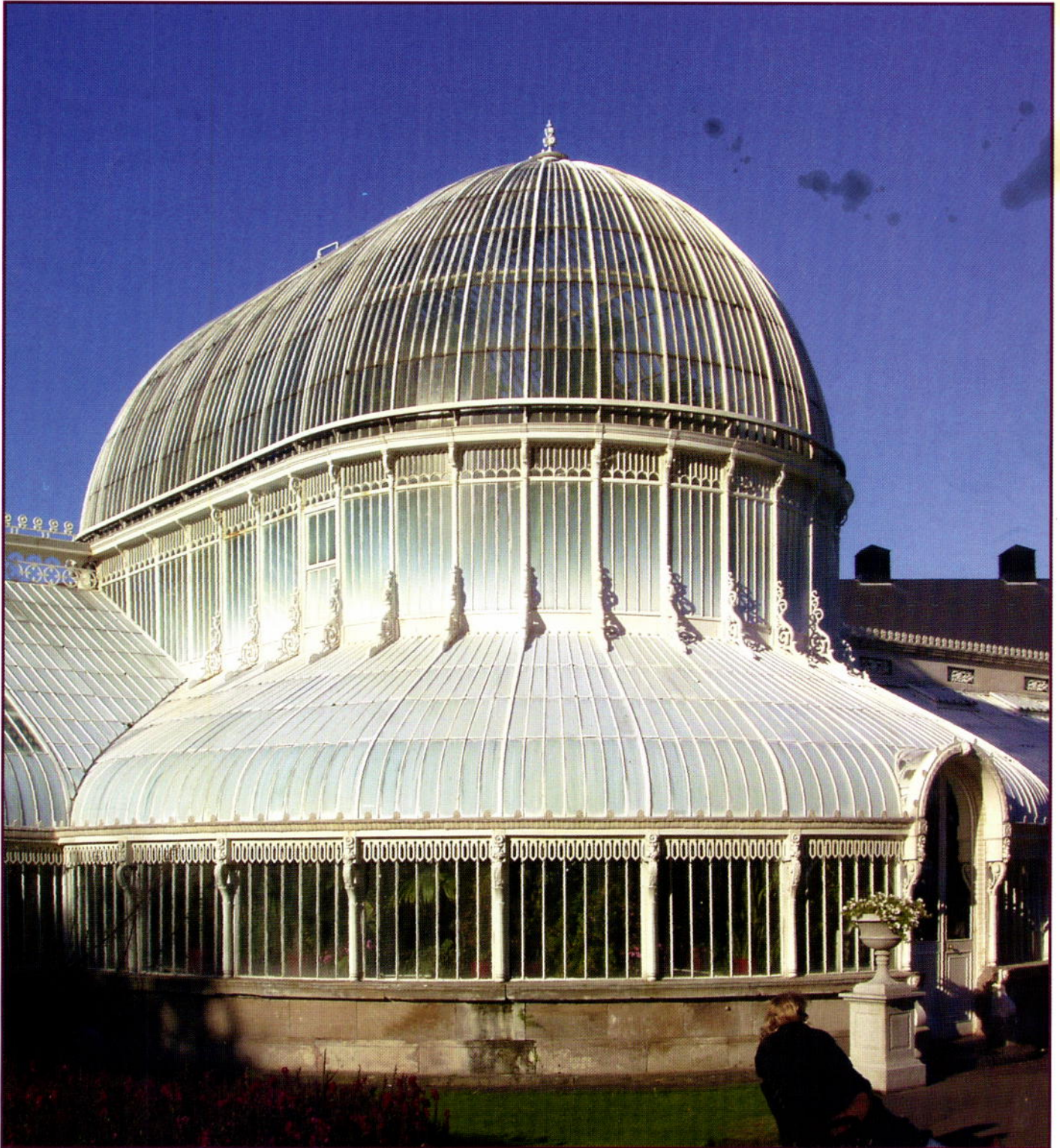


INDUSTRIAL ARCHAEOLOGY NEWS

133
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THE BULLETIN OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

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**INDUSTRIAL
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COVER PICTURE

Palm House in the Botanic Gardens, one of the gems of Belfast. See page 12

Photo: R J M Carr

Ironbridge Weekend: railway structures

This year's weekend, 2-3 April 2005, was themed around railway structures rather than railways in general, partly because of the size of the subject and partly to focus on elements other than locomotives. Some 42 people attended.

Ray Riley

Mike Nevell opened proceedings with a paper on the archaeology of the railway warehouse, using examples from north-west England, where 43 survive, including six in central Manchester and five in Carlisle. He argued that the early railway warehouse derived its principles from the canal era, which is hardly surprising since both forms of transport were concerned with the transshipment of relatively small quantities of bulk goods. At the outset gravity hoists were employed, but as the volume of traffic increased and new technology became available, water under pressure, then steam and finally electricity provided the power. Typically the first warehouses were timber-framed with a floorspace of 4-500 square metres, the later single-storey transshipment sheds had cast-iron frames and were fireproof, while the final form was multi-storey, making use of wrought iron and steel, with as much as 18,000 square metres of floorspace. The latter warehouse persisted, but road transport saw its ultimate demise.

A complementary study by Tim Smith demonstrated just how much use the railways made of hydraulic power: for hoists, lifts, cranes, capstans and swing bridges among others. At one stage Paddington used 25 million gallons of water a year. Initially water was delivered at 60psi, but this was raised to 700psi enabling heavier loads to be raised. Where a public supply was available, as in the bigger cities, the railways used this since it was cheaper than generating their own supply; however, with the termination of public supplies in the interwar period, the railway electrified their systems. Tim's illustrated examples of hydraulic pumping houses were notable for their architectural design.

Because of its visibility, railway signalling has had a higher profile than hydraulic power, rendering Ian Mitchell's remarks on the subject a little more familiar. However, by explaining the operation of interlocking of points and signals, crucial to the avoidance of collisions, Ian made sense of otherwise disparate bits of knowledge. Once again technological progress has changed the detail if not the principles of the system, so that the advent of colour lights which can be seen over long distances has increased the spacing between signals, and electrified points have reduced the number of signal boxes required. At one time there were 12-13,000 of the latter, but now only 700, of which 110 are listed. Each company had its own distinctive signal box design but they all seemed to possess similar social elements: the provision of a domestic chair, a stove and a cat.

The last speaker in the morning session, John Crompton, looked at early railway track, pointing

out that documents dating from 1603-5 refer to rail, but tantalising do not amplify the statement. Given the small loads involved and the simple technology available, softwoods and hardwoods were used, although inevitably iron rails were stronger and longer lived. Fish-bellied edge rail is known to have existed in 1767. There was much experimentation with rail profiles, leading to the discovery that wrought iron was sufficiently robust not to need a fish-bellied shape. Interestingly, in an attempt to avoid false claims occasioned by a collapse, some chairs were cast with the date of production,

As a final conclusion to the morning, Mike Bone said a few words about Peter Neaverson, whom many will have known as an important contributor to industrial archaeology, who sadly died in December 2004.

After lunch a visit was made to the Telford Horsehay Steam railway, where a guided tour was led by Paul Hughes, suitably attired in a GWR guard's uniform. Like many such small scale endeavours, there was a plethora of equipment and rolling stock awaiting refurbishment, notably a GWR 0-6-2T in the main workshop. The half-mile length of track was viewed from an old diesel railcar. The evening's conference dinner was held at the New Inn, Blists Hill, after which there was the usual quiz, leavened this year by some literary questions; the winner was Stephen Rowson whose knowledge is obviously not restricted to canals.

Sunday morning saw the conference following Tony Jervis along the route of the line between Edinburgh and Dundee, emphasising the constructional problems encountered, and commenting on present-day use. Tunnels, bridges, viaducts, train ferry operations which were an integral part of the route, and finally the Tay Bridge, were all subject to examination in Tony's inimitably enthusiastic style.

In one way similar to Tony's paper was that of Mary Mills, since she was concerned with one particular line, that between London and Greenwich, built to the designs of George Landmann. Mary had come across Landmann as part of her work on the gas industry, and one wonders how many other little-known designers, architects and builders involved with the railways remain to be researched.

The final contributor was Gordon Biddle, one of the country's leading authorities on railway architecture. Taking as his theme the impact of the railways upon the landscape, he argued that railway structures were absorbed by the rural landscape much more readily than the motorways. In some cases sympathetic features were actually required of the railways: the castellated towers of the Conwy bridge and various stations and tunnel portals built to landowners' specifications are examples. At the same time Gordon admitted that not all urban structures are complementary. Some of the works of William Tite, Brunel, William Tress and G.T. Andrews were examined, while examples of warehouses, level crossings, signal boxes and