



picture by Douglas Hague

Clevedon Pier 1979

The formation of a **National Piers Society**, about which Lady Elton writes elsewhere in the Bulletin, comes barely in time to secure the preservation of some of the last and finest examples of this quintessentially British institution. Sir John Betjeman spoke movingly and evocatively of the attraction of the pleasure pier 'where you can get fresh air without getting run over, where you can be at sea without being seasick'. In their associations with the seaside and with childhood holidays, piers have a popular appeal, yet only now is there more serious significance in the history of civil engineering being recognised. Ryde Pier, for instance, was first built in timber in 1813-14, more than 150 years ago, and this 1250 ft long structure is substantially incorporated in the later multiple pier which still stands and provides the principal landing for ferry passengers from Portsmouth. Southend Pier is only slightly younger, having been built in its earliest version in 1829-30 and rebuilt with cast-iron piles in 1888, since when it has maintained its reputation as the longest pier in the world. The debt owed by railway engineers to the men who built these Victorian piers has yet to be assessed, but many of the finest iron railway bridges undoubtedly benefitted from the experience of pier engineers like Eugenius Birch, James Brunlees and their contemporaries.

Thomas Telford and the Rennies were also involved with the early years of pier design, a measure of the stature which this branch of the civil engineering profession enjoyed.

But, like other monuments of Victorian engineering, piers cannot last for ever, and nearly half of those which saw the death of Victoria in 1901 have gone. Some were dismantled when changing tastes made them uneconomical, some were blown up in the course of wartime exercises and others have continued to succumb to the rigorous environment of salt-laden air, winter gales, mishandled ships and lack of proper maintenance. Brighton's West Pier, recognised as the finest of Eugenius Birch's seven piers spanning 25 years was closed as unsafe shortly after being recommended for Grade I listing in 1975. Saltburn's elegant pierhead, originally cast-iron but rebuilt in mild steel in 1930 was damaged beyond repair in a 1974 gale. Southend pier was repaired with more than 14 miles of 10" wide teak decking in 1976-7 but a serious fire at the pierhead and subsequent deterioration have prompted the closure of its remarkable passenger railway. Perhaps the saddest case is that of Clevedon Pier, built in 1867-8 with second-hand Barlow rail from the South Wales Railway and distinguished with a Grade I listing as the most graceful of all British piers. Having

survived more than a century of natural hazards, Clevedon Pier suffered the loss of two of its spans in 1970 following a well-intentioned but ill-conceived test loading. Repair was beyond the means of the local authority, but a preservation trust was promptly formed under the chairmanship of Sir Arthur Elton to raise funds for its repair. Despite energetic fund-raising the resources of the Trust have been consistently outstripped by inflation; an estimate of £75,000 for repair in 1971 has now increased tenfold, and Clevedon Pier remains broken and unusable. On July 10 Woodspring District Council voted overwhelmingly to pull it down, rather than face the colossal repair bills that have mounted up over the past 9 years. For the local authority has deplorably neglected the regular upkeep of the piers surviving spans during the nine-years wrangle over its repair, having rejected a plan put forward by the Trust soon after the collapse to mothball the pier, at an estimated cost of £20,000, until funds for restoration could be gathered.

Times are not propitious for spending large sums of public money on restoring Victorian piers. But another coach and horses will be seen to have driven through the listed building legislation if Woodspring's proposal to demolish this unique monument is allowed to proceed.

Demolition by neglect will have prevailed again, and who can take to task those developers who profit by this existing loophole in the procedure, while local authorities, hard-pressed financially though they may be, set an example of such contempt for the listed buildings in their care.

Sir Arthur Elton, a lifelong champion of the role of industrial monuments and a regular attendee at our early ia conferences, concluded his appeal for Clevedon Pier with these words 'for over a hundred years, Clevedon Pier has added humane grandeur to our environment. It is part of the heritage of the most civilised nation on earth. Let us not love it and its kind too little and too late. Let us not take for granted the marvels of engineering and industry which have been the admiration of the world'. If we seriously support the reasons for which this Association was set up, then it is not enough for us to stand mutely aside while this perverse plan is implemented by Woodspring District Council. Too little and too late our love for the Euston Arch and the Sudbrook engines may have been. If we miss this chance at

Architects and Surveyors (Winter, 1978). Technical reports were substantial, not least that of Peter Mason, BSc(Hons) London, CEng, FICE, FIMechE, PPIStructE, FI Arb, MConsE.

Sir John Betjeman, President of the new Society, spoke very movingly of the importance of retaining those industrial monuments, especially pleasure piers, which have long been so locally evocative. 'Clevedon Pier for its beauty, Southend for its length, and Herne Bay for me' he said. 'Piers unite us all, and they also improve the sea'.

After lunch, Gavin Henderson gave a slide lecture, 'The Pleasures of Piers', compounded of learning and fantasy, but with a grave account of how piers sustained music and musicians. Mr Simon Adamson, author of *Seaside Piers*, was also present.

Are Local Authorities to be Patrons or Vandals? It was a pertinent question haunting the future of Clevedon Pier.

**Publicity Matters** One of the proposals discussed

modern Icelandic at Leeds University. (Her mother being of that race). It was whilst in Yorkshire that she developed her interests in architecture which was to mould her career; although this had already been nurtured, almost subliminally, by her father's gift of a Nash view of the interior of the Crystal Palace, given to her before she was a fortnight old, whilst on her nursery walls hung straw pictures of the Menai Bridges.

After leaving University and the death of her father she began a new and full catalogue of his famous collection illustrating the history of technology. This had started in 1920 when he bought Acworth's *The Railways of England* for tuppence at a jumble sale in Marlborough. The catalogue was done with the encouragement and guidance of Ben Weinreb, and in 1975 Julia was received into No. 93 Great Russell Street as one of his staff of distinguished scholars. Not unnaturally her interests and work has been in the field of technology and she is now preparing the first Weinreb catalogue on the subject. Fortunately

Picture by North Somerset Mercury  
Clevedon Pier in it's heyday



Clevedon, there will not be another.

**National Piers Society** Lady Elton writes: The inaugural meeting took place in London on July 11, less than a day after the disastrous decision of Woodspring District Council to demolish Clevedon's Pier. The press coverage was astonishing. The National Director, Capt. G O Symonds, was, he said, subsequently besieged for information, and it was clear that the National Piers Society is going to make an authoritative contribution to a hitherto neglected aspect of the preservation of technological monuments.

"We are now left with only fifty", said the Chairman, "but nearly all of them are trading well." He added that the Society is not out to preserve every particle of rusting iron work, but to demonstrate that "piers, pleasure, preservation, and profit are indivisible".

Most of the speakers had met last September at the University of Sussex, the proceedings of the symposium having been fully set out in **Portico**, The Journal of the Faculty of

at the AGM last year in Penzance was the appointment of an Honorary Publicity Officer, to make the Association's activities more widely known outside its own ranks and to act as a Press spokesman on industrial archaeological matters. Your Council has asked Julia Elton, who has experience of writing for the National Trust quarterly magazine, for *Country Life* and for other national journals, to assume this new post, and Douglas Hague has supplied the profile which follows:

**A Profile** Julia Elton is the eldest of the three children of the late Sir Arthur and Lady Margaret Ann Elton and she has inherited an amalgam of the quality and character of both parents, blended with much that is peculiar to herself. Being brought up in the medieval surroundings of Clevedon and Victorian London has given her a love and understanding of country and town. From Badminton she went to Trinity College of Music, London, where she concentrated on the oboe; from there she continued her musical studies and that of

she is of catholic tastes and this specialization has not diminished her zest for life or sense of humour, but uppermost is her love for the music of Bach, Handel, Telemann etc, whose works she plays with great skill and deep understanding, and it is natural that with this goes a love of baroque churches.

Julia will seek, accept and also reject advice from her many friends both old and young; she navigates her little black car with skill and great self-confidence through the by-ways of central London. Those fortunate enough to have sampled her hospitality know her to be an excellent and imaginative cook.

During the last couple of years Julia has accumulated an almost unique knowledge of the major and minor works of both well-known and obscure civil engineers throughout the 18th and 19th centuries. If she does not burn herself out prematurely (which is very unlikely) Julia should be a very bright star in the 'industrial' firmament well into the next century.

Douglas Hague

**Survey and Excavation of Welsh Potosi** In 1978, students taking Leicester University's three-year Adult Certificate Course in Industrial Archaeology began a survey and excavation of the lead and copper mining sites of Esgair Hir and Esgair Fraith near the Nant-y-Moch Reservoir in Dyfed.

Mining in the area dates from the 1690s when its potential was compared by William Waller to that of the Bolivian silver mines of Potosi and it was under this name that George Borrow visited it in 1854. The archaeological value of the site was suggested to the tutors by the late David Morgan Rees, Keeper of the Department of Industry at the National Museum of Wales, whose obituary appeared in the AIA bulletin last year. In his memory and convinced of the potential of the site, the class and its tutors undertook further work in July 1979, joined by several members of BIAS. The following is an interim report since all participants agreed that further work would be both essential and fascinating and we hope that others will join us for a week in July next year.

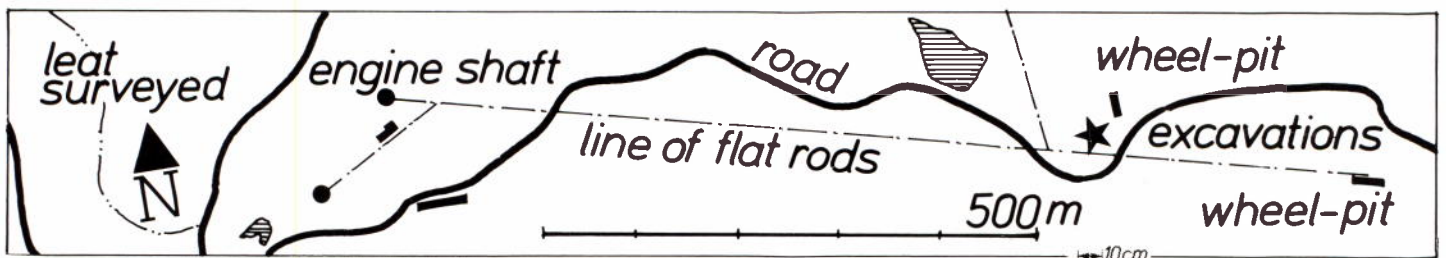
of numerous dolly stands has confirmed that there were two lines of rods pumping two shafts. There is a further 9m pumping and drawing wheel, the physical remains of a 12m crusher wheel and documentary evidence for several more wheels powering dressing machinery. This obviously made heavy demands on local water reserves and an extensive leat system was built to bring water from reservoirs, including the artificial Llyn Dwfn and Llyn Conach, up to 5 km away. One of these leats was surveyed by levelling to establish its longitudinal section and much more work needs to be done to determine the engineering problems of leat construction on such a vast scale.

Limited excavation in 1978 confirmed the existence of a Cornish frame for concentrating slimes, a fact which could only be determined archaeologically since a map dating from the 1850s in the National Library of Wales marks numbers of circular structures but does not differentiate between them.

The surviving slime pits were sectioned and two horse whim circles excavated, in one of

large covered launder 0.29m x 0.20m running west-east behind the ore slides revealed a series of inter-connecting rectangular wooden boxes, about 2m x 1m and 30-40cm deep. These were cross-boarded with a slight inclination lengthways and contained slimes in excellent stratification. They could not be entirely excavated because of the Forestry Commission road but were probably either flat buddles or catch pits. Adjacent to these was a circular convex buddle 6.16m diameter and 0.75m deep, with a well-preserved concrete kerb 0.45m wide. A whole series of overlapping launders, some of which had clearly gone out of use by the time others were built, indicated firstly a number of different periods of working and secondly the need to carry both water and particles of ore in suspension from one part of the dressing floor to another; two or three grades of material might leave one machine in different directions.

The site is remarkable in the number of wooden structures which survive. They have been protected by 1-2m of debris and slimes,



The capstan pit by 'engine shaft' at Esgair Hir.



Before and after clearance.

The mining sett is a long narrow one beginning in the valley to the west of what Waller called 'Bwlch-yr-eskir-hir' and extending eastwards over the pass down the valley of the Afon Lluestygofa for about one mile. Waller's working was concentrated at the western end and successive companies have worked steadily eastwards. The main surface features of the site date from a period of extensive development first by the Flintshire smelting company of Williams and Eyton beginning in 1839 and then by a series of heavily capitalised companies until about 1909. The site has now been partially planted over by the Forestry Commission which, together with inevitable decay of structures, made the recording of features an urgent matter.

In 1978 the waterwheel pits and balance bob pits were cleared as far as possible and measured. One of these, constructed in 1839, originally contained a 12m wheel pumping a shaft almost 1 km away by means of flat rods. This is marked on the first edition of the 6" OS map but careful examination of the stumps

which the capstan pivoted in a stone slab with a small roller 2.43 m distant from its centre over which the rope ran to the shaft. Surface clearance on one of the dressing floors revealed two inclined troughs 1.8m long and 0.235m wide with low sides 10cm high, sloping outwards. A covered conduit or launder ran behind these two, ending opposite them but 8cm below. Clearly the structures were above original ground level and the 1979 excavation commenced with the clearance of the 'A' frames supporting the higher ends of the troughs which were 0.54m in depth. The lower ends appeared to be slotted into a stone wall 0.58m wide and 1.27m high. West of both troughs and set against the stone wall was a boarded structure containing the remains of very rusted sieves, fed and drained by a series of conduits. Documentary evidence shows that the jiggers used on the site in the mid-C19th were considered to be of an advanced type, and it is probable that the structures excavated were part of these set against the southern wall of the jigger house.

Investigation to determine the outlet of a

and have now been back-filled to ensure their preservation. Next year, we hope to continue excavation in the area between this year's work and the tramway and ore bins to the north, in the hope of determining the sequence of processes. Much is known about nineteenth century ore dressing in theory but little has been done to establish how the theory was carried out in practice, and what changes were made because of local site and mineral conditions. Welsh Potosi is interesting historically as well as archaeologically and work is proceeding on documentary and map evidence. The one piece of equipment we need is a small pump to drain part of the excavation area. If you know where we could borrow such equipment, or would like a fascinating week practising industrial archaeology next July, please do let us know!

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