



**THE INSTITUTION OF
CIVIL ENGINEERS**

Panel for Historical Engineering Works

**NEWSLETTER
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Congratulations!!!

... to *Professor Roland Paxton* - Chairman of the Panel for Historical Engineering Works. He was awarded an MBE in the New Years Honours List for his services to the history of engineering.

... to *Professor A W Skempton* - formerly Chairman of the Panel for Historical Engineering Works and *Mike Chrimes*, Head Librarian at the Institution of Civil Engineers. They received a Telford Premium for their joint paper *Thames Tunnel: geology, site investigation and geotechnical problems* (Geotechnique, June 1994, pp.191-216).

Number 6 Hangar, Ballykelly, Northern Ireland Dr M H Gould

In my role as the civil engineer on the NI Historic Buildings Council, I was recently asked whether Number Six Hangar at Ballykelly had any historical significance. Ballykelly was a World War II airfield for the protection of the Western Approaches and continued in this role until the 1980s, when it became an Army base. It is understood that Hercules C130 transports still land occasionally.

Being a MoD site, it is not accessible to the public, so I had no idea what Hangar Six was like.



Number 6 Hangar, Ballykelly, Northern Ireland

However, with the help of DLA (Lisburn), I was able to gain access and take a few photographs.

The hangar turns out to be a massive structure with a clear area of some 724 feet by 158 feet.

One problem with the design of hangars for modern aircraft is to make a completely open side (in this case the long side), as this gives the most versatile operating conditions. In some cases, aircraft may be able to taxi in under their own power.

There seems to be two approaches regarding this problem. Firstly, large girders are designed to span the major axis of the hangar, usually, for the very large structures, in conjunction with a space frame. Most large civil hangars appear to be of this type.

The second approach, and that adopted at Ballykelly, is to construct frames cantilevered off the back wall. It appears that few hangars of this design were built.

Having seen Ballykelly, I investigated other possible large cantilevered roof hangars. Discussion with staff on site and other RAF personnel suggested the following candidates: Brize Norton; St Mawgan, Cornwall; Abingdon and St Athan, Barry. Only one paper came to light (on Brize Norton), but this reviewed

The Chairman's Column

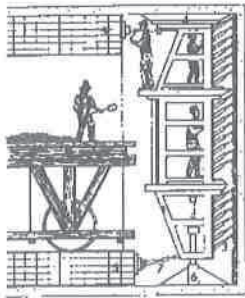
Roland Paxton

A most exciting development has taken place since publication of our last Newsletter. Advantage has been taken of the latest communications technology to make information about the Institution available universally at the touch of a few keys. This includes our Newsletter which can now be called up in its published format on the Internet through World Wide Web. The quality of reproduction is excellent, particularly the colour photographs which can be readily enlarged and copied. Seeing is believing, why not try it! Find a friendly computer, type in <http://www.ice.org.uk> and you will soon be appreciating the wonders of modern information technology.

木 史

補修を巡る論争

とショットクリート工法支持の発言が報じられる一事もあったが9月末現在最終結論には至っていない。これまでの状況からすれば、トンネル両側の一部を現況の状態に残して補修工事が実施される公算が強くなってきている。なお、当土木学会土木史研究委員会ではテムズトンネルの歴史的価値を損なうとの理由からショットクリート工法は再考すべきである趣旨の記事をイギリスの新聞“The Independent”（1995.4.13）に五十嵐委員長名で投稿を行った。



From: JSCE's HSCE Forum, November 1995, p.4

Readers may recall that last winter the Panel enlisted the valuable support of the JSCE's Historical Studies Committee in urging English Heritage to list the Thames Tunnel with a view to preserving at least part of it. The Committee's interest in this matter is reflected in an article which appeared last November in the inaugural issue of their eight page newsletter *HSCE Forum* under the editorship of Mr Hiroshi Isohata. Regarding the proposed work at the tunnel. On 11 January it was reported in *New Civil Engineer* that English Heritage had remitted the assessment of London Underground's plans to London Docklands Development Corporation who had immediately granted planning consent for shotcreting the tunnel, conditional on preservation of a short section and provision and presumably approval of full structural details of the new lining and adjoining drainage. I have today (26 February) spoken to Mr Michael Scott, Development Control Manager LDDC, who confirmed that work had

not yet started and that discussions were still ongoing with London Underground regarding the proposed details. The tunnel illustration reminded me of Sir Marc Isambard Brunel's flamboyantly signed pass allowing a privileged few access to the shield in 1841.

Thames Tunnel



Pass to Brunel's Thames Tunnel Shield

Of numerous letters finding their way to my pigeon-hole recently, one particularly deserving of a wider readership was from former ICE President Dr Stuart Mustow. He wrote: *My son is working for the ODA in Bangladesh and over Christmas we visited him at his Saidpur base. Saidpur is an old railway town and up to partition and independence it was home to a large number of ex-pats who worked for the East Bengal Railway. The railway linked Calcutta and Darjeeling as well as providing links to Chittagong to the east and west towards Delhi. The railway still exists, though sadly one can no longer travel directly from Calcutta to Darjeeling, instead one has to detrain at the two India/Bangladesh border crossings and after a short walk remount on the other side! My purpose in writing is to say that Saidpur still has one of the largest railway workshops in Bangladesh which was established at the beginning of rail development in the area and it is in many ways an industrial museum with plant and machinery supplied by British companies many years ago still in use and working conditions that are a vivid reminder of the past. German consultants have been linked with the place for some time but they have so far only had marginal effects on the overall situation. In addition many of the old ex-pat houses are still in use and in good condition - my son is living in one built over one hundred years ago - and officers clubs are also still operational! Saidpur is a long way away but if any of your members are in the area it would repay a visit. The manager of the Workshops who gave me a visit is Mr Hussein.*

Public concern that the Forth Bridge was not being adequately maintained has been partially allayed by the doubling of maintenance expenditure for the present financial year but, with privatisation of Railtrack expected in May, the future position is still

uncertain. The situation is being carefully watched. The next development of significance will be the findings of the Health and Safety Executive investigation which are expected soon. On another tack, this doyen of bridges, which already bears several plaques testifying to its importance including our joint ASCE/ICE tribute, is now to have one, from the notable Bhuddist of Barnes, Sri Chinmoy, recognising the bridge's merit as a place of world fame. Another development of particular interest to PHEW is the proposed reopening of the Forth Bridges Visitor Centre at the Queensferry Lodge Hotel, North Queensferry, Fife, in time for the summer season. This project was initiated with the support of the Scottish Group of the Panel in autumn 1985 and subsequently enjoyed a number of successful seasons in South Queensferry in temporary premises. Its Trustees are Mr John Ellis, Managing Director ScotRail Railway Limited; Mr Bruce Grewar, Bridgemaister Forth Road Bridge; Mr Douglas McBeth (Chairman) and myself. More later.

On 7 February I lectured on the work of the Panel to a most instructive engineering issues conservation course at York University's Institute of Advanced Architectural Studies organised by Dr Michael Stratton. The class which consisted of MA students and representatives from professional practices and the construction industry was attentive and sufficiently interested in our activities that nine of its members asked to receive future issues of our Newsletter. We welcome them in this issue, with a reminder to all readers that the editor welcomes contributions on all subjects of mutual interest for possible publication.

The Laigh Milton Viaduct project continues to make good progress and the value of work completed to 15 February on the main contract has now increased to £552k. Removal of the clay infill from the spandrels revealed interesting details of the 1810-1811 construction. The spandrels consisted of two, coursed rubble masonry, gravity acting walls, 19ft overall apart, running the full length of the viaduct and stepped out internally in thickness from 1ft at the top to 3ft 6in at their greatest depth of 9ft above the piers. The Scottish Group of the Panel has arranged a visit on 6/7 July to the viaduct to inspect progress and also to see nearby Ballochmyle Viaduct, Brig O'Doon, Ardrossan Harbour and Robert Thom's Greenock Cut. There will be an evening dinner and overnight stay at the Scottish Agricultural College campus at Auchinerve, Ayr, costing approximately £25.00 per head for dinner, bed and breakfast. If any reader is interested in attending, there are still a few places available and applications should be made to the Secretary, Mrs Sandra Purves, 4 Scotland Street, Edinburgh.



Laigh Milton Viaduct, 14 November 1995

Finally, congratulations to the Editor on the acceptance of his most useful paper on the work of the Panel, which he will read at the first International Conference on Engineering Heritage to be held in Australia this autumn. Your Chairman too will be taking to the air as I have accepted a generous invitation from JSCE's HSCE Committee to visit Japan in June to lecture on the conservation of historical engineering works in Scotland with particular reference to Laigh Milton Viaduct and to meet HSCEC members and see some fascinating engineering structures.

Our Oldest Concrete Bridge Restored

Ted Labrum



Homersfield Bridge, 11 January 1996