

Those of you who follow me on twitter will know that I enjoy spending time in Bath. This month I had the double pleasure of 3 days in the city combined with a wonderful IABSE conference. It gave me time to have a good look at Pultney Bridge, so that is the subject this month. I made use of my delight in the city to produce an engineer's guide, which visitors might like to look at. It is available via <http://bhal.co/iabse17>.

Before I get to that though, can I record that my talk at IStructE headquarters on the Elevarch Lift is on the web at <https://goo.gl/wmedz5>.

Can I remind folk that I will be starting on a tour of seminars in association with OBVIS Ltd and Archie-M. So far, I am expecting to do one in Atrincham on 4<sup>th</sup> August and in Scotland, probably in Charlestown on 24<sup>th</sup> August. There is time to do a couple before then if anyone wishes to suggest (or provide) a venue.

And now to Pultney Bridge.



It is a rather more elegant thing than most bridges I deal with, designed by Robert Adam. At first glance, and to be honest, over many “glances” for me, it looks like an elegant piece of Palladian symmetry. In fact, a close look reveals it to be far from symmetrical. The domed pavilions at the two ends are different and very differently placed.

This photo is taken from the Grand Parade which was built long after the bridge. It turns out that the asymmetry stems from alterations made in 1902 when the right bank pavilion was taken down and replaced to a new design (ref Michael Forsyth, Pevsner Architectural Guide of Bath). The next surprise on this visit was to notice, well, look below.





The upstream half has a bigger span on the left bank. Forsyth, again, tells us that the upstream end of the right (west) pier collapsed in 1800. The other side span is the same, but why? They are clearly built on the original abutments



Here is the upstream right hand springing. The battered springing cover is clearly visible. On the downstream face, the three spans are the same. Upstream, the side spans are substantially bigger, though I haven't been able to work out how much.

A long shot from upstream (below) shows that the crown level is the same. The span is perhaps 5 or 6 feet (1.5-1.8m) bigger. Interesting place to see a drain too.





Forsyth also tells us that “in 1792 Thomas Baldwin added a storey. For a while, I thought that was just squeezing a floor into existing space but looking more closely, the pavilions and central section could all have stopped at the first frieze and the rest of the building at the top of the shop windows.







The design on the north side is much plainer, but that has been rebuilt, of course. Go round the back of this, though and there is a remarkable sight.



This looks positively medieval. All those sheds are supported on cantilever joists with diagonal props. The most spectacular are beneath the wide white section at the far side.





They look like blacksmithed iron so are presumably early 19<sup>th</sup> Century. I wonder how long after the rebuild?

The rebuilt pavilion from 1902 seems to be flying!





Those cracks step upwards between the windows creating an obvious arch.



And just before I leave it, I turned to my favourite Bath guide and read a little more detail.



If you are ever going to Bath do seek out: Exploring Bath by Keith Dallimore. This shows Adam's original street frontage. It has been much altered.

Next month, a look back to Moco farm and a discussion of the various monitoring efforts and results.

Another plug for Hamish's notes on hidden defects in masonry bridges:

<http://www.billharveyassociates.com/hidden-defects-2016/>

As always, there is much more to see here but I will leave you to look for yourselves.