

Roman levelling techniques

No doubt you will have been inundated by erudite readers who have reached for their copies of *De Aquaeductibus* by Frontinus and *De Architectura* by Vitruvius in response to P J Sully's Carr's Dyke query (*Letters* 26 May).

From these near 2000 year old writings it is clear that Roman engineers had a good grasp of methods of conducting and retaining water in channels, ground conditions, and the construction and use of levelling instruments.

Vitruvius commented that water levels were often found to be incorrect and considered levelling best performed by the 'chorobates' – a rod about 6m long with equal length legs at each end and intermediate tenons at right angles with vertical lines marked on them.

When plumb lines coincided with these marks the rod was considered level and declivities could easily be ascertained.

He continued if the wind interferes, let a channel be cut on top of the rod 1.5m long, 25mm wide and 12.5mm high and pass water into it. If the water touches each extremity of the channel equally it is known to be level.

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