Roman aqueduct at Pont-du-Gard, France in June 1998 (CHANSON 2004, plate 2)

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Roman aqueducts supplied waters to cities for public baths and toilets, in addition of public fountains. They were long subterranean conduits, following contours lines, with flat longitudinal slopes, sometimes equipped with arcades and bridges (Photo). Numerous aqueducts were used for centuries and some are still in use (e.g. Carthage, Mons). Despite superb ruins, little is known of the hydraulics of the Roman aqueducts. What was the flow rate ? How did they operate ? How were they designed ? Who were the hydraulic engineers ? How did they learn their expertise ?

The photograph shows the Pont-du-Gard carrying the Nîmes aqueduct above the river Gardon in Southern France. The total length of the aqueduct was 49.5 km, while the Pont-du-Gard bridge itself was 275 m long and 48.8 m high. This photograph was published in CHANSON (2004, plate 2) [1]. Further photographs of Roman aqueducts by Hubert CHANSON are available on the websites [2] and [3].

References

[1] CHANSON, H. (2004). "The Hydraulics of Open Channel Flows : An Introduction." *Butterworth-Heinemann*, Oxford, UK, 2nd edition, 630 pages (ISBN 0 7506 5978 5). {http://www.uq.edu.au/~e2hchans/reprints/book3_2.htm}

[2] Gallery of Photographs in Fluid Mechanics and Hydraulic Engineering by Hubert CHANSON, *Internet Resource*. {http://www.uq.edu.au/~e2hchans/photo.html}

[3] CHANSON, H. (2002). "Some Hydraulics of Roman Aqueducts. Myths, Fables, Realities. A Hydraulician's Perspective." *Internet resource*. (Internet address : http://www.uq.edu.au/~e2hchans/rom_aq.html)