

Waters from the deep:

Taff's Well thermal spring

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The naturally rising waters are contained within a Victorian well

After a chequered past, the Welsh natural wonder that is Taff's Well is again attracting scientists, historians and the general public. It is a geological-cum-hydrological curiosity, with an intriguing social history, as GARETH FARR explains.



A short train journey from Cardiff, hidden away in a small dilapidated Victorian stone building, is perhaps one of Wales' most unusual natural wonders. Many people will have heard of its name, 'Taff's Well', which is also, and by no coincidence, the name given to the village in which it can be found. Taff's Well is the only thermal – or warm water – spring in Wales, and is one of only a handful to occur in the UK, the Roman Bath hot springs being the most famous example.

A 5,000 year journey

So what makes these waters unique? Primarily it is the temperature: bubbling to the surface, the water maintains a constant 21°C, twice that of a 'normal' spring that you may encounter on a walk in the Welsh countryside, but still less than the 45°C you could expect at Bath. Carbon-14 isotope dating suggests that the rain which feeds the well fell at least 5,000 years ago, at a time when the Welsh population lived, at best, in huts, and brown bears roamed the forests. Rainwater falling somewhere along the heads of the valleys moves slowly underground, via cracks and fissures in the bedrock. The waters then flow to a depth

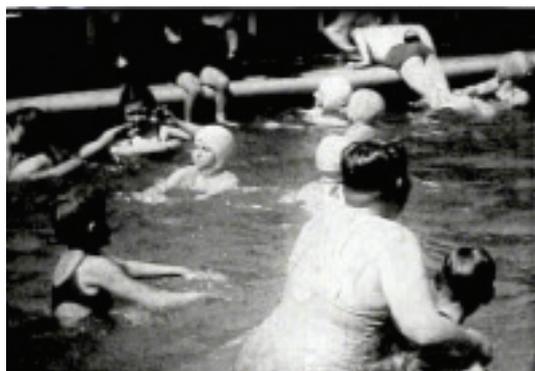


Historic postcard showing the 20th century bathing pool

of several hundred meters, moving southwards under the coalfield and travelling just 5m each year. It is here, deep down below the South Wales Valleys, that the water gains its temperature from the natural geothermal gradient of the earth's crust. Somewhere near Taff's Well the deep water finds a pathway, perhaps a geological fault, which allows the waters to return to the surface for the first time in over 5,000 years.

Healing powers?

There is no mention of Taff's Well in the early pre-1700s literature. The spring waters no doubt existed hundreds if not thousands of years ago but perhaps remained unnoticed or partially submerged by frequent flooding of the adjacent River Taff. As tempting as it is to speculate, there is no evidence to support Roman usage of the site. The first recorded visit was made in 1760 by a German chemist D.W Linden. Bathing and consumption of mineral and thermal waters was growing in popularity, Llandrindod Wells and Builth Wells being good examples of this fashion in Wales. After undertaking an analysis of the waters, Linden suggested that



A rare still from ciné film footage (c 1940) showing local people enjoying the swimming pool.

consumption of several pints every day would be a good cure for rheumatism and this was perhaps the birth of Taff's Well as a destination for people seeking relief and cure from various diseases. The booming coal industry in the South Wales coalfield and the associated railway infrastructure made travel a real possibility for many people, and a new station at Taff's Well, then called 'Walnut Bridge', allowed direct access for poor and rich alike. The mid to late 1800s was the most popular period for visitors seeking



The well house, built in the 1890s, still covers the well. The River Taff is immediately behind the well building.

cures from the well's water. Many contemporary travel guides and newspaper articles speak of queues of people waiting in turn to bathe in the waters. The well had to be upgraded, and a makeshift wooden and metal structure was erected in the mid 1800s to allow privacy. Men and women had to bathe separately, hanging a bonnet or pair of trousers on the door to signify the well was occupied. Its popularity was such that a stone building – still visible today – was constructed in the 1890s, but not long after this the fashion for bathing in waters diminished, and perhaps the belief in its curative properties, and Taff's Well fell out of favour and into dereliction.

Learning to swim

During the mid 1920s the great depression left many miners and labourers without work and it was these men that were to facilitate the rebirth of Taff's Well. The newly formed 'Taff's Well Spa Ltd' oversaw the construction of an outdoor swimming pool, opened in August 1929 and filled by the naturally occurring spring waters. The pool was an immediate success, offering a safe environment to learn to swim, socialise and relax. The pool remained popular until the 1950s, and when it fell into disrepair it was rescued by a local business man and a 'gang' of local youths called the 'Bath Boys' who kept it going until the late 1950s. The swimming

pool could not be sustained and the cost of upkeep was not matched by the income generated by bathers, and once again the well fell out of use and into a derelict state.

The following years would not be kind to Taff's Well. The well and pool became filled with rubble and graffiti was sprayed across the once elegant building. During the droughts of the 1970s the park warden came up with the bright idea of using the water to save the grass of the bowling green. Rubble was removed from the well and the waters, which continued to flow during the long hot summer, were used to save the greens from drought. The temporary rejuvenation of the well stirred up strong local support to re-open the pool and there even for plans to bottle the water, but the dream was never realised. Despite attempts to get funding, the doors would remain closed for next 30 years.

Life in the well

Taff's Well has held onto many of its secrets and to date there has been no formal investigation of what may live in its waters. There are certainly bacteria living off the iron- and manganese-rich waters forming a 'scum' on the surface. The waters are naturally oxygen-depleted and bubbles of almost pure nitrogen rise from the base, so any life must be adapted to these conditions. Samples for diatoms (single cell



The water flows out of the well and into the River Taff

algae) are currently awaiting analysis and it is hoped that a 'Biodiversity Blitz' in the summer will find not only interesting species in the surrounding park but also within the thermal waters.

A promising future

My first visit to Taff's Well was in 2008, when the well was flooded and strewn with rubbish. Even in this sorry state the waters captured my interest. A series of scientific experiments (Farr & Bottrell, 2013) helped to raise the profile once again, and works undertaken by Rhondda Cynon Taf County Borough Council alleviated the flooding, allowing access to the building. The doors were reopened for one day only as part of the 'Open Doors' heritage festival and over 300 people turned up to take a look inside (Farr, in press), testament to the appeal of Taff's Well to the general public, scientists and historians. Over the last few years the well has undergone a renaissance, re-inventing itself as an educational and scientific study site used by several universities, schools and interest groups. The surrounding park has been awarded the 'Green Flag' award, no doubt helped by the presence of the well. After 30 years of being closed to the public the well building is now open again, complete with a spectacular lighting and audio show detailing the history of the well. The waters have long benefited the local community and it is hoped that a ground source heat pump will be able to use the warmth of these natural waters to supply heat to the nearby pavilion building.

Taff's Well has once again reinvented itself, from healing spring (1700-1800s), via swimming pool and spa (1929-1950s), to an important scientific and

historical asset and, who knows, one day in the future we may even see the return of open air bathing in the warm thermal waters.

Visiting the well

Taff's Well is located in the Taff's Well park just off Cardiff Road, CF15 7PF. If you wish to go inside, a key can be obtained from the on-site park warden. Once inside you can enjoy the bilingual audio-visual display at no cost.

Gareth Farr works as a hydro-geologist for the British Geological Survey.

References

1. Farr, G. (2014). *Taff's Well/ Ffynnon Taf, The World's Smallest Spa*. [In Press and available for free download in the near future]
2. Farr, G & Bottrell, S.H. (2013). *Hydrogeology and hydrochemistry of the thermal waters at Taff's Well*. Cave and Karst Science Vol. 40 Issue 1. Free download from the British Cave Research Association website.



The well building temporarily flooded in 2010

Dyfroedd o'r dynderau

Ffynnon Taf yw'r unig darddell frwd yng Nghymru, gyda'r dŵr yn 21°C cyson. Awgryma dyddio isotop Carbon-14 y disgynnodd y glaw o leiaf 5,000 o flynyddoedd yn ôl, gan ymdreiddio'n araf i lawr trwy holltau yn y creigiau, a'i gynhesu gan gromen y ddaear tan Gymoedd y De. Bu'n boblogaidd yn y 19eg ganrif ar gyfrif ei rymoedd iachaol tybiedig, ac adeiladwyd ymolchfa a phwll yn y 1920au: ond bu iddynt ddirywio'n ddiweddarach. Bu cynnydd diddordeb eto'n ddiweddar, gydag astudiaethau o'r bacteria sy'n byw yn y dyfroedd prin eu hocsigen