Field Meeting Report: Art and Geology combine in the Wandsworth Climate Hub: the changing layers and climate of Wandsworth

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Leaders: Gail Dickerson, Diana Clements & Laurie Baker; London Geodiversity Partnership

The Wandsworth Arts Fringe was the platform that brought geology and art together this summer in Wandsworth. In 2018, artist Gail Dickerson teamed up with the London Geodiversity Partnership (LGP), firstly to acquire peat from the Rockingham Anomaly for her artworks and then to display the results in the old library in Elephant and Castle. This year she invited LGP to join her in mounting a display in the new Climate Hub in the Southside Shopping Centre in Wandsworth.

Gail is a visual community artist who works closely with geology and how the land changes over time. Her knowledge of an area's geology comes from handling raw materials, either picking up material on a walk or from a large excavation project. Giving importance to these raw materials, she wonders and visually explores the material's journey on paper before looking closer at the science behind why it exists in its present colour and form. Her paintings and drawings at the Climate Hub use pigments made from samples of earth collected from the layers of geological strata under Wandsworth's streets and buildings. She used charts, maps and pigments from geological samples to create her artworks with small, sculpted pieces made of clay from deep under Wandsworth. Gail recently acquired a set of samples from the Thames Tunnel super sewer shaft excavations. The geologist on that project, Tim Newman gave them to her from the Thames Tideway Kirtling Street site in Wandsworth. Most of the samples were from the Lambeth Group which provided a range of colours. As well as displaying the artworks, Gail laid out a sequence of the samples on the floor allowing visitors to directly relate the artworks to the raw materials.The Climate Hub proved an excellent venue to display Gail's works. It is a corner site within the Southside Shopping Centre and the large canvases looked terrific on the long wall with smaller ones on the shorter bottom wall. At the top end the geological display from LGP seemed to work well. Being in the Climate Hub it was appropriate to focus on climate issues so we presented Climate through Time as we did for the GA Festival of Geology. The LGP display mirrored Gail's exhibition by focusing on the layers beneath Wandsworth. The exhibit included a geological map of Wandsworth and a set of handling samples.

Figure 1: 'Changes in the Land' is a work made by Gail Dickerson using earth pigments, ground from samples collected from Thames Tideway's Kirtling Street shaft site in Wandsworth, and bound with pigment binders on canvas. [Photo Gail Dickerson]

There was a second exhibit related to the Wandsworth Arts Fringe in the Hub while we were there. Our Other Mother featured prints of illustrations created by illustrators of children's books from around the world on the topic of Nature and our relationship with the Planet Earth. Our Other Mother was a project initiated by parent climate groups in 2021 - Mother's Rise Up and Parents For Future - aiming to celebrate beauty and wonder of the natural world. The exhibit included work of such brilliant illustrators as Jim Field, Rebecca Cobb and Zoe Persico. A table was set up with drawing materials for both children and adults to create their own images which were then displayed at the back of the room.

Figure 2: The LGP geological display on Climate through Time. On the front of the table is David Ward's 'Extinction Game' (Reading Geological Society) which we adapted to include the Anthropocene which seemed appropriate in the Climate Hub. [Photo Gail Dickerson]

Climate Hub Wandsworth is run by a small collective in collaboration with local groups who aim to highlight the challenges of climate change and explain what we can all do to mitigate it. They are part of a wider UK network of Climate Emergency Centres and share the space in alliance with other groups, one of which is providing free advice on fuel bills. LGP appreciated being part of this shared experience which also displayed materials relating more directly to the Climate Hub. During the official opening of the displays associated

the Wandsworth Arts Fringe the Hub was manned daily with volunteers from the project and we are very grateful to them for providing this service. In particular we would like to thank Suzanne O'Donnell who encouraged us to come to use the space and mount the exhibition

As part of the events surrounding the exhibition Gail devised a geotrail starting at Balham Station, walking via Wandsworth Common and Wandsworth Cemetery to King George's Park where it followed the Wandle, leading us to Southside Shopping Centre where it flows beneath. We were able to stop there for lunch and enjoy the exhibition before picking up the Wandle again to its outflow to the Thames. Finally we walked along the Embankment to Putney Bridge where we finished.

JIM FIELD

REBECCA COBB

Figure 3: Images selected from *Our Other Mother* exhibition, by well-known children's book illustrators, [left] Jim Field and [right] Rebecca Cobb

The geotrail followed a route which allowed us to talk about many aspects of the geology of Wandsworth even though exposures were few. Gail had researched the area around Balham as part of one of her projects so we began by looking at a borehole log from the laundry adjacent to Balham Station. This allowed us to examine the layers beneath Wandsworth before setting off. We soon turned left down Boundaries Road where Gail showed us a clip from her video of the old school being demolished and talked about the geology relating to building materials. Gail was aware of flooding in the area from the Falcon Brook which we expected would run down Boundaries Road but research showed otherwise; the river crossed the road at the low point where we turned right towards Wandsworth Common. The group were able to examine the route of the Falcon Brook on a compilation of the BGS 1920s 6' maps which showed that it joined the Thames midway between Wandsworth Bridge and the Railway Bridge. We had a debate about the lack of Alluvium shown at this juncture and one of the artists who had joined the trip recommended getting in touch with the Lambeth Heritage Library where Jon Newman is based, as he has researched the rivers in this area extensively and may be able to throw some light on the un-named waterway flowing through a large expanse of Alluvium that enters the Thames just before the confluence of the River Effra with the Thames. Jon wrote a well-researched book on the Effra and we wondered if the Falcon Brook might have been diverted west to its present confluence at some stage.

Figure 4: An uprooted tree on Wandsworth Common allowed a closer look at the Lynch Hill Gravel inspected by Laurie Baker and Liam Gallagher [Photo Gail Dickerson]

We headed for the ponds on Wandsworth Common which we believed might owe their origin to quarrying the Lynch Hill Gravel which lies underneath. Here we managed to find small exposures which prompted discussion on the characteristics of this particular gravel. We also discussed how the route of the Thames through St. Albans had been diverted to its present position by the extensive Anglian ice-sheet 450,000 years ago. We showed the position of the Lynch Hill Gravel within the 'staircase' of Post-Anglian terraces and further on discussed the Hackney Gravel at the north end of the park. Gail told us about her project working with young people on Wandsworth Common, building a hut which they covered with clay extracted from a hole that they had dug. It is not clear if the clay came from clay-rich layers in the Hackney Gravel or from the London Clay beneath. At this point we were questioned by two 'Friends' of Wandsworth Common who were interested that other people were leading walks on the Common.

The next point of interest was Wandsworth Cemetery which involved a walk past Wandsworth Prison. From the top of Magdalen Road there was a good view across the valley of the Wandle. It was hard to believe that this comparatively small river could carve such a deep valley. This would have initially been incised at the end of the Anglian glaciations when the flow was very much stronger, and deepened at the end of subsequent ice-ages as periglacial ground melted. Uplift after the weight of ice north of the Thames was removed was probably also a contributor. Along the way we noticed overburnt bricks in the garden walls – always an indication that brickmaking had occurred close by. These lava-like, contorted bricks from the centre of the large clamp do not travel far. We debated what clay might have been used for the brickmaking. It may have been Alluvium from the Wandle or the underlying London Clay from even closer. The cemetery was laid out on a slope which was devoid of terrace gravels at the top but rather than the London Clay being dug for the graves, it was described by the BGS as Head. When we went on a recce a couple of months earlier we found some very freshly dug graves showing a mix of unmistakable clay but also gravel pebbles that must have tumbled down the slope relatively recently. In June they were less fresh and the clay in particular was harder to make out.

As the walk did not cross any London Clay that was not obscured by Quaternary additions, we took this opportunity to discuss the London Clay environment about 55 million years ago when Britain was at the latitude of Barcelona today. Seeds collected from the clay elsewhere include the Nipa Palm, indicating a tropical environment while flowering plants such as Magnolia indicate seasonality. At the bottom of the cemetery the Head gave way to the Taplow Gravel and finally the Kempton Park Gravel, both bordering the Wandle. In our short journey we had traversed all but the oldest gravels down the staircase. The oldest, and highest of the Central London terraces, the Black Park Gravel, is found in Wandsworth at the top of Putney Heath on the west side of the Wandle.

Figure 5: A freshly-dug grave in Wandsworth Cemetery showing Head – the mix of gravel clasts and London Clay derived from the top of the slope. [Photo Diana Clements]

By now we were in the Valley of the Wandle and were able to follow the route through King George's Park. The Wandle is an unusually fast-flowing river, falling relatively sharply with a drop of about 4 metres per mile over its total length. This made it perfect for all the mills that were once active, making it Britain's hardest working river in its heyday, with over 90 mills along its banks. We passed close to the site of the old Adkins Mill dating from 1817 when it was an iron works. It became a paper mill in 1836 making playing cards and high end drawing paper and eventually the Royal Paper Mills in 1856 supplying paper for the Times Newspaper before it burned down in 1903. The Wandle has two main sources from Carshalton in the west and Croydon in the east, both from springs in the Chalk but the BGS map shows tell-tale Alluvium, indicating that formerly it stretched back further south, originating from springs in the Weald; these are now dry valleys.

Figure 6: The River Wandle flowing through King George's Park [Photo Gail Dickerson]

Lunch was purchased in the Southside Shopping Centre and eaten in the Climate Hub where Gail showed the group around her art works. Suzanne kindly made hot drinks for those that wanted them.

After lunch we followed the River Wandle, past the site of the former Ram Brewery, to its confluence with the Thames where we discussed potential flooding. We passed around an old map (1884) entitled London before the Houses showing how wide the flood plain of the River Thames is and highlighting the importance of the Thames Barrier in protecting London from rising sea levels in the short term. We passed the hoardings to the Thames Tideway Super Sewer and talked about the need for this addition to the sewer network. The Victorian Bazalgette sewer system can no longer contain the sewage from the expanded city and raw sewage overflows into the River Thames along the routes of the culverted lost rivers, on average once a week. In recent years the many large tunnelling projects under London have shown geologists just how complicated the sub-strata is with multiple faulting distorting the simple model of a layered basin. For the Thames Tunnel project three different tunnel-boring machines were required for the different strata tunnelled down the centre of the River Thames (London Clay, Lambeth Group and Chalk).

The geotrail finished at Putney Bridge with another excavation from Thames Tideway, this shaft is almost completed as the feeder tunnel has now linked with the main tunnel which was finished in April this year. The surface will be landscaped to provide public amenity but it is not designed to alleviate regular flooding from the River Thames along Putney Embankent.

For more information on the Climate Hub visit: www.climateemergencycentre.co.uk

To see more of Gail Dickerson's Art Works, visit: www.gaildickerson.com

To find out more about the London Geodiversity Partnership and what it does please visit: www.londongeopartnership.org.uk

For a self guided walk down the River Wandle there is a trail guide available free online: www.wandlevalleypark.co.uk/and Tom Bolton features it in his book London's Lost Rivers: A Walker's Guide (Volume 1, 2010)

By: Diana Clements