

Brislington Community Museum News

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Contents

Two pictures by Rowbotham	1
Seven granite setts	4
Credits	13
Contact us	13

From fine art...

...to the gutter. This edition is honoured to present two privately-owned pictures of Brislington by the artist Rowbotham, famed for his many contributions to the local Braikenridge collection in the early 18th century; and seven granite blocks - found in the Kensington Park area - that probably date to the early 20th century.

Ken Taylor, chair



Two pictures by Rowbotham

Permission for us to publish these pictures has kindly been granted by Guy Peppiatt, fine art dealer in British drawings and watercolours, London (<https://www.peppiattfineart.co.uk>).

Both are by Thomas Leeson Scrase Rowbotham (1782-1853), and were created using brown (sometimes called sepia) washes over pencil.

This artist was born in Bath and, after a stay in Ireland, moved to Bristol where George Weare Braikenridge (1775-1856) commissioned him to produce pictures not only of the city but also of

Brislington. At that time Braikenridge lived at Broomwell House (demolished), Wick Road.

Rowbotham was the most prolific of the artists commissioned to depict Brislington, and his were probably all produced in 1826 and 1827.

Many of the Brislington pictures are in "Mr Braikenridge's Brislington" by Shenna Stoddard (City of Bristol Museum & Art Gallery, 1981), and some links to their website are on ours (<https://www.brislington.org/view.php?exhibit=220228a1>).



Man resting near a rustic bower on wooded hillside above water. Believed to be in the grounds of Wick House (Wick Road), where Brislington Brook is dammed by a weir in Nightingale Valley. Another view of this 'hermitage' is shown on page 24 of Stoddard's book, and is also online (<https://collections.bristolmuseums.org.uk/collections/54ab50a1-d9a0-3499-8540-d19860ee2855>).



Woman standing by tree, broad stream in foreground, steep hillside with sheep behind. Believed to be Nightingale Valley where Rowbotham painted scenes with identical fence, including water and hillside sheep (<https://collections.bristolmuseums.org.uk/collections/70b1fab4-bf9f-3dfb-8c66-90af0c8f2128>).

Seven granite setts

These notes consider an assemblage of seven stones found in the hardcore beneath a concrete path in the rear garden of a house in Hampstead Road, Brislington, Bristol.

The path does not predate the erection of the house - in or around 1953 - and is likely to have been created contemporaneously. The path was removed in the 1990s and the underlying hardcore was found to contain a variety of materials from old buildings, and is characteristic of debris cleared from a site (or sites) demolished following Luftwaffe bombing raids in the Second World War.

Some similarities

All seven stones are granite, and the assemblage has four distinct types based on their mineral content and/or crystal size: it's likely each type originates from a different quarry. For convenience, these types will be described by their approximate colour: grey, black & white, yellow, and pink (some photographs show a greenish hue caused by algae on the stone).

Every stone is hewn to resemble a rectangular cuboid, and has one cross section that's approximately square. It is the processing of the native granite into this distinctive shape that qualifies these stones to be described as setts.

With one exception (Sett 5), all the stones are of similar size (Sett 5 is smaller). For the six similar sizes, the length of each of their three axes deviates from the average for that axis by less than 7%.

Each stone has one rectangular side that is distinctly smoother. This is presumably the face exposed both to weathering and whatever wear was associated with its purpose.

With one exception (Sett 1), all the stones have a distinct change of level on their smooth rectangular surface.

With one exception (Sett 4), all the stones have traces of a hard, tar-like substance adhering to their surface. This substance contains brown sand and grit that have rounded edges, suggesting they were dredged from a marine environment.

About granite

Granite is an igneous rock that solidified slowly underground (as opposed to basalt, for example, which is formed from lava erupted onto the surface of the earth through volcanic action, and cooled rapidly). Granite varies in its mineral content depending on the source materials that were melted and mixed into the magma. Sources of granite close to Brislington include North Wales, Devon, and Cornwall.

The appearance and qualities of granite are affected by the rate at which the liquid material cooled. During cooling, each type of mineral begins to stick together at a molecular level, forming crystals. Crystals of feldspar, mica, and quartz are the most common minerals in the granite of these stones. The more time the cooling takes, the larger the crystals can grow (when cooling occurs rapidly, the crystals are small and less defined). Two of the four types in this assemblage cooled rapidly, the other two cooled at a moderate rate (in very slow cooling, crystals grow many times larger than any of those represented here).

As its name indicates, granite has a granular appearance (rocks such as basalt, on the other hand, cooled so rapidly they appear to the naked eye as a single, homogenous substance). The types of granite that cooled fastest (and have the least granularity) tend to be brittle, whereas the way larger crystals interlock give them strength and make them tougher and more resistant to shock from, for example, metal-rimmed cartwheels, making them well-suited to use on the surface of roads.

Sett 1 (grey)



LF1



LF2



LF3



LF4



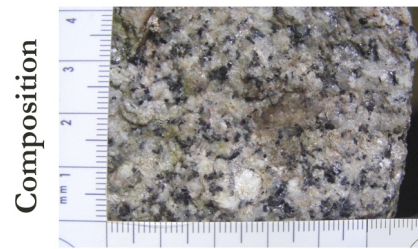
SF1



SF2



Sett 2 (black and white)



LF1



LF2



LF3



LF4



SF1

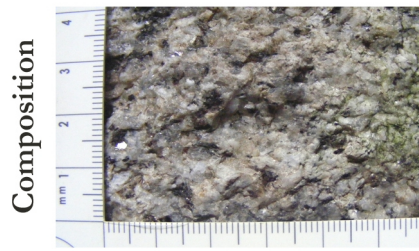


SF2



Although made of similar minerals, Sett 1 solidified more rapidly, so its crystals are less conspicuous.

Sett 3 (black and white)



LF1



LF2



LF3



LF4



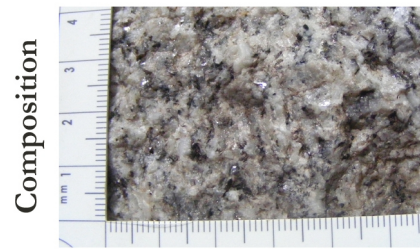
SF1



SF2



Sett 4 (black and white)



LF1



LF2



LF3



LF4



SF1



SF2



The black speckles are biotite, a form of mica.

Sett 5 (yellow)



LF1



LF2



LF3



LF4



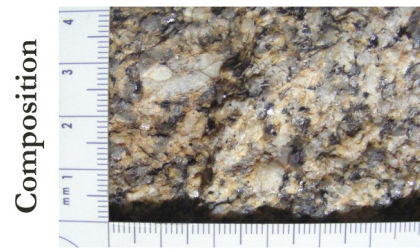
SF1



SF2



Sett 6 (yellow)



LF1



LF2



LF3



LF4



SF1

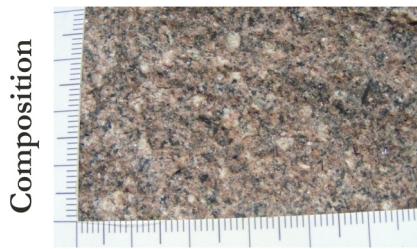


SF2



The yellowish colour is provided by muscovite, a form of mica.

Sett 7 (pink)



LF1



LF2



LF3



LF4



SF1



SF2



The pink comes from potassium-rich feldspar.

Photography

The setts were photographed from above, and each of the six faces is presented here in a particular sequence, along with a closer view of the granular crystalline composition of the stone.

The larger, rectangular, face is prefixed "LF" (Larger Face), while the smaller, squarish, face is prefixed "SF" (Smaller Face). The faces are only approximately to scale.

LF1 - this is the rectangular face that is noticeably smoother in texture.

LF2 - this is the face revealed when the sett is turned over so the top edge of LF1 becomes the bottom edge of LF2.

LF3 - this is the face revealed when the sett is turned over again (the top edge of LF2 becomes the bottom edge of LF3).

LF4 - this is the face revealed when the sett is turned over again (the top edge of LF3 becomes the bottom edge of LF4). This is the view which usually shows most clearly the profile of the platform, slope, and lower level, that all but Sett 1 exhibit to some extent on LF1 (a further turn would bring the stone back to show LF1).

SF1 - this is the face shown when, starting with LF1 uppermost, the stone is turned from left to right (the left-hand edge of LF1 becomes the right-hand edge of SF1).

SF 2 - this is the face shown when, starting with LF1 uppermost, the stone is turned from right to left (the right-hand edge of LF1 becomes the left-hand edge of SF1).

Grey

Sett 1

Small crystals, all less than 5mm across. The largest crystals are white feldspar and are sparsely scattered.

One smooth side that, uniquely, is uniformly flat.

Black and white

Sett 2

Large granules of translucent quartz up to 7mm, opaque white feldspar (plagioclase) in occasional patches of 20mm or more, and biotite (a shiny black form of mica) crystals up to 5mm across.

One smooth side, which has two distinct levels.

This stone has an irregular patch of mortar some 20mm by 10mm adhering to a dip in its surface (LF2) adjacent to the lower platform. The matrix of the mortar is white, but appears brown due to the sand and occasional larger stones up to 3mm in diameter - all being rounded, rather than sharp, and brown (seemingly the same as that included in the tarry substance noted above).

Sett 3

Large granules of quartz (up to 9mm) and white feldspar (occasionally in patches of 15mm or more), with fewer flakes of biotite than the other black and white setts, but still up to 4mm across.

Two smooth sides, one of which has two distinct levels (the smooth side with different levels is LF1). The flat smooth side (LS3) is opposite the side with the two levels, which suggests this sett may have been turned over (repositioned?) and reused.

This stone has numerous irregular patches of mortar (the largest being some 45mm by 35mm) adhering to parts of the whole surface (LS2). The matrix of the mortar is white, but overall appears brown due to the sand and occasional larger stones up to 3mm in diameter - all being rounded, rather than sharp, and brown; and with at least one thin, curved fragment of seashell.

Sett 4

Large granules of quartz (up to 7mm) and white feldspar (occasionally in patches of 20mm or more), with biotite crystals up to 7mm across.

One smooth side, which has two distinct levels.

The length of this stone is open to doubt

because one end has been damaged (one corner may remain). The damaged end has half a drill hole 55mm (2.17 inches) long and 18mm (0.71 inches) wide, which was probably made as part of the quarrying process, to detach a block from its parent rock. The deepest 9mm (0.35 inches) of the hole is pointed, the rest is cylindrical.

Yellow

Sett 5

This granite is rich in muscovite (a type of mica) whose crystals are up to 3mm in diameter, giving the clean surface of the stone a pale, yellowy-brown hue. A half-a-dozen or so white crystals of white feldspar are around 12mm long.

This is the smallest of the seven setts and has a complete set of intact edges, evidencing this size was intentional.

Two smooth sides, one of which has two distinct levels (the smooth side with different levels is LF1). The other smooth side is a square face (SF1), suggesting this sett was turned over, repositioned, and reused.

Sett 6

This granite is rich in muscovite whose crystals are up to 5mm in diameter. Among the numerous white crystals of white feldspar is a particularly large and well-formed rectangular specimen 16mm long and 8mm wide.

One smooth side, which has two distinct levels.

Pink

Sett 7

Small crystals, the largest are white feldspar less than 4mm across. Orthoclase, a type of feldspar containing potassium, provides this stone with its characteristic pink colour (the more potassium, the redder the hue).

One smooth side, which has two distinct levels.

Dimensions

Metric measurements provided here are for convenience. The significant figures - Imperial measurements (inches, pounds, etc) - which would have been relevant at the time of quarrying, are listed further down.

Sett number	Length (mm)	Width (mm)	Depth (mm)	Cubic capacity (m2)	Weight (kg)
1	178	121	126	0.00271	5.90
2	200	120	127	0.00305	6.00
3	189	120	132	0.00299	5.90
4	194	114	118	0.00261	4.65
5	154	111	106	0.00181	3.75
6	181	124	118	0.00265	5.25
7	188	110	126	0.00261	5.25
average (all) =	183	117	122	0.00263	5.24
average excluding Sett 5 (small) =	188	118	125	0.00277	5.49

Table 1

Measurements of the LF1 surface of the six setts with differences in height (LF1 on Sett 1 is flat):

Sett number	Length of upper platform (mm)	Length of slope (mm)	Length of lower platform (mm)	Height of slope (mm)
1	n/a	n/a	n/a	n/a
2	82	21	97	13
3	101	17	71	8
4	61	17	116	10
5	36	22	96	9
6	72	27	82	14
7	56	16	116	5
average (all) =	68	20	96	10
average excluding Sett 5 (small) =	74	20	96	10

Table 2

The setts all vary in their measurements, which is natural considering the stones were shaped without the use of a saw. And with just seven in the assemblage, it isn't possible to be sure of the outcome of any statistical analysis, but a few ideas have been followed that might be of interest (such as, perhaps, surveys of setts with larger numbers).

Sett number	Length (inches)	Width (inches)	Depth (inches)	Cubic capacity (inches ³)	Cubic capacity (feet ³)	Width : length	Width : depth
1	7.01	4.76	4.96	166	0.096	1.47	0.96
2	7.87	4.72	5.00	186	0.108	1.67	0.94
3	7.44	4.72	5.20	183	0.106	1.58	0.91
4	7.64	4.49	4.65	159	0.092	1.70	0.97
5	6.06	4.37	4.17	111	0.064	1.39	1.05
6	7.13	4.88	4.65	162	0.094	1.46	1.05
7	7.40	4.33	4.96	159	0.092	1.71	0.87
average (all) =	7.2	4.6	4.8	160.7	0.093	1.57	0.96
average excluding Sett 5 (small) =	7.4	4.7	4.9	169.0	0.098	1.60	0.95

Table 3

Sett number	Length of upper platform (inches)	Length of slope (inches)	Length of lower platform (inches)	Height of slope (inches)
1	n/a	n/a	n/a	n/a
2	3.23	0.83	3.82	0.51
3	3.98	0.67	2.80	0.31
4	2.40	0.67	4.57	0.39
5	1.42	0.87	3.78	0.35
6	2.83	1.06	3.23	0.55
7	2.20	0.63	4.57	0.20
average (all) =	2.68	0.79	3.79	0.39
average excluding Sett 5 (small) =	2.93	0.77	3.80	0.39

Table 4

Sett number	Weight (pounds)	Weight (hundredweight)
1	13.00	0.116
2	13.25	0.118
3	13.00	0.116
4	10.25	0.092
5	8.25	0.074
6	11.50	0.103
7	11.50	0.103
average (all) =	11.54	0.103
average excluding Sett 5 (small) =	12.08	0.108

Table 5

The tables above have two figures for averages: the first is the average for the entire assemblage. The second average excludes Sett 5 because that stone is distinctly smaller than any of the others and was apparently manufactured to different specifications.

The second average is the one used in the following attempts to determine whether the setts were produced with a standard template in mind. It is assumed - perhaps wrongly - that the six larger setts conform to the same standard.

Size

Table 3 shows the six larger setts have average measurements of 7.4" long, 4.7" wide, and 4.9" deep. It's tempting to assume the optimal length was 7.5", and depth was 5" and, as the relationship between width and depth was 0.95, it seems plausible to suppose the aim was for a relationship of 1, making the width also 5".

The cubic capacity of the stones (0.093 of a cubic foot) doesn't appear to have any significance.

It was to be hoped that the measurements of the upper and lower platforms on the surface LF1

might reveal something about the purpose of the distinct change of level (on all but one of the setts). The lengths, however, vary so much that the average does not appear to be of value (Table 4). So, sadly, the fact that the average length of the upper platform plus the length of the slope is almost identical to the length of the lower platform appears to be nothing more than a statistical anomaly. The reason for the height difference remains a mystery.

Weight

Table 5 provides an average weight (of the larger setts) of almost precisely 12lbs, but it must be noted that the scales available to this survey were not particularly accurate, and measurements were taken to the nearest quarter pound.

That said, if the average were in the right ball park it is noticeable that, ten such setts would weight a fraction more than a hundredweight (112lbs), so 200 would make a ton. In fact 12lbs is 7% too heavy to meet those figures, but again a larger sample would be helpful in determining whether this was a factor in the faming of the contracts for quarries to supply setts to a specified size and weight.

A note on local setts

Street gutter setts are common in some of the older parts of Brislington. As an example, the road outside the house where this assemblage was unearthed is lined on both sides with gutter setts, and was created as part of a housing development that took place promptly on a green-field site following the sale of the land on 3 December 1902. These gutter setts are, however, limestone rather than granite.

No systematic study of Brislington's setts is known yet to have taken place but, even so, the comparison of this assemblage with local gutter setts isn't very helpful.

Firstly, even a cursory examination shows Brislington's gutter setts are predominantly limestone, a stone that, although not outcropping in Brislington, has long been quarried in and around the Bristol area. The sporadic inclusion of granite (which isn't a local stone) in Brislington setts is not well understood although it is sometimes found in patches where the original limestone required replacement.

Secondly, none of Brislington's setts have so far been identified as having the curious diagnostic feature found in six (out of seven) of the stones in this assemblage: two levels on their worn surface.

Credits

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Contact us

Email us - secretary@brislington.org - to enquire about any of our community museum's exhibits, to provide feedback or new information etc about them, or to contribute items for this newsletter.

We aim to produce this quarterly, but our schedule is flexible so we can react quickly to urgent important events (also, during quiet times we can focus on other matters such as out-reach activities and sourcing and researching new exhibits).