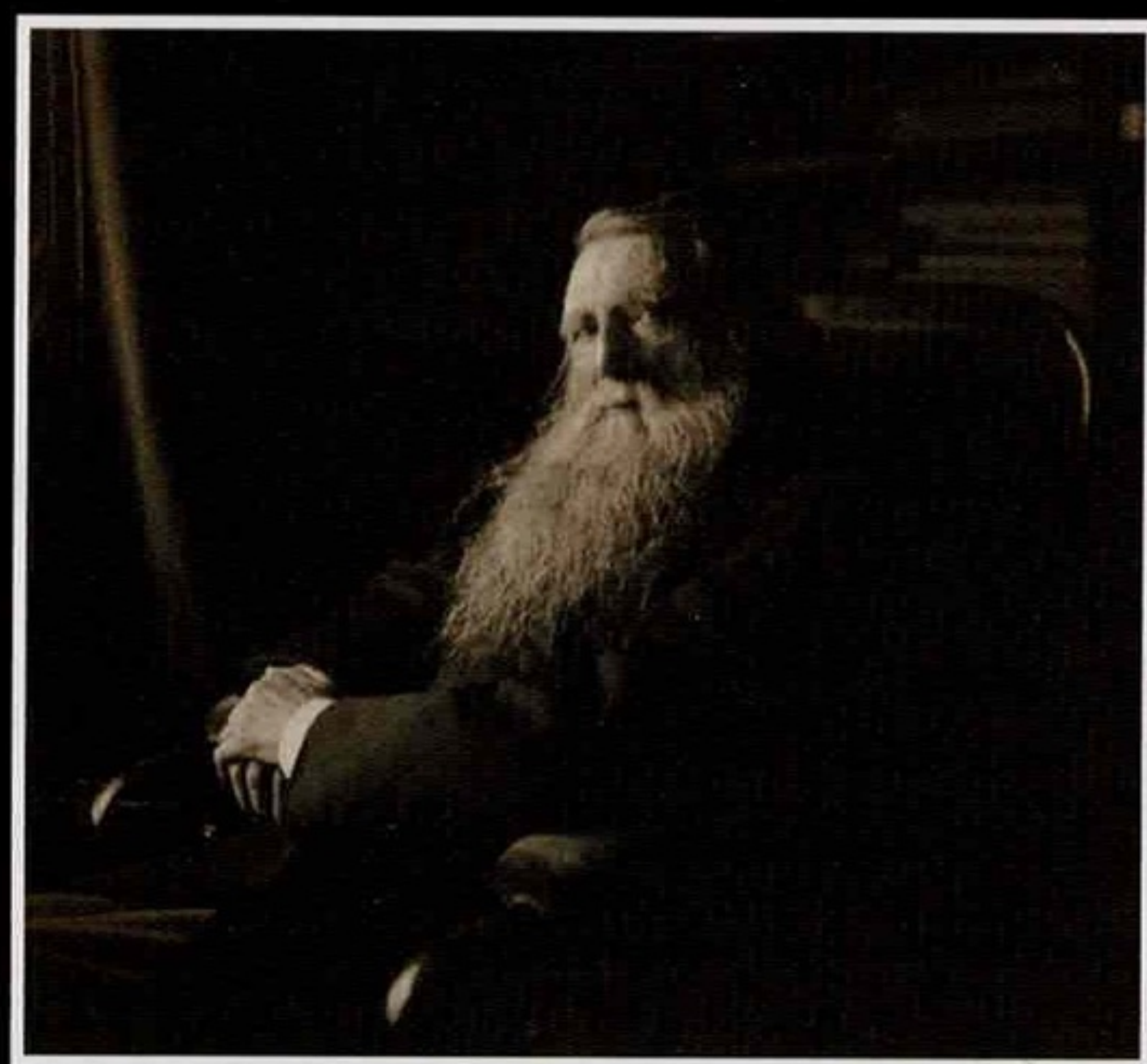


The Mineral World *of* John Ruskin



Roy E. Starkey



1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

"The more precious stones consist of three little typical diamonds, a beryl, and two amethysts, one of which Mr Ruskin has had cut and polished, before sending it, to form what he calls "Crown Regalia;" for these gifts remain under the special protection of the reigning Rose Queen." (Martin, 1889).

Cook and Wedderburn reproduce a list of 12 specimens (26:530), which is essentially the same as that above, and was published in the *Pall Mall Gazette* (Anon, 1889). The school no longer exists, and the original site has been redeveloped. Enquiries at the National Museum of Ireland have failed to turn up any leads and so the collection must be considered 'lost'.

7. St David's School 1883

One of the real treasures to come to light during the research for this book is the collection of minerals put together for St David's School, Reigate, Surrey. Although the text of the catalogue is reproduced in *Deucalion*, the whereabouts of the collection was unknown to me at the beginning of the project and has probably been considered 'lost' for many years (Ruskin, 1883; 26:487–513).

Perhaps the first topic to address should be "Why St



Figure 385. ST DAVID'S SCHOOL COLLECTION: as displayed in a glazed wall cabinet when I first saw it in June 2023 at Shatwell Farm, Somerset, the home of Drawing Matter from 2014 until Autumn 2024.

David's School, in Reigate?", out of the myriad of possible institutions Ruskin might have selected. The explanation lies, perhaps not surprisingly, in personal connections.

The headmaster was Rev. William Henry Churchill (1855–1936) who, in 1880, had married, one of Ruskin's closest female friends Miss Constance Hilliard (1852–1915). The school later relocated to Stone House, Broadstairs, and the mineral collection moved with it.

The collection appeared in a Sotheby's natural history sale on 4 March 1971 (Sotheby, 1971), lot 171, described as "The property of J. Richardson, Esq. (removed from Stone House School)." (Fig. 386)

The collection, together with its original printed catalogue (Ruskin, 1883; 26:487–513), was purchased by a collector called Chris Neame for £140. There was only one fine specimen in the lot, a green fluorite number 69 (described above) and for some reason Neame sold that single specimen possibly to Adrian Langton. Perhaps he recouped most of his outlay, but the loss of it rather diminished the value of the rest of the collection (Brian Lloyd, *personal communication*).

In the early 1990s Neame decided to sell off parts of his collection. The Ruskin specimens were acquired by London mineral dealer Brian Lloyd, who in 1981 had purchased the long-established business of Gregory Bottley to form Gregory Bottley and Lloyd (Starkey, 2014). As part of the stock in trade he had acquired a letter from Ruskin to James Gregory (Fig. 246). The letter, together with the specimens and catalogue, was sold to the well-known antiquity and ethnographic dealer John Hewett (1919–1994) in January 1991, from whom it was later purchased by Niall Hobhouse (b.1954). A collector of drawings by architects, he curates exhibitions and writes about buildings, landscape and museums. In 2013 he established the Drawing Matter Trust, a registered charity, to explore the role of drawing in architecture, architectural education and exhibition (<https://drawingmatter.org/>). The St David's School collection is now part of the curated holdings of Drawing Matter and available for bona-fide researchers to view by appointment.

The first issue of *Drawing Matter Journal*, published in April 2023, explored the theme of 'The Geological Imagination', featuring a broad range of articles and images of some of the specimens from the St David's School collection together with their catalogue descriptions. In their introduction, the editors note "Taken together, we hope that the various deposits in this first issue of *Drawing Matter Journal* will, in their assorted conjunctions as well as their unconformities, provide rich materials for thinking about the geological imagination in art and architecture and the way it has – not least through questions of scale and time – exerted its own kind of pressure upon conventions of representation in ways that have, and that will continue to, transform them." (Dorrian and Forster, 2023).

Trotter (2016) provides a brief illustrated account of the collection presenting her understanding of Ruskin's perceived relationships between mineralogy and geology

The Property of J. Richardson, Esq.
(removed from Stone House School)

171 A large collection of minerals given to and arranged for St. David's School, Reigate by John Ruskin in 1883, together with the printed catalogue to the collection, several specimens missing from the original collection which includes various polished jaspers and other silica minerals, good specimens of gold and fluorspar, opals, haematite, copper and silver specimens

** The catalogue gives Ruskin's detailed descriptions of the minerals, but is notably inaccurate on scientific fact, and is poor on localities. Some of the specimens were probably added to the collection at a later date, a few are from Ruskin's own collection, the rest acquired for the school.

Descriptions include, for a gold specimen:

... a very rich and pretty specimen of which, as of every other specimen of the kind I ever saw, I can tell you—absolutely nothing, more than that the gold is pure, and the quartz very nearly so; and that I have not the slightest idea how the gold got into it, or where it was before it got into it, unless perhaps in a place which I do not care to mention!

For quartz specimen number 67:

... Fine quartz, which has meant to crystallise with great precision, but has been nearly tormented out of its life by some nasty earthy sulphuret of iron.

And for the green fluorite, number 69:

... Pure white agatescent quartz, terminated in crystalline surfaces, sustaining beautiful cubes of golden green fluor spar, which the quartz sugars all over to finish; paying partly the same attention to a large and well-behaved cube of galena (sulphuret of lead), the tiny fragment of sulphuret of iron not having been able to cause any dissension between these friends. The quartzose base of this grand specimen is of extreme beauty and interest, and the whole fine of its kind (a lot)

Figure 386 CATALOGUE EXTRACT: from Sotheby's natural history sale on 4 March 1971 (Sotheby, 1971), lot 171, described as "The property of J. Richardson, Esq. (removed from Stone House School)."

on the one hand, and human society (embracing everything from architecture to morality) on the other. The article which is written from the perspective of a historian of architecture includes some nice specimen photos and a selection of labels but demonstrates little appreciation of the science of mineralogy.

An interesting side story to the collection is that a copy of the catalogue, which was formerly in the library of the noted American mineralogist John Sinkankas (1915–2002), now digitised and available at the Internet Archive, bears an annotation on the inside front cover "Sloppy, vague and displaying a strong prejudice against America and Australia". Curious to understand what had provoked the comment about prejudice, I read carefully through the descriptions and concluded that Sinkankas must have interpreted Ruskin's description of specimen No. 35 as anti-American and anti-Australian:

"It is perfectly crystalline arborescent native gold, associated with perfectly formed, though minute crystals of carbonate of lime, and if it is not Transylvanian, I can only say I am very glad there is any other country that can do it, but at least it is not American or Australian".

This is probably a misunderstanding of Ruskin's rather quaint phraseology "... at least it is not...", presumably meaning "I am pretty sure it is not ...", rather than him expressing any satisfaction or relief that it was not from those countries. There is also a pencil signature on the front cover 'R. Somervell' and a date '1884', suggesting that this copy may have been given originally to Robert Somervell with whom Ruskin campaigned against railway

expansion in the Lake District (Somervell, 1876) and who served briefly as secretary of the Guild.

The original collection numbered 100 specimens to

which Ruskin later added a further 23 fossils, summarised in his concluding remarks on pages 48–49 of the catalogue (Ruskin, 1883).

Specimens from the Collection

The images that follow illustrate a cross section from the various elements of the collection (Figs 387–403). The figure captions include the original descriptions from Ruskin's printed catalogue which accompanied the collection.



Figure 387. FLINT: part of a flint nodule showing grey, white banding in a black groundmass. St David's School collection. Reg. No. DMC 2128.2. Dimensions 100 × 65 × 25 mm. Locality not recorded. Ruskin's original catalogue description reads: "2. Black flint less pure, (with some admixture of chalk or, perhaps, clay), developing agatescent bands in purifying itself. The bands faulted and terminated in the unaccountable way which, with finer material, forms so-called 'Brecciate' Agates, (Compare Nos. 10, 11, 12). A small fossil (sponge?) is embedded in the angle of this specimen, which is a most finished and comprehensive example of flint-structure. Polished on two sides."

Figure 388. FLINT: a sawn and polished slice showing white, grey and golden-brown colouration. St David's School collection. Reg. No. DMC 2128.4. Dimensions 70 × 55 × 30 mm. Locality not recorded. Ruskin's original catalogue description reads: "4. Rolled pebble of course brown flint, with agatescent structure mimicking a fossil. The central division most curiously faulted. Ground down and polished on one side to show structure."





Figure 389. FLINT: a pale grey nodule with an unusual cruciform structure at its core. St David's School collection. Reg. No. DMC 2128.7. Dimensions 85 x 75 x 30 mm. Locality not recorded. Ruskin's original catalogue description reads: "7. Grey flint, with many enclosed organisms, one cruciform, going through; – the cross on one side diminishing to a quatrefoil round a small cavity on the other. Ground down and polished on the quatrefoil side. Extremely rare and fine."

Figure 390. AGATE: a finely banded and vividly coloured agate with a brecciated margin. St David's School collection. Reg. No. DMC 2128.11. Dimensions 90 x 70 x 25 mm. Locality not recorded but probably [Schlottwitz, Saxony, Germany]. Ruskin's original catalogue description reads: "11. Jasperine agate, in developed brecciation."



Figure 391. CHALCEDONY: showing a pronounced botryoidal form in a cavity in fawn coloured flint. St David's School collection. Reg. No. DMC 2128.13. Dimensions 140 x 125 x 65 mm. Locality not recorded. Ruskin's original catalogue description reads: "13. Fawn-coloured flint, becoming chalcedonic on the inner surface. The outer surface, to me, inscrutable; the smaller and porous parts showing every state of incipient chalcedony."

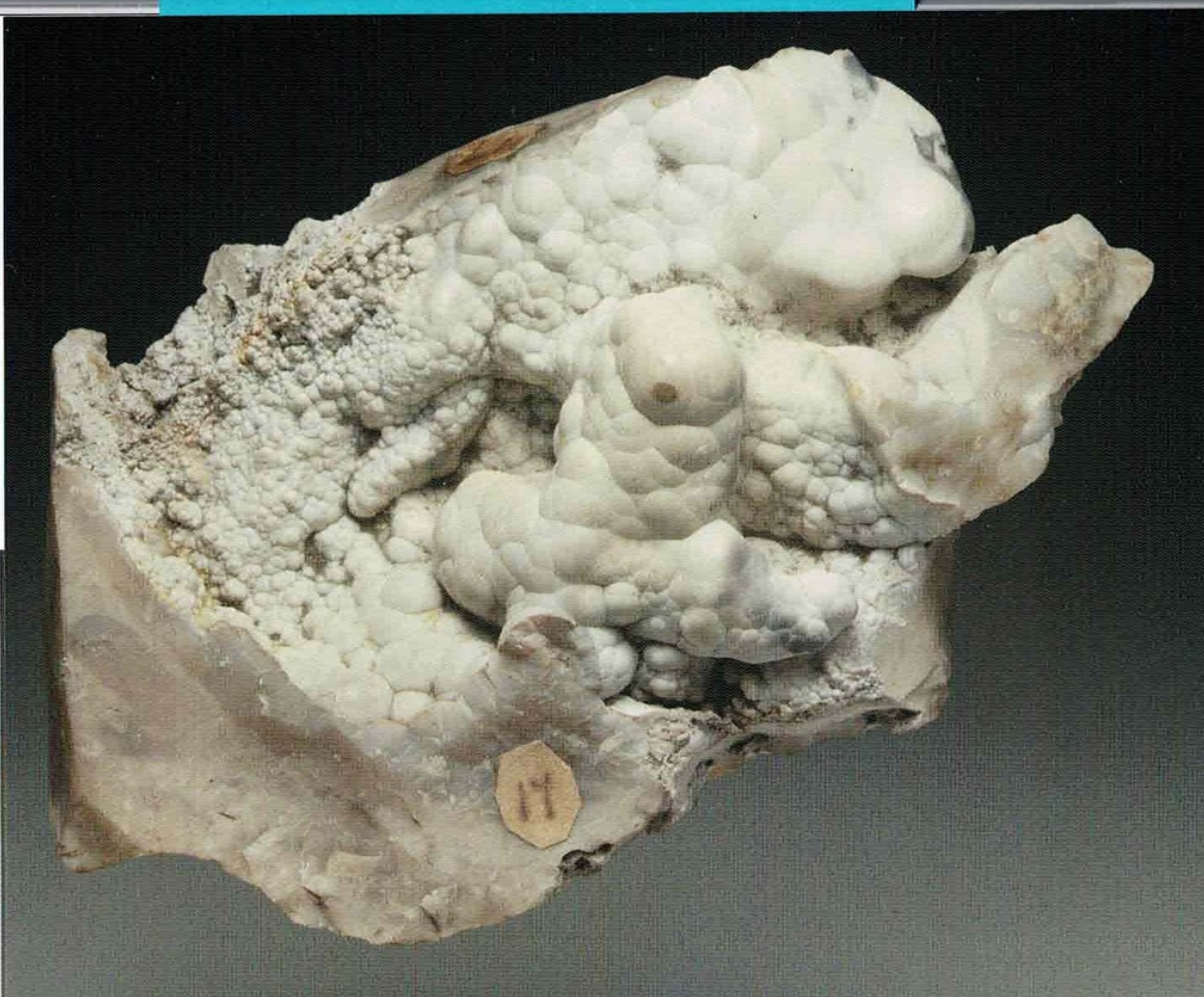


Figure 392. CHALCEDONY: white botryoidal masses on flint. St David's School collection. Reg. No. DMC 2128.17. Dimensions 135 × 100 × 50 mm. Locality not recorded. Ruskin's original catalogue description reads: "17. Flint chalcedony, making the best it can of itself. It can not be seen in finer condition, showing the Jasperine, spongy interior, edged with extremely minute sparkling quartz. Examine carefully with lens. I do not know how far these red parts are organic. It is rare to find chalcedony of the two sides of the wall, as here; and still more rare to find it, as on the blue side, with superimposed pseudostalactites, (to my great regret, broken short off.) Reference number in my old collection, 1591. Cut and polished under my own direction."

Figure 393. CHALCEDONY: translucent colourless to pale yellow white stalactitic masses with a druse of tiny sparkling quartz crystals. St David's School collection. Reg. No. DMC 2128.26. Dimensions 125 × 65 × 20 mm. Iceland. Ruskin's original catalogue description reads: "26. Level Icelandic chalcedony, traversed by pseudostalactites, each with its proper rod of nucleus. Two pieces, A and B, cut and polished under my own direction, and extremely instructive, if one could only understand a single word of what they say. Look at them against the light, and take care to keep the two pieces together." This is strikingly similar to the specimen from the Harrow School collection (Fig. 369).



Figure 394. GOLD: bright metallic yellow masses in limonitic quartz veinstone. St David's School collection. Reg. No. DMC 2128.32. Dimensions 40 × 30 × 20 mm. [Australia]. Ruskin's original catalogue description reads: "32. Native gold, in the same kind of quartz, but itself more massive, and partially crystalline. I believe this Australian; but it represents the kind of gold all over the world, which forms the nuggets in alluvial deposit. That is to say, the flawed and more or less brittle quartz gets knocked away by attrition, while the gold, in grains and masses of various sizes, falls to the bottom of the stream. This specimen has itself been a little rolled and battered on the outside, but shows the fibrous crystalline character of the gold, beautifully, in its cavities. It was cut when I bought it, and in the section obtained shows the exact lines of contact between the gold and quartz, in the interior of the stone, where the metal is compact while it effervesces in the cavities into moss."

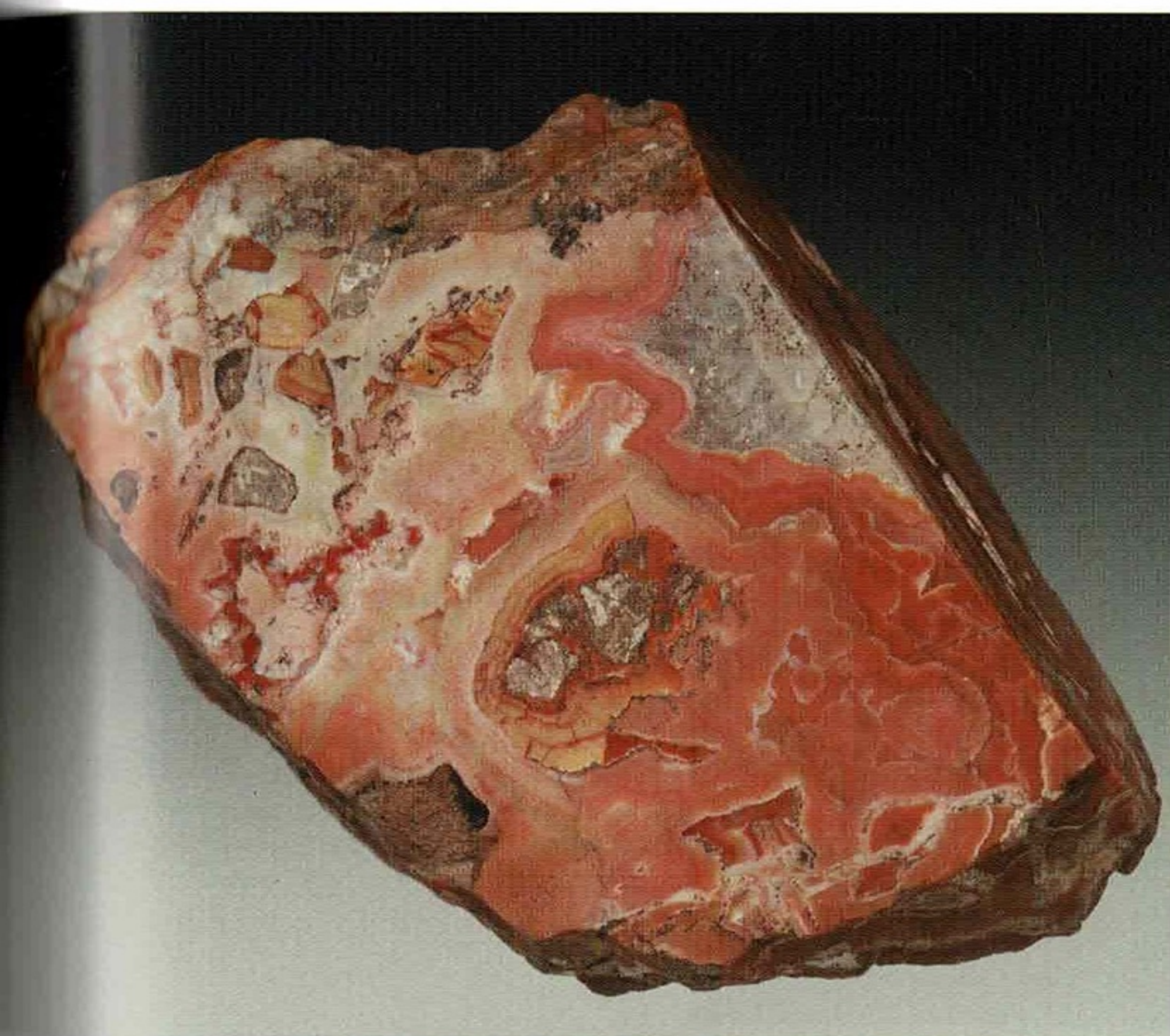


Figure 395. GOLD: a sawn slice showing finely divided bright metallic yellow grains disseminated through a quartz veinstone. St David's School collection. Reg. No. DMC 2128.33. Dimensions 50 × 50 × 5 mm. New Zealand. Ruskin's original catalogue description reads: "33. *Slice of quartz-rock from New Zealand, with native gold dispersed through the body of it, in extremely fine particles. This form is peculiar to New Zealand, and as I never use a microscope, I cannot say how far the gold is crystalline. I have added, therefore, the extremely rich smaller piece, for experimenting upon at leisure, by cutting slices off the edges of it, as thin as it is possible now to cut quartz, and there is scarcely any limit to the fineness obtained by Mr. Sorby (see Chapter 4) and other microscopic observers. A great deal might, however, be found out by the schoolboys of St. David's, very interesting to older people as well as themselves. In the large specimen, No. 33, the gold is in somewhat finer grains and fibres, but my impression is that in both it is in a state very closely corresponding to that of the chlorite in moss agate.*"

Figure 396. AGATE: a sawn slice of grey, red, orange, white and yellow-brown brecciated jasper agate. St David's School collection. Reg. No. DMC 2128.49. Dimensions 80 × 60 × 10 mm. Locality not recorded. Ruskin's original catalogue description reads: "49. *Brecciated jasper, in variously interrupted bands apparently floating in grey chalcedony. An example of extreme interest connected with the shell-like jaspers on the one side, and with brecciated agates on the other.*"



Figure 397. AGATE: a sawn and polished segment of a nodule of red and orange banded jasper agate with a core of colourless crystallised quartz. St David's School collection. Reg. No. DMC 2128.55. Dimensions 80 × 50 × 40 mm. Locality not recorded. Ruskin's original catalogue description reads: "55. *Red jasper in bands, some straight, some bent, and some apparently not merely broken, but chopped up; the whole mixed with sandy quartz and gritty earth, in a manner, I believe, which no one could explain but Lord Dundreary.*" [Note: Lord Dundreary is a character of the 1858 English play *Our American Cousin* by Tom Taylor. He is a good-natured, brainless, aristocrat.].



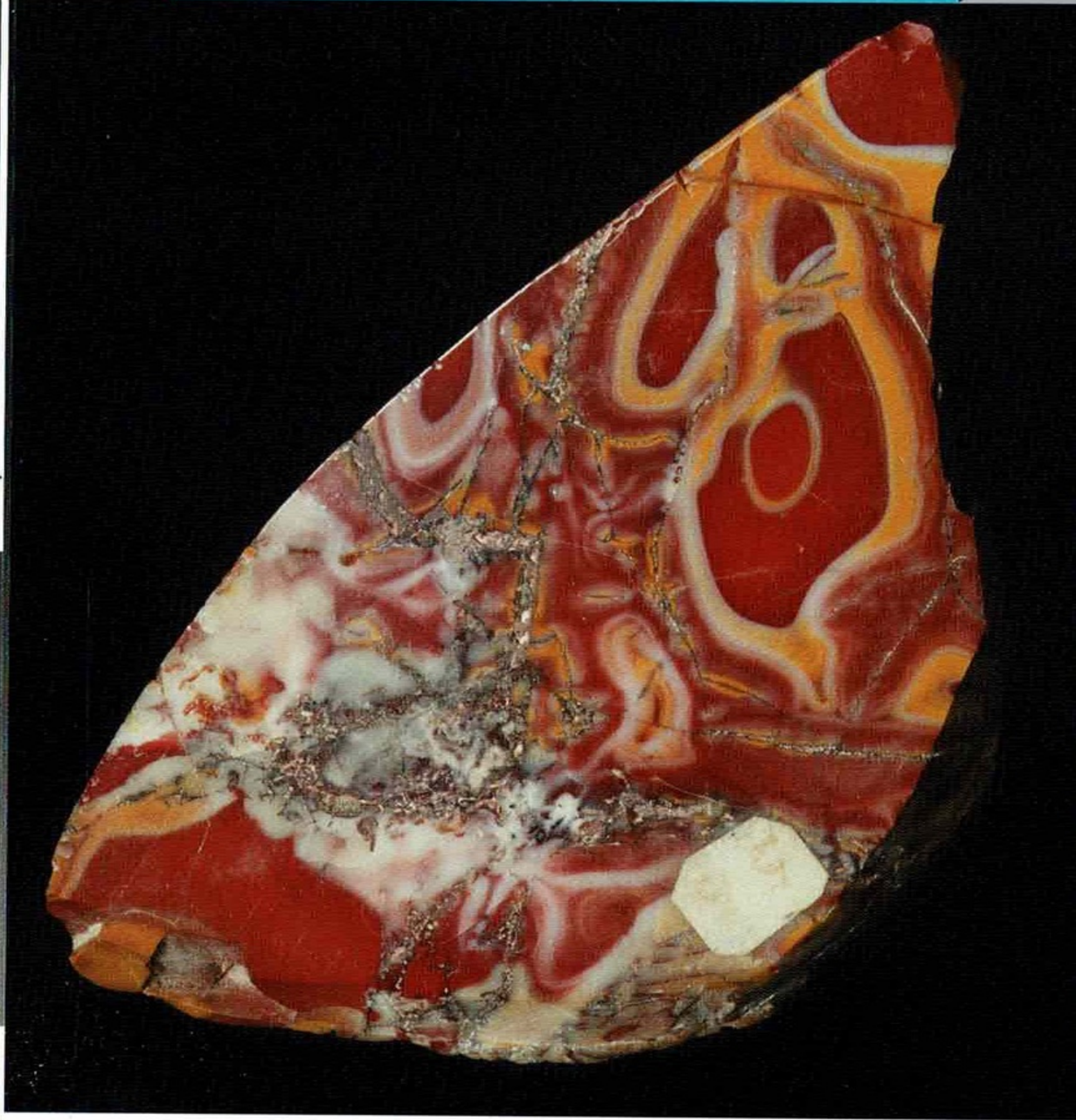


Figure 398. AGATE: a sawn and polished segment of a nodule of orange, red and white jasper agate. St David's School collection. Reg. No. DMC 2128.56. Dimensions 70 x 40 x 30 mm. Locality possibly [New Guinea]. Ruskin's original catalogue description reads: "56. Red and yellow jasper variously coiled and squeezed, with veins of imperfect quartz, —a rare kind, which the traveller who gave it me told me he had ridden three days in a savage country to get. As I don't care about savage countries, nor whether a jasper, which one must ride three days to get a bit of, (and can't make anything of when one has got it,) is to be found in New Guinea (this is, I believe, from New Guinea), I have no reluctance in parting with this specimen: but I believe it could not be easily matched."

Figure 399. JASPER: a sawn and polished segment of a nodule of brown, white and yellow banded jasper. St David's School collection. Reg. No. DMC 2128.57. Dimensions 75 x 55 x 3 mm. Egypt. Ruskin's original catalogue description reads: "57. We return to the regions of propriety and common sense, in a slice of pebble of the ordinary kind, known as Egyptian jasper. These pebbles are, I believe, found loose in the sand, and I do not find the mineralogists give us any account of where they come from; perhaps, however, the first question ought to be, where the sand they are found in comes from, since we get too easily into the habit of thinking that two-thirds of Arabia and Africa were originally manufactured of sand. The pebble itself is very characteristic in its substance, —jasper properly so-called, without any admixture of chalcedony. Though so thin, it is perfectly opaque, and though apparently containing a considerable proportion of clay or lime, takes a quite lustrous polish. Its bands appear to be the result of the same process which takes place in banded flints." Purchased from Bryce Wright. His label affixed to the reverse of the specimen.



Figure 400. AGATE: a sawn and polished slice of blue-grey, red and white banded agate with a central zone of colourless crystallised quartz and a pale grey banded core. St David's School collection. Reg. No. DMC 2128.59. Dimensions 135 x 80 x 20 mm. Locality not recorded. Ruskin's original catalogue description reads: "59. Slice of a jasperine agate of the finest quality showing agatescent formation, inside as well outside its quartz. The external bands, variously arbitrary, and unmanaged, or unmanageable, but chiefly notable, because, on the interior of the narrow and consistent band of red jasper, which falls away at one end like the loose thread of a skein, there will be found a series of little circular domes, built into the quartz; white on the surfaces, and cut through into pretty violet white sections, which perfectly illustrate the spots in the two small agates cut into heart shape, Nos. 6 and 7, of the 'Crest' series, p. 21."





Figure 401. DOLOMITE: cream coloured, saddle-shaped crystals, richly covering a matrix of sparkling colourless crystals of quartz with a single pale blue-green cubic crystal of fluorite. St David's School collection. Reg. No. DMC 2128.64. Dimensions 135 × 80 × 25 mm. Locality not recorded. Ruskin's original catalogue description reads: "64. Detached wall of solid quartz, passing into small sugary crystals on one side, and well-formed larger crystals on the other sprinkled on the larger side with pearl spar (carbonate of combined lime and iron), which itself is sprinkled or peppered with sulphuret of iron, and tiny calcite confused among the quartz, a single cube of pretty green fluor spar setting off the whole very daintily."



Figure 402. QUARTZ: a group of stout prismatic crystals showing a later overgrowth of tiny sparkling pyramidal crystals of quartz. St David's School collection. Reg. No. DMC 2128.66. Dimensions 85 × 65 × 30 mm. Locality not recorded. Ruskin's original catalogue description reads: "66. Well developed, full-sized crystals of quartz, coated with sugary quartz, which seems at first to have rather bothered them together with impertinent sulphuret of iron, probably the of general discomfiture and distraction in the early life of the crystals. The natural bridge, or viaduct, from the smaller to the larger crystal, is extremely curious; but on the whole I am rather glad to get rid of the specimen, which always bothers me too much to find out what has been the matter with it. The full-sized crystals are extremely good specimens of quartz form, bringing all their sides neatly to the point, which they are very apt to fail of doing, and to look like an ill-cut pencil."



Figure 403. QUARTZ: a splendid specimen showing colourless, transparent, elongate, prismatic crystals of quartz variety rock crystal displaying the Dauphiné habit, named for the locality. St David's School collection. Reg. No. DMC 2128.80. Dimensions 110 × 40 × 35 mm. Dauphiné, France. Ruskin's original catalogue description reads: "80. Perfect quartz crystal of Dauphiné, as good as well can be, and in the inside of it, fit for spectacles or telescopes or what not; - of course a little spoiled at the point in the manner above described, but I have not above four bits in my whole collection that are better, and can't spare any of them."