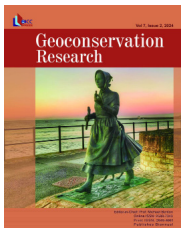

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A New View of Lake District Geology, Past and Present, at Kendal Museum, England: A Case Study in Community Involvement

Peter C. Lincoln[1*], Ila Colley[2]

1Westmorland Geological Society & History of Geology Group, 6 Bankfield Road, Kendal, LA9 4LA, UK
2Kendal Museum, Station Road, Kendal, LA9 6BT, UK

***Corresponding Author's E-mail:** peter.c.lincoln@gmail.com

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Abstract

In 2023, the geological collection at Kendal Museum in north-west England was redisplayed to (i) draw attention to Kendal's links to the earliest geological exploration of the English Lake District and (ii) provide an accessible guide to current interpretations of that area's complex geology. The project, although implemented by a professional geological design partnership, was instigated and managed by the Westmorland Geological Society working with staff at the Museum. Funded from the Museum's budget together with grants secured by the Society, the work was completed in time for opening at the Geologists' Association Annual Conference—held in Kendal in September 2023 to mark the Westmorland Society's 50th anniversary. The intention was to use the Museum's historic collection of local fossils and its close links with figures such as Adam Sedgwick to stimulate interest in the geology of the area and encourage inquiry through leaflets describing Cumbria GeoConservation's geological trails. This case study of a small, community-driven project demonstrates one way that local enthusiasm and expertise can help overcome severe budgetary constraints faced by many museums.

Keywords: Museum; Geology; English Lake District; Geoconservation; Sedgwick; Volunteer; Community Involvement

Introduction

For more than a century the town of Kendal in north-west England (Fig. 1) has celebrated its description—specifically on a much-reproduced London and North Western Railway poster originally published in 1910—as a 'Gateway to the English Lakes' (Fig. 2). Now, through a project led by the local Westmorland Geological Society (WGS), the town's Museum is aiming to encourage its visitors not only to journey into this famous District but also to see it through new, specifically geological, eyes. In so doing, it is continuing work begun almost 200 years ago by, amongst others, no less a person than Adam Sedgwick (1785–1873), the local boy who won renown as the Woodwardian Professor of Geology at the University of Cambridge, and who, amongst other achievements, established the Cambrian period in the stratigraphic table. Sedgwick, and his local collaborator John Ruthven (c.1793–1868), are commemorated by the Museum's 'Sedgwick and Ruthven Room', the space that forms the subject of this case study. The study highlights the benefits that may accrue to geoconservation outreach when a small civic museum opens its doors to collaboration with a local geological society, several members of which are

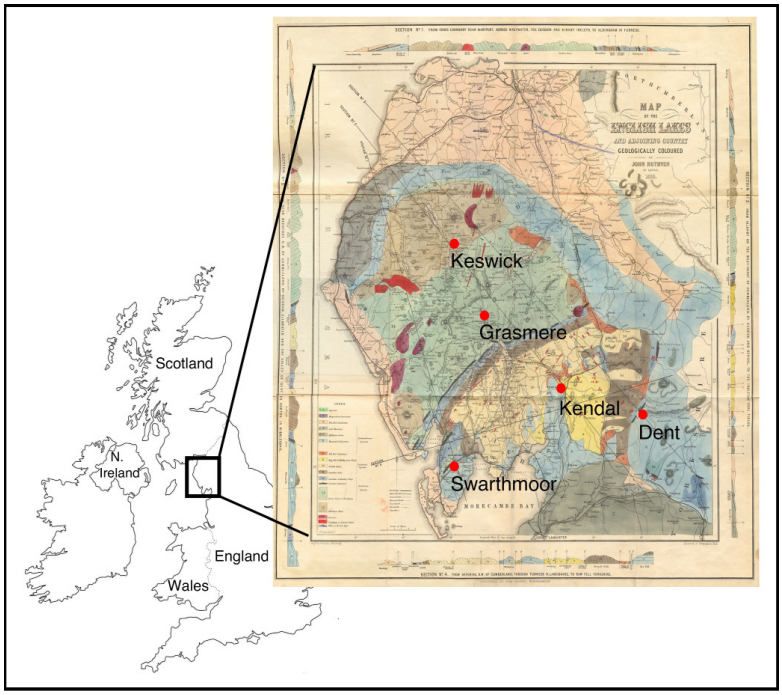

Figure 1. John Ruthven's 1855 geological map of the English Lake District showing main locations mentioned in text. The three main groups of Lake District rocks are discernible, colored (N to S) grey, green and buff-color. The Ruthven map is shown in conjunction with an outline of the British Isles to show the location of the Lake District within the British Isles. Ruthven map courtesy of WGS/Marcus Byron; outline map © UKMap360.com.

Figure 2. 'Kendal – a gateway to the English Lakes' , a London & North Western Railway Poster, 1910. A large reproduction of this poster is prominently displayed in one of Kendal's main pedestrian thoroughfares. © Science Museum CC BY–NC–SA 4.0.

also involved in local geoconservation activities.

Kendal Museum—a Brief History

Kendal Museum traces its roots back to 1796 when William Todhunter (c.1756–1832), a bookseller turned taxidermist, brought his collection of 'Minerals, Shells, Petrications [*sic*], Incrustations, Crystalisations, Spars, Marles and many curious fossils' from his shop in Hawkshead to Kendal (Wordsworth Trust 2010). In 1835, Todhunter's collection, which also boasted a range of 'Mosses, Lichens and plants of spontaneous growth' as well as 'a variety of Birds, Quadrupeds, Fishes and Coins', was sold at auction (Wordsworth Trust 2010). Items from that sale, having been bought by some local gentry, were then donated to provide the nucleus of a new museum established later in the year as a constituent part of the Kendal Natural History Scientific Society (KNHSS) (Robinson 2019, 2020). This society was typical of the many provincial societies that sprung up across the country during the nineteenth century. While many followed a pattern established much earlier by the Literary and Philosophical Societies—e.g. Bath (1779), Manchester (1781) and Newcastle (1792)—in including literary and antiquarian interests as well as those of natural science, some, often designated 'Field Clubs' concentrated mostly on investigations of the natural world. For an analysis of the geological activities of two similar societies (see Burek and Hose 2016). Despite its original name, the Kendal Society, which amalgamated with the town's Library in 1855 to become the Kendal Literary and Scientific Institution, had from the start a fairly wide remit, mixing its science with readings of poetry

and other literary and antiquarian activities, and collecting antiquities as well as productions of the natural world for its museum. The Society maintained and built up its museum in a variety of ever more imposing premises until it ran into financial difficulties shortly before the First World War. Having then sold part of the collection to pay off its debts, the Institution transferred the remainder to Kendal Borough Council. In 1918, the Kendal Museum we know today opened its doors on the present premises, a former wool warehouse (Robinson 2019).

Amongst the Museum's most treasured possessions is a splendid plaster bust of the geologist Adam Sedgwick. It is a copy of the marble original commissioned in 1846 for the Geological Society of London from Henry Weekes (1807–1877), a leading portrait sculptor who also numbered the young Queen Victoria amongst his subjects. It was presented to the KNHSS by Sedgwick himself in 1850. That geology had been an important part of the Society's interests may be deduced from an early committee minute agreeing to the purchase of 'various Specimens of Minerals, Rocks and Fossils' from a local collector, and the decision a year later, in October 1836, to order John Phillips' *Guide to Geology* for the Society's library. Although Adam Sedgwick was just one of the nine illustrious men—a list that included two of the Lake Poets, Robert Southey (the English Poet Laureate) and William Wordsworth, as well as the atomic theorist John Dalton (who had lived and taught at the Quaker school in Kendal between 1781 and 1793)—who were invited to become honorary members at the time of the society's foundation, he was the one who took the most active interest in the society's affairs and in 1838 he became its President, a position he held for the rest of his life (Speakman 2018). Sedgwick had been born, the son of the parson, in 1785 at Dent, sixteen miles to the east of Kendal. After attending schools in Dent and nearby Sedburgh, he went up to the University of Cambridge in 1804. There, in 1818, having previously had no more than a passing interest in the subject, he was elected Woodwardian Professor of Geology. The Woodwardian Chair was founded by the bequest of antiquarian and fossil collector Dr. John Woodward (1665–1728) and was 'Britain's oldest academic post in the Earth-sciences' (Davies 1969). At the time of Sedgwick's election, it was still the only university appointment in geology in existence in England—the Oxford Readership in Geology being established later that same year (Edmonds 1979). Sedgwick himself famously said of his election: 'I had but one rival, Gorham of Queen's, and he had not the slightest chance against me, for I knew absolutely nothing of geology, whereas he knew a good deal—but it was all wrong!' (Clark and Hughes 1890). Although this self-effacing comment doubtless exaggerated his ignorance of the subject, Sedgwick did lack specific field experience; but he was an astute observer and he worked hard to catch up, almost immediately starting on the series of arduous summer expeditions that would characterize his career. It was during the summers of 1822–4 that he made his first extended explorations of the Lake District.

Sedgwick's gift of his own bust to the Kendal Society showed the high regard in which he held both the Society and its museum, which he praised as one of the best he knew (Robinson 2020). Among the hundreds of fossil specimens in the current Museum are several identifiable as 'Donated by Professor Sedgwick' or collected by his protégé and occasional assistant, local man, John Ruthven. 'These included specimens of the coral, *Pentamerus knightii*, and a series of trilobites, *Asapiuis birchi*, &c, from the Silurian formations in Wales. In 1857 he presented the museum with as well as a slab of *Graptolites ludensis* from Kirkby Ireleth Moor' (Robinson 2020). Ruthven himself, as noted by local geological historian Alan Smith, deserves commemoration on two counts:

'he illustrates very well the part the local amateur could play in the early history of geological exploration and secondly, his *Geological Map of the Lake District*, published in 1855 [see Fig. 1] was one of the earliest to be compiled' (Smith 2001). Sedgwick clearly regarded him highly, describing him variously as 'my old heart-of-oak friend' (Clarke and Hughes 1890) and as a 'famous fossil collector', who 'though once a cobbler is now a geologist whose fame will last longer than the stoutest shoe that ever came off his ancient last' (Clark and Hughes 1890). When, in 1842, Roderick Murchison (1792–1871), President of the Geological Society of London, visited Kendal, he also complimented the Society on its collection and gave specific praise to Ruthven whom he later described to members of the Geological Society as 'acquiring for himself a reputation in the North scarcely inferior to that which has been assigned to Miss Anning in the South' (Murchison 1843).

Over the summers of 1822, 1823 and 1824 Sedgwick spent increasing numbers of weeks investigating the rocks of the Lake District, assisted on occasion by another local man, Jonathan Otley (1766–1856) from Keswick. Otley, a man largely, and undeservedly, uncelebrated outside his native Cumbria, was another 'amateur' who made a significant contribution to our understanding of Lakeland geology. Born in humble circumstances at Loughrigg, near Grasmere, he moved in 1791 to Keswick, where he earned his living repairing clocks and watches. He was also, however, an avid student of the natural world who, by the time that Sedgwick joined him in the field in 1823, had already worked out the basic geological structure of the Lake District, dividing it into three groups which he called 'the Clayslate, Greenstone and Greywacke divisions, the first representing the Skiddaw Slate, the second the Volcanic Series of Borrowdale, and the third the Coniston Limestone and Upper Silurian of the southern part of the district' (Smith 2007; Smith 2003). Sedgwick clearly utilized Otley's tripartite division in his own work (Oldroyd 2002; Sedgwick 1835) and since it has been recognized by every other Lakeland geologist over the past 200 years, it seemed fitting that visitors to the Museum in Kendal, a town that celebrates its description as a 'Gateway to the English Lakes', should also be introduced to the idea.

Kendal Museum Today

For more than a century Kendal Museum has served townspeople and visitors as a significant civic asset. It is currently managed by Kendal College, the town's further education establishment, under an agreement with the local council. Financial pressures, particularly exacerbated by the period of 'austerity' that followed the 2007–9 financial crisis—a problem common throughout the museum sector (Rex and Campbell 2021)—together with the College's requirements for space, have imposed many challenges in recent years. Having originally occupied three floors of the imposing nineteenth-century warehouse, the main heritage collection together with the geology and mineralogy collections as well as an important herbarium are now all confined to just one floor, a circumstance that restricts options for display. The Museum's impressive World Wildlife Collection is housed in a purpose-built annex but, even here, there is insufficient room for many of the 1681 specimens of mounted birds, many of which languish in store. However, possibly even more serious than the constraints of space, is the limited professional curatorial time available, which, at just 1.5 days per week, is barely sufficient for the basic maintenance of the collection, and severely limits the attention devoted to public-facing activity.

The Museum's geological collection comprises many hundreds of small hand specimens of rocks and fossils collected from the Lake District area as well as several impressive specimens from further afield, such as Pleistocene mammoth ver-

tebrae, a 44 cm Jurassic ammonite of uncertain provenance and a splendid fossil fish, *Dapedium politum* from the Lower Lias of Leicestershire. Before the current project, a selection of these specimens was displayed, together with the Sedgwick bust, in a somewhat crowded space (3.2 m x 3.0 m), partitioned off from the main hall and labeled as the 'Sedgwick and Ruthven Room'. The walls of this room held a framed print of Thomas Phillips' 1832 portrait of Sedgwick—presented in 1841 by Mr George Wood (1781–1843), Kendal's MP and a Fellow of the Geological Society—and an original watercolor portrait of John Ruthven, painted by his son, together with a large panel illustrating the geological timescale, a faded facsimile of Ruthven's 1855 geological map of the Lakes and a laminated BGS map of the area.

The Vision

In March 2023, the Kendal-based committee of the WGS discussed a proposal to mark its 50th anniversary year by presenting Kendal Museum with a facsimile of one of Sedgwick's early geological maps of the area. This modest proposal grew, through further discussion and the eventual involvement of designers, into an ambitious plan to create a motivational portal through which visitors to the Museum might step out on a geological exploration of the Lake District: a Geological Gateway to the English Lakes. Inspired by the idea that a 'Sedgwick and Ruthven Room' should not just celebrate the achievements of these local geologists but also bring their pioneering work up to date with an accessible explanation of current thinking, the Museum's geological room was re-imagined as a space devoted wholly to local geology, and to encouraging visitors to get out and see for themselves (Fig. 3).

The project was initiated and coordinated by the committee of the WGS in collaboration with staff at the Museum. The Geologists' Association (GA)

Figure 3. Kendal Museum's Sedgwick & Ruthven 'geological' Room before (A, B) and after (C, D) refurbishment, showing the removal of display cases, the painting of the walls and the installation of an integrated display of maps (C i), biographical data (C ii) and modern interpretation of the geology of the Lake District (C iii) on the three walls.

also marked the WGS anniversary by holding their 2023 Annual Conference in Kendal between 22 and 24 September; this included a reception in the Museum itself which provided a firm, if ambitious, target date for completion of the project. Although now entirely separate, the WGS and the Museum can claim a spiritual affinity if the former is considered in some way as a successor organization to the Society (the KNHSS) that set up the Museum in the nineteenth century. Cornelius Nicholson (1804–1889) and Thomas Gough (1805–1880), the founders of the original Society, believed that its success depended upon the maintenance of a good museum since that was 'the only practical way of making records and identifications in those days' (Robinson 2020). Their intention was clearly the creation and sharing of knowledge about the natural world: core objectives of both the WGS and the Museum today. However, even in the early nineteenth century, there were those who recognized the dangers of over-enthusiastic collecting of specimens. One famous honorary member of the KNHSS, William Wordsworth, had written in 1815:

He who with pocket-hammer smites the edge
of luckless rock or prominent stone, ...
...detaching by the stroke
A chip or splinter—to resolve his doubts;
And, with that ready answer satisfied,
The substance classes by some barbarous name,
And hurries on ... (W. Wordsworth. The Excursion Book III, 1814)

Years later in 1842, Wordsworth's friend Adam Sedgwick took these words as a rebuke to geologists, but also admitted the danger: 'One of your greatest works seems to contain a poetic ban against my brethren of the hammer, and some of them may have well deserved your censures'. In response, Wordsworth told Sedgwick that it was actually the early nineteenth-century vogue for mineralogical collecting that he had in mind rather than serious geologists (Palmer 2020). Nevertheless, it seems that Sedgwick, at least, recognized the fragility of geological sites and thus pre-empted the concerns of the Cumbria GeoConservation Group (CGC), an organization established in 1992 as Cumbria RIGS (Regionally Important Geological Sites) Group in response to the Earth Science Conservation Strategy of 1990 (Woodhead 2023). One of Sedgwick's own geological hammers, then as now the iconic tool of the geologist, is illustrated in the new display on a small panel which also references Sedgwick's defensive response to Wordsworth's words (Fig. 4). The care of geological sites remains a continuing concern amongst geologists associated with Kendal's Museum and it was through the enthusiasm, expertise, and contacts of members of CGC that this project was able to blossom.

Implementation

Having secured agreement and a promise of some financial support from the Museum, the WGS approached the geologist Elizabeth Pickett who had worked with designer Marcus Byron on several projects for CGC. Armed with their indicative costings, an application was made to the GA Cur-

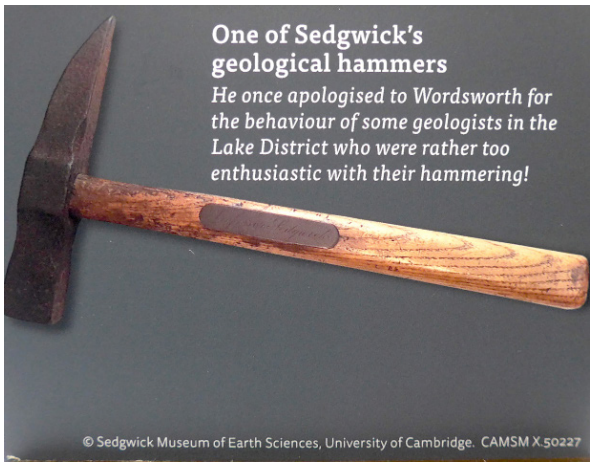

Figure 4. Illustration of one of Adam Sedgwick's geological hammers with reference to an apology that might be considered an early example of a concern for geoconservation?

ry Fund. Once the bulk of funding was in place, the real work began. It was initially divided into three elements.

1. The selection and re-display of specimens. This involved both a reduction in the number of cases and a rationalization of the specimens within each of the remaining cases. The intention was to simplify the display to make it more accessible to the non-specialist. This work was undertaken by Museum staff with assistance and advice from members of WGS. It is envisaged that further modifications may be made to these displays to highlight specific specimens, e.g. those that are identified as having been collected by Sedgwick or Ruthven themselves.

2. The development of the display relating to the lives and achievements of local geologists in the nineteenth century (Figs. 5, 6). This historical approach to a geological collection has long been recognized as a valid way to look at a geological collection (Knell and Taylor 1989). The 'human interest' element provides a 'way in' for those visitors who may not be immediately attracted to the more technical aspects of the display. To quote Tom Hose, a specialist in geoconservation and geotourism: 'Environmental interpretation has been shown to benefit, in terms of engaging and building empathy with its audience, by incorporating human stories and history' (Hose 2016). As well as biographical information, three facsimile geological maps were obtained, including a hand-colored working map from the University of Cambridge's Sedgwick Museum. The Sedgwick Museum was also extremely helpful in providing other graphical material for the display. The text for the display was prepared by Elizabeth Pickett based on her own research and on historical notes collated by Judith Robinson, one of the Museum's volunteer researchers.

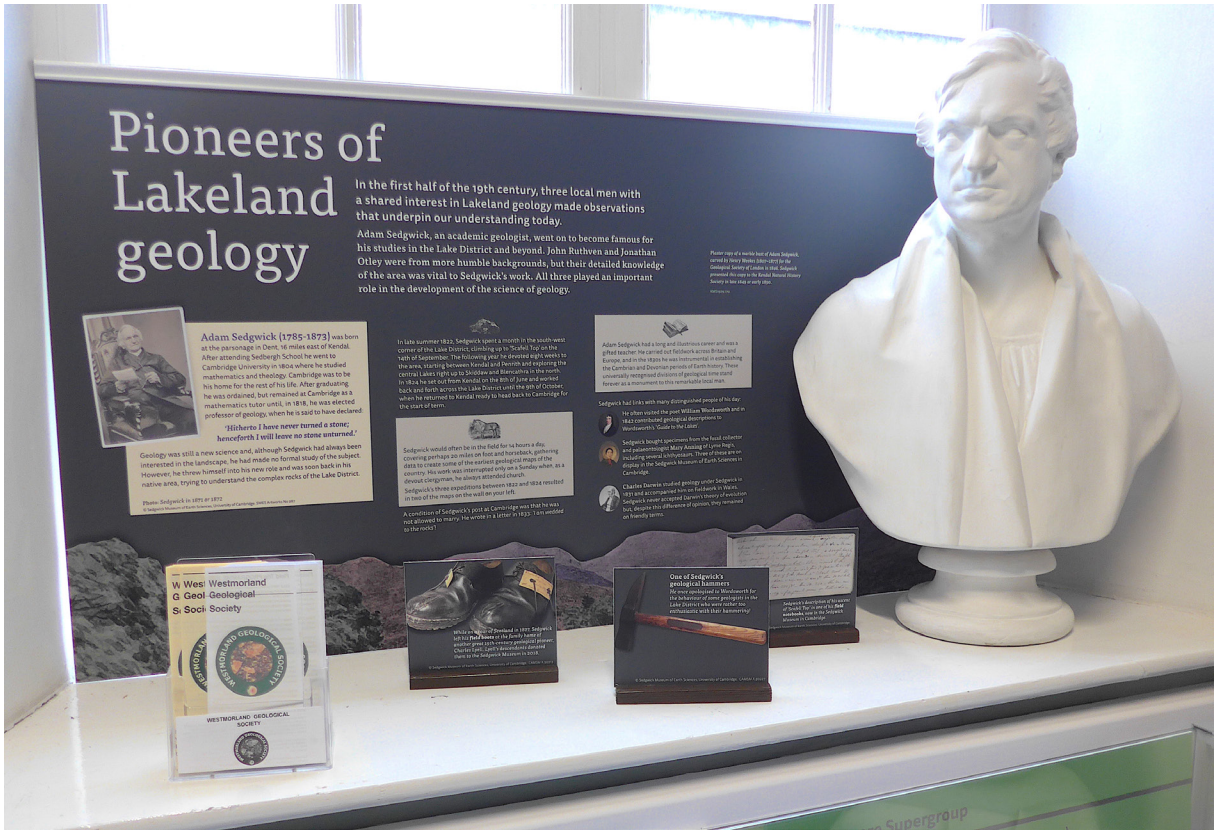

Figure 5. Overview of display of biographical information about Adam Sedgwick.

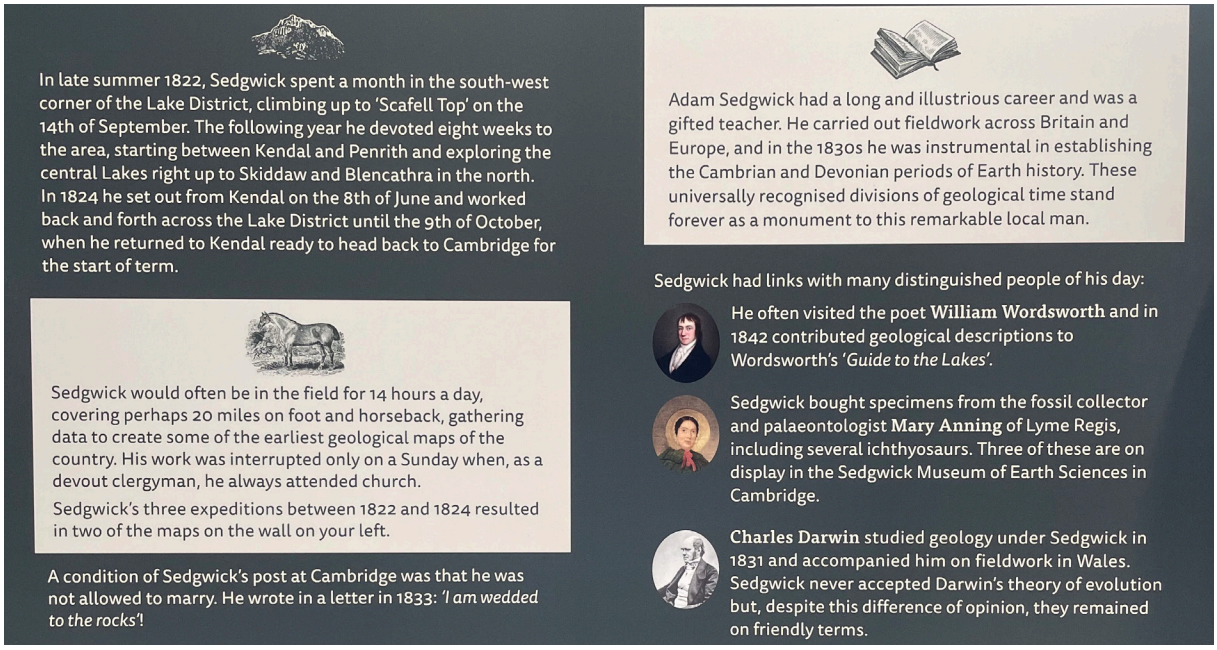

Figure 6. Example detail from the biographical information about Adam Sedgwick on the rear wall of the room.

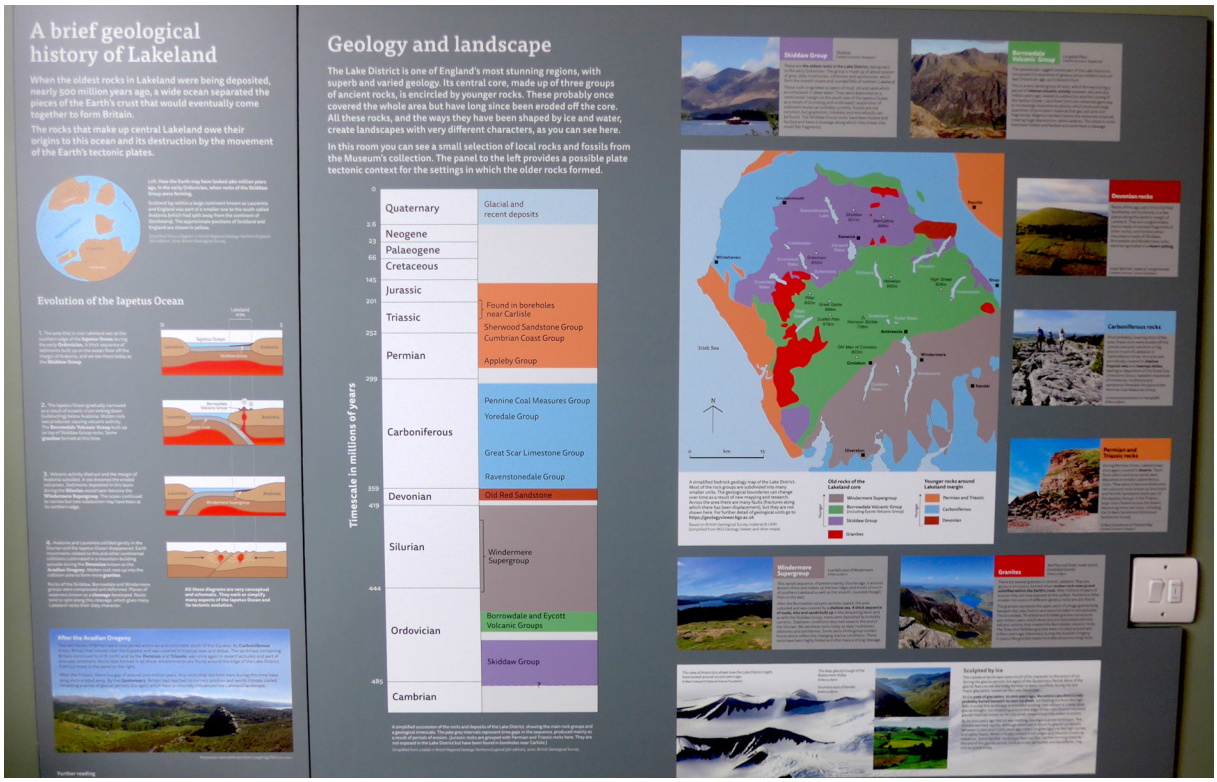

Figure 7. An accessible modern interpretation of the Lake District's geology. From left to right: A brief geological history of Lakeland, a simple geological timescale and a simplified geological map of the Lake District surrounded by color-coded photographic illustrations of scenery typical to each of the major groups of rock.

3. The production of an accessible and well-illustrated explanation of the geology of the Lake District (Fig. 7). This was in many ways the most difficult task and, given the complexity of the area, considerable compromise was necessary to produce graphics and text that tells the story in an easily assimilable way. It is testament to the expertise of our consultants that this display has been

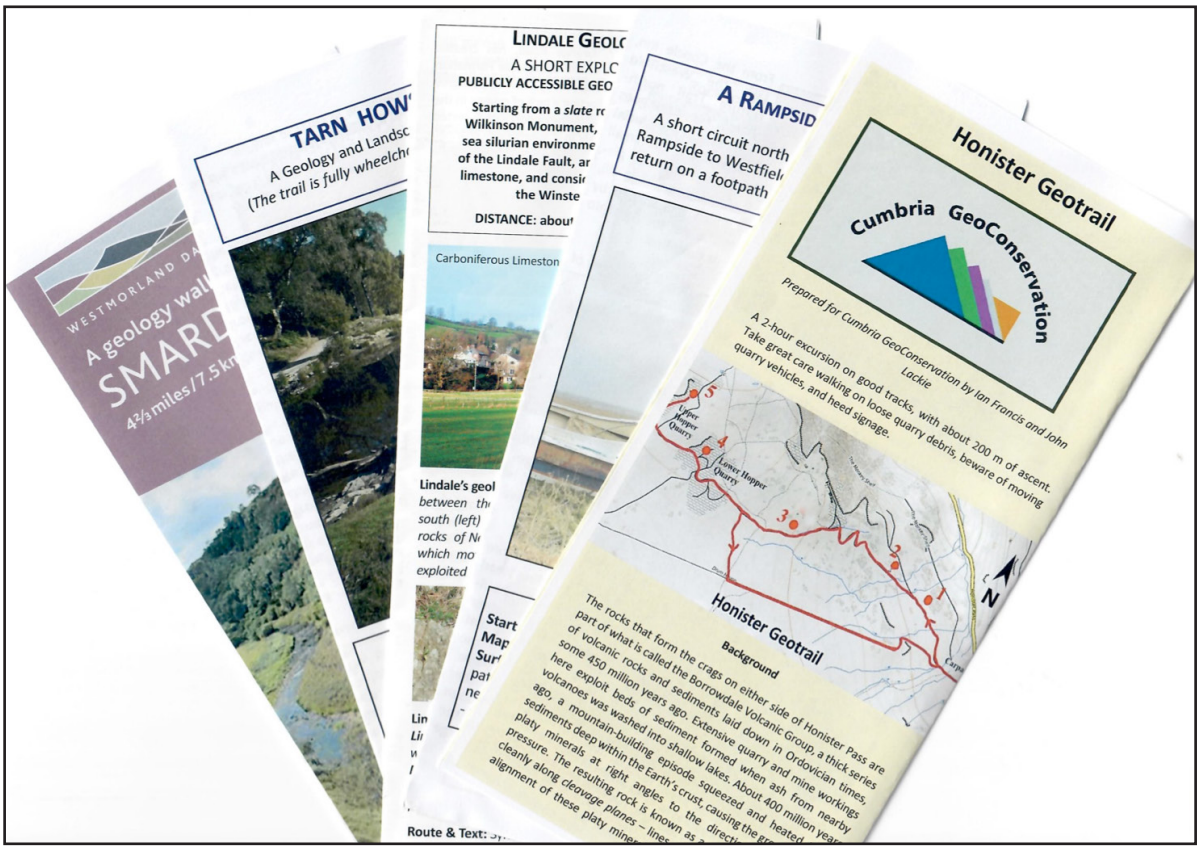

Figure 8. A selection of the geotrail leaflets freely available from the CGC website https://www.cbdc.org.uk/cumbria_geoconservation/

much praised and that visitors have been observed spending many minutes studying it.

In addition to the three components described above, a fourth element is currently under development in collaboration with the CGC. Having been enthused by the geology on their doorstep, or the exploits of the early pioneers, or perhaps even by both, visitors will be encouraged to go out and see for themselves. The CGC website lists almost 20 booklets and leaflets describing geotrails and features of geological interest within the Lake District and Westmorland Dales. Most of these are freely available as printable pdf downloads (Fig. 8). The Museum shop currently stocks a guide to the Building Stones of Kendal and free printed catalogs with links to the other resources will shortly be made available in the Sedgwick and Ruthven Room.

Outcomes

The scope of this project expanded significantly between March and July 2023. What began as the simple presentation of a single facsimile map, at minimal cost, evolved, through a stage where a few extra 'interpretation boards' were envisaged, into a full-scale re-imagining of the room with a total cost of just over £3,700. The final iteration was the vision of the designer, Marcus Byron, who proposed that the space be decorated in a dusky green to evoke the ambiance of an imaginary Victorian geologist's study (Fig. 9).

The six original display cases are now reduced to three, with a further stepped wooden stand (created by members of WGS) to house a group of large handling specimens of local rocks and fossils that had hitherto been displayed on the floor under the cases. Within the three remaining cases, the number of specimens has been reduced by approxi-

Figure 9. The 'geologist's study' theme showing two of the three small display cases, the facsimile maps and the biographical display about Adam Sedgwick including the 1833 Samuel Cousins mezzotint (after Thomas Phillips) of Sedgwick and the cast of the Henry Weekes bust of the geologist.

mately 30% to make the cases less cluttered and to allow for a better appreciation of the important features of the remaining specimens, as well as to avoid duplication. The selection of specimens for display was made by a retired professional geologist member of WGS. All specimens are displayed on baseboards labeled with up-to-date stratigraphic nomenclature and color-coded to reflect the colors of the various geological formations shown on the new wall display and diagrammatic map.

The three facsimile historical geological maps are displayed along one wall at approximately full scale, together with some simple interpretative text (Fig. 10). The wall opposite the door, which contains a large window with a deep sill, is now devoted to biographical information about Sedgwick and Ruthven and includes both the Sedgwick bust on the windowsill and the portraits of the two men. (The placement of these items is constrained by reasons of security and ambient light intensity.) The biographical information is split into small,

Figure 10. The stand for the 'handling specimens' and (from left to right) facsimiles of Sedgwick's hand-colored map of the southern Lakes (courtesy Sedgwick Museum), a 1828 base map of Westmorland by T. Hodgson of Lancaster with 'GEOLOGICAL colors and signs after PROFESSOR SEDGWICK' (courtesy Dr. C. Toland) and John Ruthven's 1855 Geological Map of the Lake District (courtesy WGS).

easily digested paragraphs, each being distinguished from its neighbor by means of small vignettes and differently colored backgrounds (see Fig. 6 for an example of some of the text about Sedgwick).

The door to the space is set into a glass partition separating the space from the main Museum hall. Here the opportunity has been taken to introduce some well-known Sedgwick quotations as 'etchings' on the glass windows. This leaves the final wall which is now taken up with an explanation of the geological structure of the Lake District. Beginning on the left with a brief account of the life and work of Jonathan Otley, the visitor is led via a simplified graphical account of the tectonic history of the area towards a large panel that describes the Lake District today. A simple color-coded map helps situate both the various views shown on the board and the specimens displayed in the cases.

The final feature of the room is the availability of the various leaflets which encourage visitors to go out and look for themselves and point the way to further help and information.

Evaluations

Project Processes from the Museum Perspective

From the perspective of the Museum, the successful Sedgwick and Ruthven room redesign has demonstrated the feasibility of implementing high impact display changes to breathe life into this small local Museum. An invaluable component of this project has been the involvement of various partners, whose dedicated volunteers have contributed detailed leadership, planning, assistance and knowledge. The successful collaboration between the Museum and local groups like the WGS and CGC on a project of this scale provides an example for future projects. In addition to raising the profile of local geological history and improving visitor experience and accessibility, the project provided many opportunities to share knowledge and skills between parties. Museum staff at all levels were involved in the implementation process, providing key training and experience opportunities including universal design principles, object handling and collections management. The Museum hopes to continue this model of learning into further project work. The project also provided an opportunity to apply findings from ongoing volunteer research within the Museum's curatorial department which had identified some previously unattributed Sedgwick specimens in the collection.

The Redesigned Sedgwick and Ruthven Room from the Museum Perspective

Standing out in the Museum space as a piece of excellent design bringing the geological specimens and the historical and modern aspects of the wall displays into a cohesive whole, the new Sedgwick and Ruthven Room offers a balance of intriguing aesthetics and usability. The consistent color coding of geological groups increases legibility between wall displays including maps, timelines and photographs as well as the adjacent cabinet labeling, allowing the information to be easily visualized and processed. The handling artifacts have been spotlighted through bespoke display furniture which allows visitors tactile engagement at various heights, making this aspect a priority visual feature that is uncramped and accessible.

The 'geologist's study' theme of the room, evoked by the eye-catching green walls as well as the use of a handwriting style typeface (Old Man Eloquent Bold) for short, pithy, quotations suits the tone of the Kendal Museum which, overall, retains the feel of a cabinet of curiosity to be stumbled upon and explored at will. Narrative-led design like this can benefit visitor engagement through connection to characters and events (Hose 2016). Though it is recognized that more must be done in the future to highlight the historical contributions of women and people from global majority backgrounds in

the Museum's displays, the Sedgwick and Ruthven Room project has been proactive in its inclusion and framing of previously under-recognized figures. For example, it has given due prominence to the influential work of Jonathan Otley, a man to whom geology could only ever be an avocation. It also acknowledged the significant contributions of other unsung local men like Ruthven and fellow 'amateur' John Bolton of Swarthmoor (1790–1873). By revealing more about the lives and backgrounds of such local geology collectors and pioneers, visitors are prompted to consider how their own faculties of curiosity and exploration might be used in the field to make connections and better understand local landscapes. Evocative details such as Sedgwick's claim, reported in the Westmorland Gazette in 1843, that his friend 'Mr. Ruthven seemed to have a sixth sense – that of fossil smelling, for he discovered them in a most remarkable manner' (Robinson 2020) are key insights that may encourage visitors to the Museum to participate in geological study themselves, regardless of prior knowledge and background.

Visitor Feedback

To gauge visitor response to the new display, a short survey sheet was made available within the Sedgwick and Ruthven Room. Of the 19 respondents, 11 answered 'No' to the first question: (1) *Had you thought much about geology before your visit today? These 11 were then asked (2) What did you enjoy about the display?* (3) *What will you remember about the display?* and (4) *Do you feel encouraged to go and look at the geological sites in the area for yourself?* The responses to questions 2 and 3 were overwhelmingly positive, with four making specific reference to the fossils, three mentioning the historical maps and four specifically relating to the history of the geologists. Ten of the 11 answered 'Yes' to question (4) with one expressing a firm intention to join WGS. The eight respondents who professed to have previously 'thought much about geology' were then asked (5) *What is your level of expertise in geology (e.g. degree, 'A' level, interested amateur)?* and (6) *How helpful/interesting did you find the new display?* before being directed to question (4) as above. Question (5) returned one graduate and seven 'interested amateurs.' The graduate went on to say that they 'liked the way the rocks had been put into their place in the timescale. Excellent graphics boards', other responses to question (6) were positive, e.g. 'good – labeling is clear & well defined' and 'I found the collection and the information on the displays very interesting'. Of these eight, seven indicated that they were encouraged to look at more geology in the field, with another one taking a leaflet about the WGS. Recurring comments referred to the clear and inviting labeling that was 'easy to understand … for younger and older people alike.' It is clear from reading the qualitative data collected that a majority of respondents appreciated how the displays in this small area had managed to communicate complicated concepts succinctly and in an engaging manner. Overall, this early formal and informal feedback collected by the Museum attests to the success of the displays in centering visitors' agency to discover, beyond their pre-existing interests.

Influence of Project on Museum Processes

The project is a crucial precedent in rationalizing the Museum's diverse and somewhat inconsistent display formats. It has provided a blueprint for planning and realization processes applied to a further, currently live project, 'Reimagining the World Wildlife Gallery', which seeks to improve the visitor experience of Kendal Museum's significant collection of taxidermy. Sharing the objective of empowering visitors to navigate the collection through links to local contexts and stories, this project addresses issues of climate change, biodiversity loss, colonial legacy and animal rights by drawing on the creative and critical input of local

volunteers. The project has recently completed its community consultation phase and is moving to implementation. Key successes of the Sedgwick and Ruthven Room redisplay have influenced this project, in, for example, the use of narrative, visual hierarchy, readability, color and haptic design.

Conclusion

At the time of writing, the redesigned Sedgwick and Ruthven Room at Kendal Museum had been open for just six (winter) months. It was therefore somewhat early to make a thorough assessment of its effectiveness in promoting an appreciation of Lake District geology, and engagement with CGC's many geosites, amongst visitors to the Museum. However, the early indications from the short survey and other anecdotal visitor feedback have been highly encouraging.

This small project was accomplished within a tight timeframe and with a modest budget and demonstrates how much can be achieved when a local voluntary organization is invited into an open collaboration with a civic institution. It is, we suggest, an example that is especially relevant in times of economic retrenchment, when the professional resources of many institutions are severely limited. This project also provided some important spin-offs for the participants: cementing some formerly tenuous relationships and suggesting further mutually beneficial collaborations. However, the main beneficiaries will be those of the Museum's visitors who take from it an enhanced appreciation of the geological aspects of the Lake District and its scenery, and especially those who leave the display determined to study it *in situ*.

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All images, unless otherwise indicated, by the authors, courtesy of Kendal Museum

Authors' Contribution

The authorship of this paper was shared. Lincoln wrote pages 1 to 10, setting out the background and implementation of the project. Colley wrote the evaluations of the project from the Museum's perspective (pages 10 to 13).

Conflict of Interest

Neither author is aware of any conflict of interest in relation to this paper.

Ila Colley is an employee of Kendal College working within the Kendal Museum. Peter Lincoln is an independent researcher.

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