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Revealing a relict collection: Geology at Bolton Museum and Archive Service

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Abstract
Bolton Museum and Archive Service holds a geological collection that has a strong historical connection to the town. The collection has been out of use for the past two decades, rendering it 'relict'. From September 2003 the author has been working to make the collection accessible. This paper reviews that work.

Historical Context

Bolton has had a geology collection longer than it has had a museum. When the borough adopted the Libraries and Museums Act in 1852, the first donation was a collection of fossils.

Through the late 1800s the collection grew, and when the first museum (The Chadwick Museum) opened in 1884 there was already a strong natural history collection, with the basement filled with geology specimens. Continued acquisitions, including some large private collections, saw the collections outgrow their home. In the 1930s work began on a new civic building, Le Mans Crescent, which would house an expanded museum. This is the current home of Bolton Museum and Archive Service, and opened in 1947.

Fig. 1: The current museum on Le Mans Crescent

The geology collections began to be sidelined in the latter part of the 1900s with a focus on art and local history. The collections were stored in a basement room, and then moved on a short-term basis within the building. In the early 1990s, with a new outside store being prepared at an abandoned mill, the geology collections were moved again. By this point the last geologist on staff had left. With no active curation, the collection was effectively archived.

Around 1996 a documentation assistant was hired, but was employed less than a year. In 2003 the museum, as part of the accreditation process, advertised for a Documentation Assistant to catalogue the geology collections. The author was hired and started work in September 2003, initially on a 2 year contract.

Project Planning

The collection had been moved wholesale into what had been the canteen of the previous occupants of the mill building (Littlewoods). The collection was broadly divided into Palaeontology, Petrology and Mineralogy. Each was stored in different types of unit, many of which had been damaged during the moves in the late 1900s. Although the room is large (approximately 120m^2), the organisation of the collection at that time meant the space was cramped and it was hard to work.

Fig. 2: A view of the store in 2003 showing mineral cabinets on the left and palaeontology on the right

The palaeontology was split between late 19th century wooden cabinets, and modern steel drawer units acquired in the mid 1990s. The steel units were made by the Italian company Fami (www.famispa.com) and supplied by Polstore (www.polstore.co.uk). Unfortunately the eight units had not been completed and only half had drawers due to financial limitations. The mineralogy was in MDF units that were badly warped from several moves. Many drawers stuck and it was clear this storage would need replacing. The petrology collection was in hard wood drawers. The drawers had plywood lids that completely hid the contents, and it was necessary to remove the entire drawer to remove the lid. This caused safety issues as many of the drawers were overloaded in weight terms.

In addition to this there were in the region of 150 cardboard boxes of varying sizes and shapes, some in poor condition. Most were unmarked. Many of the boxes contained material which had no data at all. Opening boxes meant regular unexpected exposure to open sources of radiation, asbestiform minerals, toxic compounds, and piles of dust that were once specimens with minor pyrite decay. It is highly recommended that you wear a dust mask and gloves until you know where everything is.

The first three months were spent trying to establish an overview of the collection. Although some work along this line had been done previously, it was hard to match this to the collection since the move. The conclusion was that it would take four years to get the collection organised and fully documented on the computer. Unfortunately at this time the new cataloguing system (The Museum System [TMS], by Gallery Systems www.gallerysystems.com) was not operational. It would take a year for all necessary work to be done on this, which pushed the geology estimate out to five years.

To make a workable space, all old units would gradually be disposed of and new steel cupboards purchased to match the existing new storage. New drawers were also sourced for those existing units. The Fami contract had passed to System Store Solutions (www.system-store.com) and they were asked to act as suppliers. Finishing these cupboards cost approximately £6000. The money for this work came primarily from council capital funds, a bid having been made for long-term redevelopment of the museum stores. This system allows high-density storage, but the drawers are fixed in. This makes collections access awkward as

specimens must be removed individually. However, the 150kg load at full extension makes them excellent for a geology collection.

Fig. 3: A drawer of calcite specimens, in one of the new Fami units

Because there is no other geologist on staff, the author was often asked to work on other projects which would normally be the responsibility of a curator. This caused several delays.

Palaeontology

Given some work had started on the transfer of the palaeontology collections to the new units, it was felt this was the best place to start. It would also allow disposal of the old palaeontology units, which occupied more than half the room. This would create working space.

The collection was already arranged stratigraphically and systematically, and this organisation was maintained. Unfortunately, over the years, much of the collection had been displaced and it was necessary to reorganise the collection as it was transferred from the old units to the new. Collections were initially documented on Microsoft Excel, then transferred to TMS when the system was up and running. Documentation was carried out as the collections were transferred.

Bolton lies in the heart of the Manchester coalfields and, as would be expected, the palaeontology collection is strong on Coal Measures fossils, particularly plants. But as with most collections founded in the 19th Century, the principle was to show a wide range of representative material and there are specimens from most classic British localities, plus small collections from sites such as the Paris Basin.

The documentation and transfer of the palaeontology was completed by mid-2006. The final tally of objects was over 6400.

Mineralogy and Petrology

The Mineralogy and Petrology collections were catalogued in their old units, prior to transfer. This took most of 2007.

The mineralogy collection is primarily a broad, worldwide collection. It was acquired gradually over 150 years, with many purchases from 1950-1990. The intention was to establish a complete reference collection, but it is some way short of this. The collection contains around 3000 specimens.

The mineralogy collection contains a small number (~30) of radioactive specimens. The storage of these specimens was already an active problem in 2003. The museum had been advised a lead-lined safe was needed, but reading regulations this seemed an excessive and unnecessary solution. Further research and consultation with other institutions confirmed this. In 2008 a controlled, lockable area was set aside as a radiation controlled area, a solution that meets all legal requirements.

The petrology collection was acquired on similar principles, mainly in the late 1800s and early 1900s. Again, it is some way short of a full reference collection and at 1800 specimens is a relatively minor part of the overall geology collections.

In documenting the mineralogy collection, the author used the Geological Curators Group mailing and discussion list to gather opinions on what system to use. The mineralogy had been stored according to Hey. Many correspondents suggested Hey was not the most useful system as it relies on detailed aspects of the chemistry that may not be practical for a local authority museum. While some suggested storing on the basis of locality or collector, this would not be suitable for a collection as general as that held by Bolton. Two systems were recommended, Strunz and Dana. Since Strunz is freely available on the internet (webmineral.com) and regularly updated, this was seen as the most economically viable option. This has worked well.

With the palaeontology cabinets emptied, they were disposed of to a local timber recycling company. This allowed the mineralogy cabinets to be moved to the far side of the room, and for new units from System Store Solutions to be installed. The total cost was just over £13,600. The mineralogy and petrology were then transferred into these new units.

Fig 4: The geology store after the palaeontology units had been removed. Note

At this time a mistake in the planning became apparent. When planning the arrangement of the units in the space, two supporting columns were missed off the floor-plan. They had previously been hidden behind older cabinets. This meant the room had to be re-arranged at short notice.

By October 2007 the majority of the geology collection was documented, organised, and in a total of 16 steel cabinets.

Loose ends

With the bulk of the collections transferred and workspace now created, the final task was to deal with oversized specimens, some loose material that had come off display, and the geological slide collection.

Two bays of Dexion pallet racking were acquired from Brysdales Ltd at a cost of £1200. Each bay is 2700mm long and 900mm deep, with a load limit of 2000kgs. The bays have three shelves. This stores the geology material that would not fit within the cupboards, which have a maximum drawer depth of 150mm.

It also houses the collection of display models, including historically significant models of prehistoric animals made by Vernon Edwards in the 1930s and 1940s. The palaeobotanical slides are possibly the most important part of the geology collections. They were mainly made by James Lomax, a local preparator, in the early 1900s. Lomax sent material all over the world, but gave his local museum many of his unsold material. There are nearly 2000 slides across two cabinets, of which around half are from Lomax's company. They are also fully catalogued.

Fig. 5: View of the completed store, showing new Fami cabinets with pallet racking to the right.

By March 2008 the entire project was finished, four years and six months from the start.

Conclusions

When confronted with any open-ended project, especially where your time is limited, it can be very difficult to identify a starting point. The best approach is to identify what aspect is causing you the most immediate issues and start there. Transferring the palaeontology made logistical sense as it created the greatest amount of space in the store, allowing the rest of the redevelopment to take place more easily.

Even with three months spent planning, mistakes were made. It's important to take the time to map your space accurately before beginning the reorganisation. Probably the most useful resource open to us is the wealth of knowledge accumulated by our peers. There's very little chance your project is unique, and asking others for their experiences will allow you to learn from mistakes. It's important we talk about what we've done wrong, as well as what we've done right.

Since completing the project, the collections have been accessed by volunteers and researchers for the first time in at least twenty years. One paper has been written on a specimen from the collection (Craven & Dunlop 2008), with other projects underway.

Acknowledgments

Considering there was originally only two years funding, credit most go to the management of Bolton Museum and Archive Service for continued support. The project has also only been possible due to hard-won support within the local authority. I have drawn on the advice of a great many colleagues, peers and volunteers of the past six years, and credit is due to all of them too.

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