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What a performance! The preservation and photogrammetry of a giant pop-up book at the National Library of Scotland

Shona Hunter and Isobel Griffin

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Abstract

This paper examines the treatment, exhibition and photogrammetry of the original stage set for John McGrath's play *The Cheviot, the Stag and the Black, Black Oil*. Designed as a giant pop-up book, it was painted by Scottish artist John Byrne. The play was first performed in 1973, by the socialist theatre company 7:84 (Scotland). Shortly after, the BBC broadcast an adaptation for TV. Recently, interest in the play was rekindled when Dundee Rep Ensemble took their production on tour. *The Cheviot* has influenced political and creative discourse throughout Scotland and beyond. Consequently, the original stage set has become more than a simple prop. Now viewed as museum-worthy, as an archival document it is part of our shared artistic cultural heritage. However, made from cardboard, it was not created with posterity in mind. Acquired by the Library in 2009, it has presented challenges from both a conservation and consultation perspective. This paper describes efforts made to preserve the stage set, culminating in an innovative digitisation project. In addition to creating a detailed map of the stage set and its condition, the 3D models have resulted in improved accessibility, enabling the play to reach new audiences, just as McGrath intended.

Keywords

conservation; exhibition; photogrammetry; art; ephemera; theatre

Introduction

The National Library of Scotland (the Library) has around 31 million items in its collections. One of the largest items in the collection, and one which has posed some of the most interesting conservation challenges, is a gigantic pop-up book. Created by the contemporary Scottish artist John Byrne, it is the original scenery for John McGrath's play *The Cheviot, the Stag and the Black, Black Oil*. The play traces the story of Scotland's social and economic history, from the Highland Clearances of the 18th and 19th centuries to the discovery of North Sea Oil in the 1970s.¹

The Cheviot was the first play to be performed by the group known as 7:84 (Scotland). Founded in 1971, by John McGrath and his wife Elizabeth MacLennan, the group had a distinctly socialist outlook. The company's name was inspired by a statistic (published in *The Economist* in 1966) that claimed 7% of the population in the UK owned 84% of the country's wealth. In 1973, the company split into 7:84 (England) and 7:84 (Scotland). Choosing to per-

¹ John McGrath, *The Cheviot, the Stag and the Black, Black Oil*, ed. Graeme Macdonald (London: Methuen Drama, 2015).



Fig. 1 Original stage set for *The Cheviot, the Stag and the Black, Black Oil*. View showing Scene 1 ("The Stag").

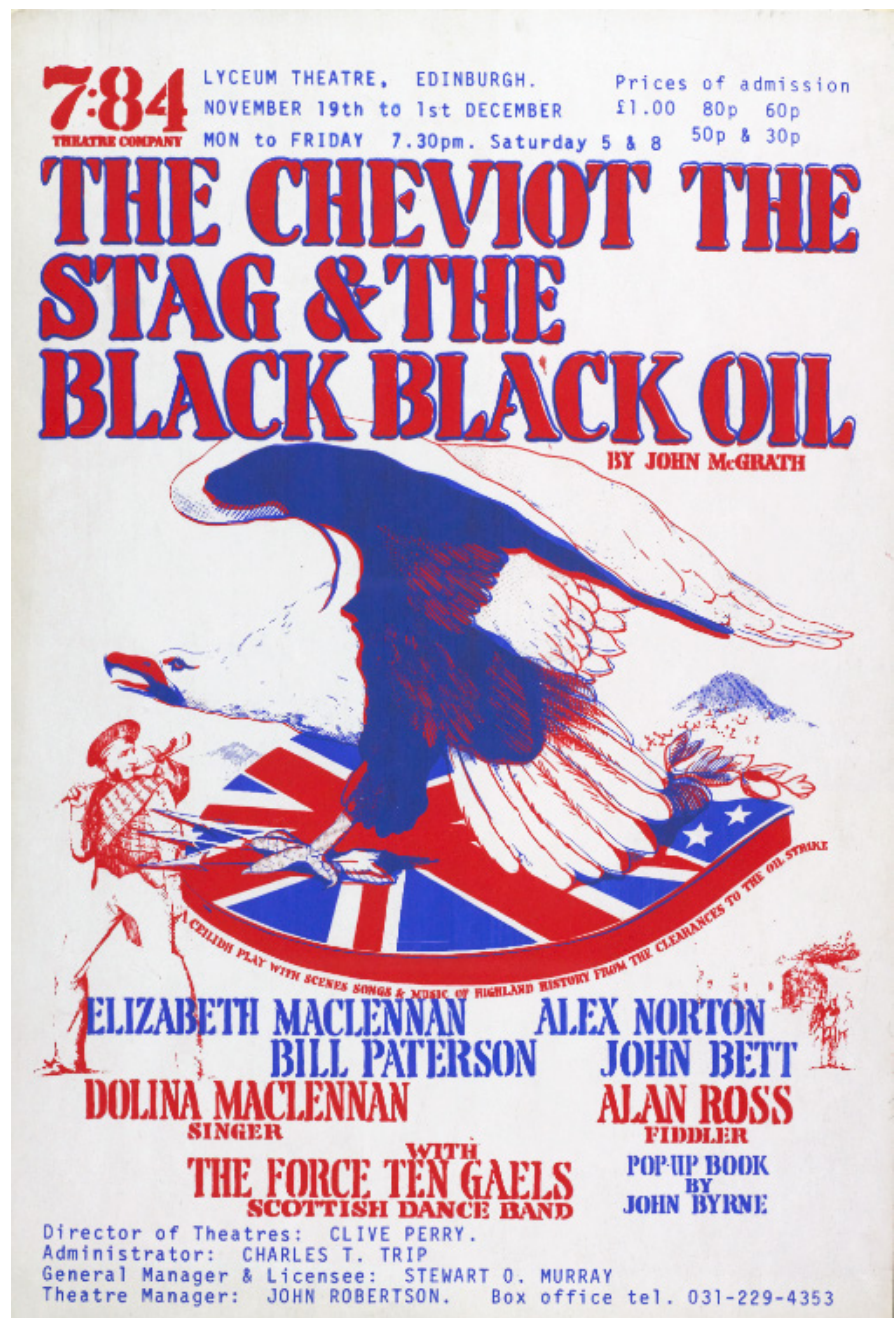


Fig. 2 Poster advertising the play at Lyceum Theatre, Edinburgh, 1973.

form the play in community centres and small rural venues, the latter toured the length and breadth of Scotland with a production that was immensely popular and highly influential. In writing *The Cheviot*, McGrath wanted to awaken the public's political cognizance. Bringing the play to new, remote and non-typical audiences was an important and deliberate part of his objective.

By the end of 1973, the play had been seen by more than 10,000 people throughout Scotland. The following year, millions watched it when it was broadcast as part of the BBC's *Play for Today* series. Directed by John Mackenzie, the TV adaptation takes the form of a documentary-drama. It shows the play as it was performed to the people of North Uist and Benbecula, with reconstructions of events known to have taken place during the Highland Clearances, darkly humorous songs and sketches and interviews with contemporary oil industry workers and their American bosses. The film incorporated close-ups of the audience,



Fig. 3 Original cast members on stage (left to right): Bill Paterson, Allan Ross, Elizabeth MacLennan & Dolina MacKay, 1973.

revealing their reactions to the story as it unfolded, and showed clips of local people discussing issues such as unaffordable housing and workers' safety.

In the aftermath of the 2014 referendum on Scottish Independence, and the 2016 referendum on Brexit, interest in *The Cheviot* has been rekindled. Staged by Dundee Repertory Theatre (Dundee Rep), a new production was directed by Joe Douglass in 2015, which broke box office records. David Pollock's review of this production, published online by *The Independent* in September 2015, described the play as: 'a love song to a beautiful, damaged culture and a warning of the dangers of unchecked capitalism.'² The designers for this production consulted both the film and the original stage set as part of their research. In association with Dundee Rep and Live Theatre Newcastle, the National Theatre of Scotland (NTS) scheduled a tour of this production, which began in May 2019. On 29 November 2018, *The Courier* published the following quote by Jackie Wylie, NTS artistic director and chief executive: 'In 2019 the National Theatre of Scotland is focusing on major Scottish artists, creating major new works that explore the vital questions facing all of us, both as Scots and as global citizens.'³

After the original 1973 tour, the stage set was stored in various places throughout the Highlands, ending up at Dunbeath Heritage centre in 2001, where it had languished for several years before being rediscovered. In 2009 it was acquired by the National Library of Scotland. As curator Sally Harrower explained in her blog post 'After all, it is a book',⁴ the Library was an obvious choice for the role of custodian, since it already held the 7:84 (Scotland) archive. Despite the stage set's unwieldy scale and dilapidated condition, the Heritage Centre had chosen to store rather than dispose of it. It could be argued that its survival is a testament to its status as a unique cultural artefact, something that people have consistently recognised as worth keeping.

The stage set was not designed with posterity in mind, and as a prop it was not intended to be viewed as a stand-alone object. However, it was created by one of Scotland's most eminent contemporary artists and should, perhaps, be viewed as part of the country's art historical cannon. It started out as a nothing more than a functional prop, but by surviving, it has evolved into an important piece of memorabilia. In addition, it is also Scotland's largest book!

Description

The stage set is bound using linen hinges and screws applied through wooden supports. It has a front and a back cover and five scenes or openings. Originally an oil rig popped up behind the fifth opening but this was lost sometime before the Library acquired the stage set. However, its presence is documented in the BBC's 1974 documentary. Each opening is

² David Pollock, 'The Cheviot, the Stag and the Black, Black Oil', Dundee Rep Theatre review: a love song to a beautiful and damaged culture still rings true, *The Independent*, 14 September 2015. Accessed online at <https://independent.co.uk/arts-entertainment/theatre-dance/reviews/the-cheviot-the-stag-and-the-black-black-oil-dundee-rep-theatre-review-love-song-to-a-beautiful-10500130.html>, on 16 December 2018.

³ Cheryl Peebles, 'Scottish tour for *The Cheviot, the Stag and the Black, Black Oil*', published in *The Courier*, 29 November 2018. Accessed online at: <https://www.thecourier.co.uk/fp/news/local/dundee/774582/scottish-tour-for-the-cheviot-the-stag-and-the-black-black-oil/>, on 3 January 2019.

⁴ Harrower, Sally, 'After all, it is a book', National Library of Scotland blog, published 23 February 2017. Accessed online at: <https://blog.nls.uk/after-all-it-is-a-book/>, on 10 June 2018



Fig. 4 Photograph showing the dilapidated spine of the stage set before treatment, 2009.

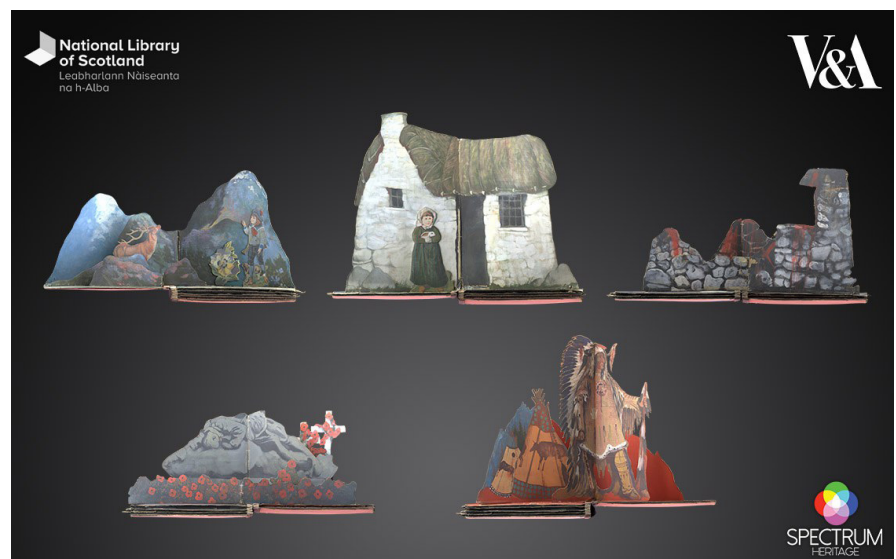


Fig. 5 Digital image of the 3D models, showing the front elevation of each scene.

furnished with a group of cardboard pop-ups. The tallest pop-up measures 220 cm from floor to tip. When closed, the footprint of the book measures 260 by 306 cm. The pop-ups, originally hinged with brown gummed tape, were raised using an intricate arrangement of cords and pulleys. Entirely visible to the audience, these hinted at a Brechtian sensibility. In the play, fictional scenes are mixed with factual readings and music to evoke the atmosphere of a Scottish ceilidh. McGrath intended the play to be an immersive and participatory experience that would engage the audience on an emotional and an intellectual level. Reminiscent of a children's picture book, the painterly quality of the stage set is a deliberate and evocative part of the play's styling.

Consultation and display considerations

What survives of the stage set cannot be requested for consultation because it is too large to be installed in the Library's reading rooms. Furthermore, as for any pop-up book, the movable parts are susceptible to damage. Turning the pages requires careful planning and at least two pairs of experienced hands. Since the stage set is designed to function as a book, the scenes can only be displayed one at a time. In addition, the Library does not have a suitable space in which to display the stage set for more than a few days. As a result, previous displays at the Library have been restricted to a single opening, meaning that the public have been unable to follow the story from beginning to end. The first attempt to address this problem was a short film, made in the Library, showing each of the pages being turned. This film, entitled *The Cheviot, the Stag and the Black, Black Oil*, is available to view on the Library's YouTube channel.

Condition

When the stage set was acquired by the Library in 2009 it was in poor condition. The spine was completely exposed and the sewing had deteriorated. The corners and edges were abraded and many of the pop-ups had become detached. Consequently, the object no longer functioned as a book or a stage set. Much of the damage had been caused as a result of previous transit and handling. During a panel discussion at the Library in 2010, members of the original cast revealed that the set had been strapped to the roof of the company's van to transport it around the country. The stage set was repeatedly opened and closed during the 1973 tour and it endured a lot of handling as it was transferred between each of the far-flung venues. In addition, the stage set had deteriorated due to the ephemeral nature of the materials used in its construction, namely corrugated brown cardboard and PVA (polyvinyl acetate) glue. However, the painted surface was surprisingly well preserved.

Conservation approach

After assessing the stage set, conservators at the Library proposed a course of treatment. The purpose of the conservation work was to stabilise the pop-ups and make the binding structurally sound. The treatment was not motivated by aesthetic concerns alone. In fact, it was considered important to retain the water stains, indentations, creases and bumped corners as evidence of the stage set's travels throughout the land whose story it was intended to tell. However, given the dilapidated condition of the binding and the need for the stage set to function structurally, several major interventions were necessary. These included the removal of damaging original materials and the addition of new archival-quality components. The remedial work was fully documented and reversible wherever possible, an approach which is in line with the Museum Association's code of ethics and with current thinking on best practice within the conservation sector.⁵

The Library's conservators decided that this approach was ethically acceptable since the stage set had undergone many running repairs during the original production. Furthermore, preservation of the artist's concept and vision was considered more important than the maintenance of individual physical components, especially those that were damaging, unstable and/or easily replaceable. The issue of authenticity, as it applies to the display of cultural heritage and the preservation of artistic intent, was examined in David Scott's 2015 paper, 'Conservation and authenticity: interactions and enquiries,' in which Scott states:

Authenticity can be considered to rest on three principal foundations: the material, the historical and the conceptual... the material authenticity may be considered less important than the conceptual, in which case the materials may be replaced, or the historical authenticity may be important to preserve rather than a return to the material authenticity of the original. This may invoke a conceptual authenticity as to how a monument or work of art should appear to be.⁶

In the case of the stage set, preservation of the historical, conceptual and performative elements were considered by the Library's conservators to be crucial to preserving the stage set's authenticity. The importance of the artist's intent is also central to the conservation approach for the stage set, and is explored in Lawson and Potter's 2017 paper, 'Contemporary art, contemporary issues—conservation at Tate,' which argues:

Conservators must use their experience to integrate their knowledge of technology, understanding of materials and their deterioration and potential treatment options,

5 'Code of Ethics for Museums', Museums Association, 2015, <https://www.museumsassociation.org/download?id=1155827>, accessed 2 May 2018.

6 David A. Scott, 'Conservation and authenticity: Interactions and enquiries', *Studies in Conservation* 60, no. 5 (2015), pp. 291–305.

7 Louise Lawson & Deborah Potter, 'Contemporary art, contemporary issues—conservation at Tate,' *Journal of the Institute of Conservation* 40, no. 2 (2017). pp. 121–132.

to strike a meaningful balance with the intent of the artist... The traditional focus of conservation, and thus the conservator, has been on preventing deterioration of the material or physical aspects of artworks. The introduction of installations and other complex forms, however, has seen the focus shift beyond the physical and towards the non-tangible aspects of an artwork.⁷

This statement eloquently summarises the approach taken to the conservation of the stage set, which attempted to preserve the intentions of John Byrne and the 7:84 (Scotland) theatre company regarding the non-tangible elements of the work, such as the impact of the play on the audience.

A further aspect of the stage set's conservation treatment that generated debate was how robust the repairs should be. The treatment needed to arrest the deterioration of the stage set, in order to fulfil the Library's responsibilities as a long term custodian, but it was also important to ensure that the stage set could be transported between and within venues and exhibited safely. Facilitating access to collections in the here and now is always a crucial consideration for conservators working in a library context; arguably this becomes even more pressing when we are dealing with objects which are inherently unstable. These objects can, do and should influence contemporary culture. Therefore, it is our duty to ensure that they are accessible, to a reasonable degree, at this moment in time. This means that sometimes conservation treatments need to be more interventive than would be necessary for objects which are kept in long term storage and not displayed or regularly consulted.

The issue of preserving collections for the future while providing access in the present is addressed in the paper: 'A right versus a right, balancing two sections of the Museum Association's Code of Ethics: A question of trust?', which emphasizes that heritage organisations need to achieve both objectives. Kennedy argues that we must '...preserve collections as a tangible link between the past, present and future. Balance the museum's role in safeguarding items for the benefit of future audiences with its obligation to optimise access for present day audiences'.⁸

The challenge presented by the stage set is not to decide whether access or conservation is more important, but how, as conservation professionals, we can successfully facilitate both of these goals.

Conservation treatment

As the Conservation department at the Library did not have the capacity or space to tackle the project in-house, the structural work was outsourced. The bulk of the remedial treatment was carried out by Downie, Allison and Downie Bookbinders (DAD), a Glasgow-based bindery. John Allison and his team gave the set a new spine and consolidated the damaged pop-ups. The left edge of each page was sandwiched between two planks of mahogany, applied over an interleaving layer of archival linen. The planks, which are approximately 2 cm in depth, function like the guard in a fascicule, spacing out the pages and preventing the pop-ups from being crushed. Mahogany was selected because of its strength and dimensional stability. The downside of this choice is that the volume is now much heavier than it was originally. Holes were drilled through the centre of the wooden supports, enabling rivet head post-style screws to be fed through. Unstable pressure-sensitive tapes and other old and damaging repairs were removed, allowing the loose and partially detached pop-ups to be secured with strips of archival linen. These were applied with a mixture of Evacon-R adhesive (ethylene-vinyl acetate copolymer emulsion) and wheat starch paste.

When the stage set is on display, numerous additional parts are required to support it. To keep the 'floor' of each page level, thick sheets of Plastazote (closed cell cross-linked polyethylene foam) are placed beneath the front or back board, effectively performing the same task as a book wedge. Different thicknesses of Plastazote are required because the depth of the spine alters according to the opening that is selected. The middle opening requires no Plastazote supports. Additionally, as part of the conservation treatment, a number of clear Perspex rods (poly(methyl methacrylate)) were created to make the pop-ups self-supporting. Designed and applied by library conservator Gordon Yeoman, the rods 'plug' into hole-punched cardboard 'sockets' adhered to the back of each section.

However, the rod system is not strong enough to support the cottage on the second page, which tends to lean forwards. As an alternative, it was given a set of wire guy ropes, which were attached to the corners through the original pulley holes. The guy ropes can be tied to overhead fixtures in the room, or attached to an anchor-baton positioned discreetly behind

8 Stuart Kennedy, 'A right versus a right. Balancing two sections of the Museum Code of Ethics: A question of trust?' delivered at the AHRC / EPSRC Science and Heritage Programme conference (23 September 2009), http://www.ucl.ac.uk/conservation-c-22/conference/stuart_kennedy, accessed 18 December 2018



Fig. 6 Views from the verso, showing a Perspex rod in situ (Scene 3: 'The bloody wall'), and the 'guy-ropes' (Scene 2: 'The Cottage').

the stage set. The cords and the rods were designed to be as visually unobtrusive as possible. Further minor repairs were undertaken in 2018; the stage set was lightly cleaned with a conservation vacuum, and the creased/damaged pop-ups were consolidated from the verso with Japanese paper. Areas worked on included the Chief's headdress and the Stag's nose.

Since the painted surface is in reasonable condition, the conservation work has not involved consolidation of the pigments or in-painting of the losses. As the stage set is being cared for appropriately, it is hoped that such interventions will not be necessary in the future. Although the fifth scene was painted using a red pigment which is slightly friable, the displacement of particles is being carefully monitored. Cleaning of this page will be carried out with a modified approach. For example, instead of pointing the conservation vacuum cleaner directly towards the surface of the page, dust will be gently swept into the nozzle using a soft brush or an air-puffer. For monitoring purposes, the nozzle of the vacuum may be fitted with a particulate filter. In addition, the cleaning of especially friable areas will be completely avoided.

Displays

Between December 2009 and May 2010, the newly refurbished stage set featured in an exhibition at the Library titled *Curtain Up*. This exhibition explored Scotland's vibrant theatre scene and celebrated the achievements of Scottish theatre over the past 40 years. Then, in March 2012, the stage set was exhibited as part of a short term loan to Sabhal Mòr Ostaig, the Gaelic art school on the Isle of Skye. The school requested it for an event commemorating the 130th anniversary of the Battle of the Braes, a mass protest against efforts to evict crofters from the land at Braes on the Isle of Skye. After the protest a series of measures were passed granting crofters more security in their tenure, culminating in the Crofters Act of 1886.⁹

The stage-set was displayed in the school's assembly hall where the students performed in front of it. This high-risk loan was in keeping with the history of the stage set, since the original cast had performed in similar venues, and the set had already graced the floor of over 100 village halls, gymnasiums and community centres. However, the Library's conservators drew the line at strapping the stage set to the roof of a van to get it there! Instead, it was wrapped in Tyvek (high-density non-woven polyethylene mesh), cushioned with Plastazote padding, and carefully couriered to the venue inside the Library's largest transit van.

On its return from Skye, the stage set was packed away. It was stored on top of a low level plan chest in a climate-controlled strongroom. Apart from a brief interlude in 2016, when the stage set was filmed by the conservation department, it remained in storage until the beginning of 2018. At this time, V&A Dundee submitted a loan request. Curator Mhairi Maxwell proposed that the stage set be displayed in the museum's Scottish Design Gallery for a period of 25 years. It is unusual for the Library to grant a loan for such a long period of time, firstly because an item on loan cannot be readily consulted by our readers, and secondly because of light exposure guidelines. Since the public is not able to view the stage set in the Library's reading rooms because of its large size, restricting access to it was not an

⁹ Margaret MacPherson, *The Battle of the Braes*, (London: Harpercollins Distribution Services, 1972).

issue. However, prolonged light exposure was a concern due to the inevitable damage that this would cause.

The Library's *Collections environment guidelines for light* were informed by recent research on what constitutes acceptable levels of light-induced damage with regard to museum objects, and were drawn up to reflect current standards of best practice in the gallery and museum sector.¹⁰ These guidelines state that objects classified as 'highly sensitive to light' (equivalent to Blue Wool Standards 1.5–2.5) may be displayed for up to one year out of each decade at 50 lux, or six months at 100 lux. This equates to two and a half years in a 25-year period. During a 25-year loan, each opening would be displayed for five years, which is twice the Library's usual recommended maximum. It was recognised that the loan to V&A Dundee is a once-in-a-generation opportunity for the stage set to resume its intended role, that of an inspiring and outward-reaching storytelling device. Therefore, following extensive discussions, the loan was approved on the proviso that the stage set would be put into dark storage for 25 years after its return, during which time no further requests for display will be considered. Essentially, the prolonged exposure time will be offset by a long rest, providing balance over the long term. Furthermore, the Library's conservators plan to take colour readings over the course of the display, using a portable spectrophotometer, to monitor any changes to the media.

Photogrammetry

The conservation and exhibition of the stage set resulted in the development of an exciting 3D digitisation project, which V&A Dundee agreed to support as part of the loan agreement. The Library's share of the bill was covered by a grant from an internal fund for innovative projects. Helpfully, the artist John Byrne signed an agreement permitting the Library to make and use the 3D models, effectively signing over his intellectual property rights for the stage set. The potential to use the 3D models as a tool for identifying and recording damage was recognised by the Conservation department as one of the benefits of the project. Going forward, it is anticipated that the 3D models will constitute an increasingly integral part of the documentation process regarding the preservation and future treatment of the stage set, and that they may also provide an alternative means of consultation for our readers.

A local company called Spectrum Heritage was appointed to create a suite of 3D models using the technique known as photogrammetry:

Photogrammetry encompasses methods of image measurement and interpretation in order to derive the shape and location of an object from one or more photographs of that object. In principle, photogrammetric methods can be applied in any situation where the object to be measured can be photographically recorded. The primary purpose of a photogrammetric measurement is the three-dimensional reconstruction of an object in digital form (coordinates and derived geometric elements) or graphical form (images, drawings, maps). The photograph or image represents a store of information that can be re-accessed at any time.¹¹

The Library asked Spectrum Heritage for a number of deliverables, including high resolution 3D models for archiving and research purposes, decimated 3D models for dissemination purposes, metadata spreadsheets, renders, GIFs, and a scene showing all of the openings for use in Virtual Reality applications. The company director, Clara Molina Sanchez, has a background in conservation, archaeology and computer science. Her mantra is 'technology should be used to service heritage, and not the other way around'. Clara and her team understood the fragility and irreplaceable nature of the original object, so they were able to carry out the work with minimal supervision.

The photography required a large space and a suitable area in the Library was not available. Fortunately, the National Galleries of Scotland were able to provide some floor space in their sculpture store. For six days Clara and her team captured the stage set from every conceivable angle, taking over 1,000 photographs of each opening. At the end of the week Spectrum Heritage had amassed over a terabyte of data. Capturing the intricate morphology of the corrugated cardboard edges was particularly challenging, as the pop-ups are prone to small movements, making them difficult to register accurately. The data capture and processing were carried out using Agisoft Photo-Scan and Reality-Capture software. The models were aligned, rendered and given textures using Blender, Illustrator and Photoshop Pro+. The high-resolution raw files were condensed for viewing purposes, enabling the finished models to be delivered using the online platform Sketchfab. In designing the interface, the Library's digital team was supported by Thomas Flynn, Sketchfab's Cultural Heritage lead.

¹⁰ Clare Richardson & David Saunders, 'Acceptable Light Damage: A Preliminary Investigation', *Studies in Conservation* 52, no.3 (2007), pp. 177–187.

¹¹ Thomas Luhmann, Stuart Robson, Stephen Kyle, & Jan Boehm, *Close-Range Photogrammetry and 3D Imaging*, 2nd ed. (Berlin: De Gruyter, 2013), p. 2.



Fig. 7 Clara Molina Sanchez, director of Spectrum Heritage, photographing Scene 5 ("The Native American Chief"), in the sculpture store of the National Galleries of Scotland, 2018.

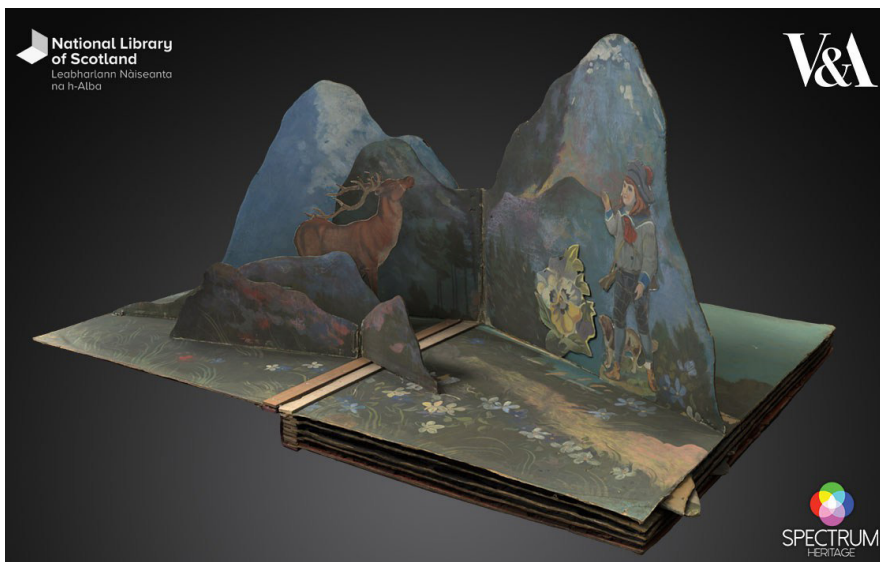


Fig. 8 3D photogrammetric model of Scene 1 ("The Stag").

Potentially, the 3D models are an excellent supplementary resource for the V&A, as they allow the inaccessible pages to be shown alongside the one which is currently on display. In addition, the models can be viewed at any time of day or night from any location across the world. Essentially, with the proliferation of smartphones, Scotland's largest pop-up book has become pocket-size! In due course, the Library's digital team, or perhaps its readers, may use the 3D models in a truly creative way. For example, the play could be re-staged in Virtual Reality by inserting actors or animations. There is a lot of scope for enabling audience interaction, which is entirely appropriate given that this was actively encouraged in the original production.

Publicity around the loan to V&A Dundee

On the 12 June 2018, a press launch was held at the Library to announce the long-term loan of the stage set to V&A Dundee. The press launch was a good advocacy opportunity for the Library. John Byrne was invited to attend, and he posed for photographs beside the original



Fig. 9 The artist John Byrne at the press-launch, 12 June 2018.

stage set and was interviewed by the National Librarian, John Scally, and the director of V&A Dundee, Philip Long. Articles were written in local and national newspapers and on social media. In addition, an announcement was aired on STV at the end of the six o'clock news. As part of the press launch event, the Conservation department arranged to speak to the artist about his use of materials and his views on the conservation work undertaken to date. The interview was carried out before the press arrived, giving John a chance to talk about the set in a relaxed 'behind-the-scenes' setting. Although the interview was informal, it was recorded for archiving purposes.

At the outset, John stated that he could not remember much about the stage set or the materials that he had used to create it. However, after viewing the 3D models on a laptop, his memories came flooding back. He was surprised and delighted at the level of detail captured in the models. He revealed that he had used water-based poster paints to create the scenes, and remembered that John McGrath had specified the use of Beaufort cardboard, partly as a joke because Beaufort is also a type of gun. (During the 'landed gentry' scene, some of the characters brandish rifles.) When asked about the stage set's survival and condition John replied, 'Really, it's amazing that it has survived all this time. Of course, it looks a bit worse for wear as a result of its travels, and its age, but that's to be expected.'

When asked about his use of materials John stated that:

There was no ground layer; I painted the scenes straight onto the cardboard. I think that I painted the pages first and then designed the various pop-up sections. I drew an outline with a marker pen, cut the shape out with a Stanley knife, and then I painted the surfaces. Originally, the pop-ups were held in place with brown gummed tape, the sort that you can run a damp sponge over... I used water-based poster paints and sealed the pictures with a layer of shellac to make the set waterproof. In the early 70s, marker pens and oil pastels were only just being developed, so I probably used and experimented with them a bit.¹²

12 John Byrne, 'Interview with the author', 12 June 2018, National Library of Scotland.

This information was extremely helpful in deciding how to conserve the stage set and in identifying its vulnerabilities; for example, the marker pens that were used are likely to be very sensitive to light.

Following the press launch, the stage set was transported to V&A Dundee to begin the 25 year loan. V&A Dundee is Scotland's new museum of design. Created by the renowned Japanese architect Kengo Kuma, the extraordinary three-storey building is itself a testament to great design. The stage set was installed inside the museum's Scottish Design Gallery, in time for the museum's opening on 17 September 2018. The set sits in a stage-like setting, supported on a vinyl-wrapped plywood plinth. Castors below the plinth allow the whole unit to be rolled forwards, enabling the 360-degree access that is essential to allow maintenance tasks and page turns to take place. Although the Perspex rods are still used to support the pop-ups, the sheets of Plastazote (functioning as a book wedge) have been replaced with bespoke plywood supports, as these look more in-keeping with the gallery setting.

Conclusion

The stage set may have left the Library, but our preservation work, both traditional and digital, has ensured that it is now more accessible than ever. *The Cheviot, the Stag and the Black, Black Oil* revived Scottish theatre and inspired a generation of playwrights, thinkers and makers in Scotland and beyond. However, the story of Scotland and that of the UK is still being shaped. Whatever the future brings, the Library's conservators will continue to preserve and present that story, page by giant page. To accomplish this, there will be an ongoing requirement for effective working partnerships with contractors like Spectrum Heritage and with our sister organisations like the National Galleries of Scotland and V&A Dundee.

To view the digital reconstructions, please visit [the Library's website](#) where you will find a link to the [3D platform Sketchfab](#).



Fig. 10 The stage set resting on its new plinth during the installation at V&A Dundee, August 2018.

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Shona Hunter ACR completed an undergraduate MA in Fine Art at Edinburgh University in 2005, and a postgraduate MA in the Conservation of Works of Art on Paper at Northumbria University in 2008. Since graduating, she has worked for several cultural heritage organisations in the UK. Those roles included: Project Conservator at Glasgow School of Art, where she treated plans from the Gillespie, Kidd & Coia archive; Archive Conservator at the Highland Council; Paper Conservator for new acquisitions at Tate; and Senior Archive Conservator at Cumbria Archive Service. Shona was appointed to the role of Paper Conservator at the National Library of Scotland in 2014, and became an accredited member of Icon in 2019.

Dr Isobel Griffin ACR has a first degree in the History of Art from the University of Cambridge. She trained as a wall painting conservator at the Courtauld Institute of Art, and she also has a PhD in heritage science. She has spent most of her career as a preventive conservator and conservation manager, working for the National Museums of Scotland, the National Trust for Scotland and the National Library of Scotland, before taking up her current post as Head of Conservation at the National Galleries of Scotland in 2019. She is an accredited conservator.

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