Think big, start small, move fast

How the York Museums Trust started opening up its collection

Lieke Ploeger, Open Knowledge International
February 2016

Replica Roman Figurine, York Museums Trust, YORYM : 2006.2914

Title inspired by the presentation 'How Change Happens' given by Michael Edson, Associate Director/Head of Digital at United Nations Live Museum for Humanity at the OpenLab workshop (Washington DC, 1-2 Dec 2015), www.slideshare.net/edsonm/how-change-happens

Table of Contents

"To just say the content is not good enough for us, and therefore no one can see it, did not sit right with me."[1]

---

[1] Martin Fell during interview, 25 November 2015.

Introduction

More and more libraries, museums and other cultural institutions publish their collections online, often allowing users to reuse the material for research or creative purpose by licensing it openly. For institutions that start planning such a step, it may seem daunting at first: not all of their collection may be digitised, the metadata is not always perfect, copyright information is sometimes missing or the images have been taken a long time ago and are not of the best quality. Working towards having the perfect online collection is such a time-consuming process that it can get in the way of publishing any of the collection at all. Coupled with that is the fear that publishing raw, imperfect material online can damage an institution's reputation.

In his presentation 'How Change Happens' at the Openlab workshop in December 2015, Michael Edson, Associate Director/Head of Digital at United Nations Live Museum for Humanity, describes several patterns that can help to accelerate change in organisations.[2] One of these is the ability to break big goals into small, manageable steps, and start to implement these immediately, which can quickly add up to achieving results. It is exactly this strategy that the York Museums Trust employed in their effort to publish their online collection last year. By publishing the collection fast, and allowing people to reuse their material, even though it was not yet perfect, they managed to engage with their audience, stimulate reuse and generate new interest in their collection and museums.

This case study describes how the York Museums Trust went about publishing their online collection, as well as the effect this had, including different examples of the reuse of their content. It is based on an interview conducted with Martin Fell, Digital Team Leader at York Museums Trust and has been written within the frame of OpenGLAM, an initiative run by Open Knowledge that promotes free and open access to digital cultural heritage held by Galleries, Libraries, Archives and Museums, and its' current involvement in Europeana Space, a project that works on increasing and enhancing reuse of Europeana and other online collections of digital cultural content by creative industries especially.[3]

---

[2] Michael Edson, 'How Change Happens' OpenLab workshop (Washington DC, 1-2 December 2015), www.slideshare.net/edsonm/how-change-happens
[3] Europeana Space project, 2014 - 2017, http://www.europeana-space.eu/
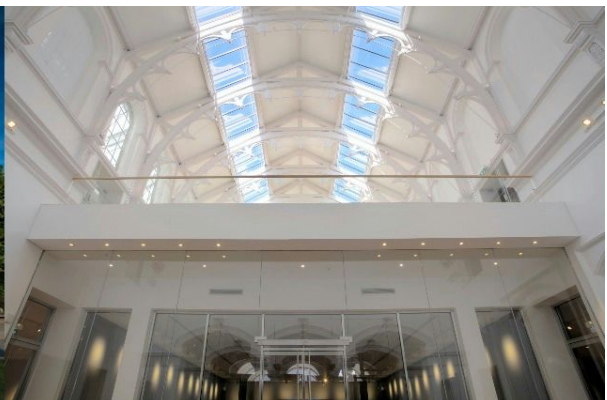
About the institution

The York Museums Trust is an an independent charitable trust that is responsible for managing several museums, art galleries and a public garden in York, UK: York Castle Museum, Yorkshire Museum and Gardens, York Art Gallery and York St Mary's. It was founded in 2002 and is supported by the City of York Council. The buildings and the collections are owned by the Council, while the Trust manages, protects and conserves the sites and presents the collections to the public.

Although they are one of 21 Major Partner Museums in the UK that receive funding from the Art Council England, there have recently also been cuts in local authority funding, which stimulated the Trust to think about new ways to engage with their visitors and gain their long-term support, as well as investing in the digital access to their collections.

In 2012 a digital team was created to improve digital engagement and access to the collections. Apart from being responsible for publishing the collection online, they work on curated online content together with the Google Cultural Institute and share collections in a non-curated way through partner projects with the Wikimedia foundation. Other internal work that the team take care of includes training and support for digital content production, which feeds into the online collection and exhibition programme.

York Castle Museum (photo: Red Jester Photography)   *York Art Gallery (Photo Peter Heaton)*

York Museums Trust collection

The York Museums Trust collections contains around one million museum objects, spanning from archaeology, biology, geology, fine art, ceramics and pottery to a massive military and social history collection (including costumes, numismatics, textile and weaponry). All collections have a Designated status, which identifies and celebrates collections of national and international importance.[4]

Some of the most well-known objects in the collection are the Middleham Jewel and the York helmet (both included in the BBC History of the World project) and the paintings of William Etty.[5] Around 17% (170,000) of the objects have a record in the online catalogue and for over 5% (50,000) of the objects there is an accompanying image.

York Helmet - Image courtesy of York Museums Trust,
http://www.yorkmuseumstrust.org.uk/collections/search/item/?id=8723

Open data release

In early 2015, the York Museums Trust released nearly 160,000 object records online with either a CC-BY-SA or Public Domain license through their Collections page: www.yorkmuseumstrust.org.uk/collections. Site visitors can search for and filter objects by keyword, collection, category, name, material and production year, or search only for objects that have an accompanying image (over 50,000 of the total amount of records). The release was announced on the museum's website, as well as in an article in the local Yorkshire Post newspaper.[6] In addition, images were also uploaded to Wikimedia Commons.[7]

The release comprises nearly all the collection's records and was completed with under a year of preparation time. Digital Team Leader, Martin Fell, saw this speedy work as a necessity for success: when people are given access to the material, they can start reusing it, and based on this data the online collection can be then be further improved. Although there was a desire to have editorial control over everything that went online, Fell believed that working on publishing the perfect online collection would simply take too long, thereby

---

[4] Arts Council England, Designation Scheme,
http://www.artscouncil.org.uk/what-we-do/supporting-museums/designation-scheme/about-designation-scheme
[5] https://en.wikipedia.org/wiki/York_Museums_Trust - also see http://www.bbc.co.uk/ahistoryoftheworld
[6] York Museums Trust website, News section
http://www.yorkmuseumstrust.org.uk/news-media/latest-news/more-than-160000-york-museums-trust-treasures-go-online/,
Lindsay Panty, 'Thousands of treasures are now available at the click of a button', Yorkshire Post, 6 January 2015,
http://www.yorkshirepost.co.uk/news/thousands-of-treasures-are-now-available-at-the-click-of-a-button-1-7036408
[7] https://commons.wikimedia.org/wiki/Category:Images_donated_by_York_Museums_Trust

undermining the case for opening up. With a first version of the collection online, it is possible to show the benefits this brings, while additional improvements such as linked data can still be introduced later on. This modular approach is also useful in terms of resourcing: when there is more staffing time available, they can decide what area to develop further based on information gathered on the use of the material.

Such a rapid approach did mean that there has to be compromises: many images are not in high-resolution, since they were taken years before the plan arose to publish them online. Interestingly, this did not hinder people from reusing them, and although there was some initial fear that such low-quality images would damage the institution's reputation, it in fact did quite the opposite. Martin Fell: "Some of our worst images have been used by people because they just want to tell a story about it"[8]. York Museums Trust did start a process of taking high-definition images of the collections, with the aim of uploading these new images as they are taken.

Also, the Trust did not have the means or capacity to record IPR effectively yet. It was decided to publish what they can without the risk of copyright infringement: 2D man-made objects (artworks, scans of books) which are exact copies were published as Public Domain, while the CC-BY-SA license was applied to 3D objects, with elements such as specific lighting, where copyright could be claimed on the image. If the license is unknown, it is kept offline for the moment. The Trust expect to add more images following the completion of project that is developing a framework for the effective recording of IPR.

Convincing staff of the need to publish the collection online in a more raw state was essential. This involved changing people's opinion about what a collection is, and that it does not need to be perfectly curated before it can be shared. While on the one hand people were afraid that low-quality images might damage the Trust's reputation, on the other hand they did want to get more material online because this would enable them to engage with new audiences. After obtaining initial and essential buy-in from senior management, the Digital Team focused on changing the mindset of staff to an 'open, unless' policy. As Martin Fell explains: "I had to stress that if we had editorial say over each image before it goes on to the internet, the amount of work would be astronomical. (...) Because of the work we are doing on Wikimedia, and the engagement we get there, the understanding is now starting to develop that by being open we get a lot of our core mission benefits achieved, which is really exciting for me."[9]

---

[8] Martin Fell during interview, 25 November 2015.

[9] Martin Fell during interview, 25 November 2015.

Reuse and response

When the data was first released, there was no tracking system in place to assess what the data was being used for. Shortly afterwards, the York Museums Trust added a form that people could fill in when they download an image, with information such as name, email and the reason for the download, so that more information could be gathered on the reuse. Completing the form was optional, so it does not give a complete picture.

Download form on the York Museums Trust Collection page

Between April - December 2015, around 1200 images were downloaded. The real number of downloads is expected to be much higher, since right-click save (which many people are likely to do) is not recorded, and others will download images directly from Wikimedia Commons.

The Trust also ran two successful Wikimedia projects using the images, which would not have been possible without openly licensing the content under a non-commercial licence.[10] These projects helped to increase the amount of content on Wikipedia about the collection, as well as hugely increasing the amount of views that the images get: over 1.5 million views were achieved in the first four months following the release. One of the editors of Wikipedia worked studiously on adding researched content on William Etty's paintings, increasing the words written on this painter from 2,000 to 20,000 words, without any effort required from the museum's curators.[11] He also wrote a new article on a specific Etty painting from the York Art Gallery collection[12], that managed to attract 13,000 views on the day the gallery reopened after renovation. No information about this painting had been available online prior to this, apart from a tiny fifty-word online collection entry. All these articles contain images released by York Museums Trust.

---

[10] Project 1: https://en.wikipedia.org/wiki/Wikipedia:GLAM/YMT
Project 2 : https://en.wikipedia.org/wiki/Wikipedia:GLAM/YNP
[11] See before: https://en.wikipedia.org/w/index.php?title=William_Etty&oldid=664981549 and after: https://en.wikipedia.org/wiki/William_Etty
[12] https://en.wikipedia.org/wiki/Preparing_for_a_Fancy_Dress_Ball

There have been various types of reuse of the content, such as academic and sector research by universities and other museums and institutions. A university lecturer has used the images of the ceramics collection to make replicas for his students. Local history groups also engage with the collection regularly. They will download old paintings of churches in York and use them on tours, within flyers and presentations. This kind of community reuse has no commercial reach: if these images were not freely available online, they simply would not be used. The Trust sees this type of use as an area of their core mission engagement, and would like to stimulate this low-level community engagement further.

Commercial reuse of collection content occurred as well. A researcher from Japan included several images of the costume collection in a coffee table book called "Victorian Costume and Life".[13] The York Museums Trust was credited in the publication. Another coffee table book that made use of the collection content is "Historium" by Richard Wilkinson and Jo Nelson.[14] This publication collates museum images from around the world: their graphic designer used York Museums Trust's collection images to make derivative images, also giving correct credit to the museum. One of the most widely reused images is that of a coppergate helmet (the York helmet), one of the collection highlights. The international card company Paperchase made a greeting card with a derivative image of this, which was sold across the UK. Originally the museum was not credited as it should have been, but this was changed in the next printing run.
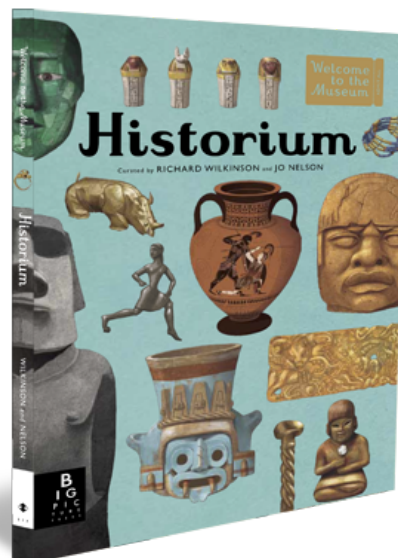
Two publications that have reused images from the York Museums Trust online collection

The images in these coffee table books would probably not have been used if no access was given to them or if they were behind a paywall. The Trust plans to stock these items in the museum shop as well, since they would likely be of interest to their visitors.

---

[13] Rieko Ishii and Murakami Rico, 'Victorian Costume and Life', New Era Company (2015)
http://iss.ndl.go.jp/books/R100000002-I026703188-00?locale=en&ar=4e1f
[14] Jo Nelson and Richard Wilkinson, 'Historium', Templar Publishing (2015)
http://www.bigpicturepress.net/our-books/historium/

Apart from more downloads and image reuse, the data release also brought more press attention: two national newspaper articles were written about one of the photographic collections, following a blog that had been written on it for the Curator's Choice series of The Public Domain Review and OpenGLAM in August 2015.[15] In this way a large audience was reached without any additional work.
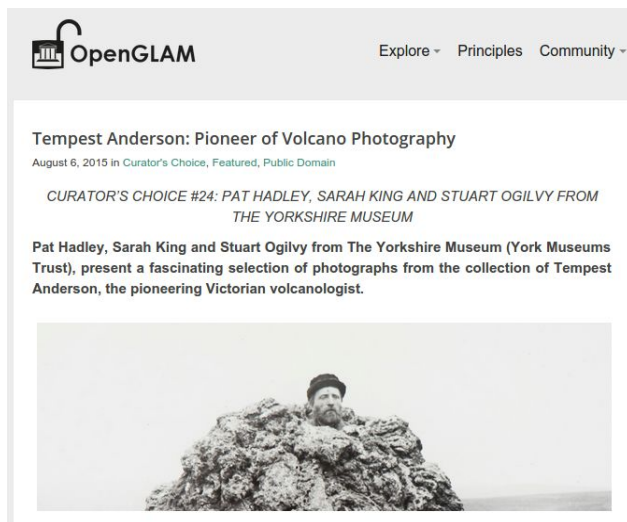
OpenGLAM blog, 6 August 2015   *The Independent article, 23 August 2015*

A side benefit of publishing the images online was that the museum staff no longer had to deal with image requests manually.   This has reduced the administrative burden significantly. In addition, as they can now see what people are downloading and looking up online, they can now more easily define priorities for what to digitise in costly digitisation efforts. Finally, there is the feeling that opening up the collection has brought more visitors to the museums itself, though this is hard to determine exactly. A research project is being set up to investigate if any significant connection can be made between the amount of online visitors and the amount of physical visitors.

---

[15] Pat Hadley, Sarah King and Stuart Ogilvy, 'Curator's Choice #24 Tempest Anderson: Pioneer of Volcano Photography', OpenGLAM blog, 6 August 2015:
http://openglam.org/2015/08/06/tempest-anderson-pioneer-of-volcano-photography/
Paul Gallagher, 'Tempest Anderson: Pioneer's images of volcanoes, avalanches and Victorians surface', The Independent, 23 August 2015,
http://www.independent.co.uk/arts-entertainment/photography/tempest-anderson-pioneers-images-of-volcanoes-avalanches-and-natives-surface-10468388.html
Imogen Calderwood, 'Victorians go volcano-hunting in the days when explorers wore suits... and the only protective headgear was a parasol: Geology pioneer's fascinating pictures 120 years before Instagram', The Daily Mail, 24 August 2015,
http://www.dailymail.co.uk/news/article-3208792/Victorian-pioneer-Tempest-Anderson-s-pictures-world-100-years-Instagram-generation.html

Tips and outlook

With the basic online collection in place, York Museums Trust will now work on making the collection more useful, by incorporating linked data (publishing data in a structured way, using specific standards, so that it can be easily linked to other data) and better tracking of where the collections are used. Work is also underway on an IPR framework for improving the way that rights are recorded, as well as on digitising additional content and adding these new images to their collections.

The Trust will also work more on online engagement projects (for example with Wikipedia and HistoryPin) and make this work a part of the online collections. They plan to investigate options for adding user engagement and user generated content directly in the collection, so that people can add images of artworks themselves. Finally, they would like to extend the openness to other areas and give API access to the data underneath, so people can use the content also to develop their own apps.

For all other institution interested in opening up their collection's resources, Martin Fell offers a number of tips:

- Open up quickly, not perfectly, so you can already show the benefit and then improve from there on
- Do it on a small scale: openly license a small part of a collection and publish this on Wikipedia to start seeing the benefits
- Develop Wikipedia projects around your content: in this way you can get a lot of additional curated content developed without any effort, and track the impact
- Don't be paralysed by how daunting it seems: problems are not insurmountable and others facing the same issues can perhaps help you out

Because, as Martin put it: "To just say the content is not good enough for us, and therefore no one can see it, did not sit right with me."[16]

About the author

Lieke works as project manager at Open Knowledge International, where she coordinates the OpenGLAM initiative, promoting free and open access to digital cultural heritage data, as well as manages European projects in the areas of open cultural data, open access and open science. This currently includes the Europeana Space project, aimed at increasing and enhancing the creative industries' use of online collections of digital cultural content and PASTEUR4OA, focused on advocacy work around open access policies in Europe. Before joining Open Knowledge, she worked at the National Library of the Netherlands, where she was involved in several large-scale European research projects in the areas of digitisation and digital preservation. She holds an MA in Modern Western Literature and Translation Studies and lives and works in Berlin. In 2014 she co-founded the independent project space SPEKTRUM | art science community, where she works as community builder.

---

[16] Martin Fell during interview, 25 November 2015.

Appendix: Interview with Martin Fell

25 November 2015

Could you tell me more about your role at the York Museums Trust?
I am Digital Team Leader at the York Museums Trust. The trust is responsible for two museums, an art gallery and a public garden in York. The collection is essentially owned by the council, but we are the stewards of it as an independent charitable trust. The digital team was created three years ago to improve digital engagement and access to the collections. Previously we had about 50 object case studies on the website, which was more a marketing story of the collection's highlights, whereas now we have everything that is catalogued on there and give people access to the raw material. We also do curated online content together with the Google Cultural Institute and share collections in a non-curated way through partner projects with the Wikimedia foundation. Other internal work includes training and support for digital content production, which feeds into our online collection and exhibition program.

How big is the collection, and what part of it has been digitised?
We have around a million objects in our collection, around 17% (170,000 objects) have a record in our online catalogue and around 5% (50,000 objects) have an image to go with that. The objects span from archaeology, biology, geology, fine art, ceramics and pottery to a massive military and social history collection (including costumes, textile and weaponry).

Could you give me some background information on your data release?
I was set the task of getting the collection online, and to do it rapidly. In just under a year we published around 160,000 records. One of the key things that we pursued is publication of everything: there was a strong desire to have complete editorial control over everything that went online, but I had to make the case that if we did that, we would never put anything online. Interestingly, I convinced the staff of the idea to just give access, regardless of the quality. And people do find the content useful. To just say the content is not good enough for us, and therefore no one can see it, did not sit right with me. What this means is that a lot of our online imagery is not very good, so people were afraid this would tarnish our reputation. It has done quite the opposite actually. Some of our worst images have been used by people because they just want to tell a story about it.

The initial approach was to get things online, and then we can look at how it's used and how we can improve further. I already had the buy-in from senior management so that made it easier. Taking the rapid approach to get things online was handy, because now that the stuff is out there and being used we can start to see who's using it, and this will set our future path of how we develop our online collection now. We can now add to it piecemeal, and develop areas that we know will be used.

To do it quickly, we had to make compromises. We're currently planning a phase to develop on the building blocks we've got in place to make the collection much more useful, such as incorporating linked data and better tracking of where the collections are used.

Why was it decided to put the collection online so fast?

That was a decision I partly drove: if we worked for three years without any output, it would undermine our case for opening up, particularly as there was resistance to the idea of putting the collection online for the fear that it would potentially damage the reputation of the institution. If those arguments continued for three years while we were developing the perfect online collection, it would undermine the work we were doing. If we had approached it together with a reform of our internal collection management system and having linked data, it would have taken much longer, whereas now we can start introducing those elements later once we already have a collection online. We can already show to people: this is how it is being used, and these are the benefits.

How did you manage to convince staff to put everything online?

We looked at a lot of research on online collections and access, and I managed to get the support from the senior management team. Convincing the people at the top is essential, and you also have to keep convincing people. On the one hand people say the images are not good enough and this would damage our reputation, but on the other hand they want to get more things online because they want to engage with new audiences. I had to stress that if we had editorial say over each image before it goes on to the internet, the amount of work would be astronomical. We said: the policy is open, unless. It was that change in mindset that we had to fight for. Because of the work we are doing on Wikimedia, and the engagement we get there, the understanding is now starting to develop that by being open we get a lot of our core mission benefits achieved, which is really exciting for me.

Were there any other benefits?

It also helps us define some priorities for what we digitise internally. We can see what is being downloaded and what is looked up, whereas previously we had no information on what people want to see online. By just getting the basics out there you can start to see what people want, you can then focus your digitisation efforts, which are costly and require investment.

Which groups use the collection most?

Local history groups engage with the collection regularly. They for example download old paintings of churches in York and use them on tours, flyers and presentations. This kind of community reuse has no commercial reach: if these images were not freely available online, they simply would not be used. That is an area of our core mission engagement, where we are improving access and reaching out to people who have a vested interest in our collection. We are thinking of developing some grassroots low-level community engagement focused on this group, and build that into the system.

How is the collection licensed?

We did not have the means or capacity to record IPR effectively, so we applied some algorithms for a more broad approach: we either know for an object that it is in copyright, or we do not know, or it can be labelled PD or CC-BY-SA. A lot of our public domain material may not be online yet, because we have not gone through each object to see what the IPR is. What has been published is what could be comfortable published without too much risk,

and we have done that automatically. So the objects went online, and we introduced the licensing a few months later and added that separately.

How did you decided between PD and CC-BY-SA licenses?
The PD listing was for 2-D man-made objects (artworks, scans of books) which are exact copies (no derivative or original work). The CC-BY-SA license was applied to 3-D objects, with elements such as specific lighting, where copyright could be claimed on the image. Our default position for licensing is that if we don't know at the moment, we don't license it and we keep it offline. This is another reason for our modular approach to developing the online collection: when we have the resourcing and staffing time available, we can look at more images and publish more online.

Do you expect any new releases soon?
At the moment we have a project running until the end of February 2016 which is looking at IPR recording, and possibly developing an auditing framework. We are looking at specific collections that will be going on exhibition and hope to be able to add more images in the future, for example from the costume collection. At the moment we take the approach that if the date is not known, we do not publish it, but for the costume collection images could probably be published without risk. We are now investigating the amount of work needed for putting a certain collection online.

What were the main issues you encountered?
The biggest hurdle was to convince people that it was a good idea to publish everything online, and in doing so changing their opinion about what a collection is. A collection does not need to be perfectly curated before it can be shared. Other hurdles we encountered were making tweaks to the collection system, and fitting this in with the other projects that were running.

How did you track the reuse of the content?
Since we started in a basic way, we had no way of tracking which images were downloaded. We then added a form for people to fill in when they downloaded images (with information such as name, email and the reason for the download), which was optional to fill in. In this way we managed to get a rough idea of the downloads. So far (until December 2014), around 1200 image have been downloaded, although anecdotally we know that lots of people are downloading our content directly from Wikimedia Commons – including journalists. Also, we don't record right-click save, which most people will do. So the stats could be a lot higher.

We have run two successful Wikimedia projects (which would not have been possible without openly licensing our content under a non-commercial licence) and have uploaded images to Wikimedia Commons, so that we can track which articles images are used in, and how many views they get. Since April 2015 we have 1,562,481 views of our collections images on Wikipedia.

My favourite success story from these projects is that of Wikipedia content relating to our William Etty paintings collection. A Wikipedia editor, with a specialism in Art History created (and is continuing to create) huge amounts of researched content on Wikipedia about William Etty – a cornerstone of our fine art collection. They worked with our resident to

get one of the Etty paintings featured on the front page of Wikipedia on the day we reopened our refurbished Art Gallery. That article[17] received 13,253 views on August 1st, 2015. This was a completely new article. No information about this painting was available online (other than a tiny 50-word online collections entry) prior to this.

The article about the artist William Etty received 7,648 views on the same day and people were navigating to the article about York Art Gallery in increased numbers too - 1,820 (compared to a baseline of just 50 views per day approximately). All these articles contain images released by York Museums Trust.

The article about William Etty went from a mere 2,000 words to more than 20,000 after the studious editor had finished working on it. All the research carried out, outside the museum, with no work needed from our curators. Just to be clear what a huge change this is, here are the links to the article before our project and after:

- Before: https://en.wikipedia.org/w/index.php?title=William_Etty&oldid=664981549
- After: https://en.wikipedia.org/wiki/William_Etty

What are the results so far after you opened up your collection?
We have seen various types of reuse of our content: first of all academic and sector research by universities and other museums and institutions. A university lecturer has used the images of our ceramics collection to make replicas for his students. Then there are local community groups, such as local history societies, that have downloaded our images for use in talks, presentations, leaflets and flyers. Pictures of churches have for example been used in guides for walks through York.

Has there also been some commercial reuse?
Yes, there were some instances of that. A researcher from Japan included several images of our costume collection in a coffee table book called "Victorian Costume and Life"[18]. Our museum was credited in the publication.

Another coffee table book that made use of our content is "Historium" by Richard Wilkinson and Jo Nelson.[19] This publication collates museum images from around the world: their graphic designer used our images to make derivative images. They credited us as well.

Another widely used image is the one of a coppergate helmet, one of our collection highlights. The international card company Paperchase company made a greeting card with a derivative image of this, which was sold across the UK. Originally the museum was not credited as it should have been, but this was changed in the next printing run.

We are now discussing the possibilities of stocking these items in museum shop, since they would be of interest to our visitors. It is quite a new area for us to discover, and to try and show the value of this reuse, and assure our staff that no income is lost.

One of the commercial benefits to the trust is that we no longer formally deal with image requests manually – it is done online, which has reduced the paperwork burden significantly. People can take what they want and use it for what they want. All we ask is to be notified so we can shout about how the content is being used.

---

[17] https://en.wikipedia.org/wiki/Preparing_for_a_Fancy_Dress_Ball
[18] http://iss.ndl.go.jp/books/R100000002-I026703188-00?locale=en&ar=4e1f
[19] http://www.bigpicturepress.net/our-books/historium/

What was the effect that opening up has brought so far?

The data release brought us more attention, more downloads and I would say also more visitors. This last point is always hard to determine: we are now starting on a research project to see if we can connect the amount of online visitors to the amount of physical visitors in some way. The images from the coffee table books would probably not have been used if no access was given to them or if they were behind a paywall. We definitely had more press associated with our collection images: two national newspaper articles were written about one of our photographic collections, because of the blog that had been written on The Public Domain Review in The Curator's Choice series. In this way we reached a large audience without any extra work. Interestingly, the Daily Mail have managed to completely misunderstand what open licensing means and have watermarked the re-purposed images with © York Museums Trust. This problem of correct attribution is not something we feel we can address. But it shows that much of the world is still playing catch-up with the idea of online openness.

What are your plans for the future?

We will work in more online engagement projects (for example with Wikipedia and HistoryPin) and we want to make this work a part of our online collections. We also plan to investigate options for adding user engagement and user generated content directly in the collection, so that people can add images of artworks themselves.

At the moment our data is not linked data, it is not openly accessible for third parties. We also want to have better tracking of where the collections are used. We are going to develop that in the next two years hopefully.

Then we would like to extend the openness to other areas: for example giving API access to the data underneath so people can use the content also to develop apps. We think it is better to spend money on this than to spend budget on developing these apps ourselves.

Do you have any tips for other museums that want to open up their collection?

I would advise people to open up quickly, not perfectly, so you can already show the benefit and then improve from there on. The risk is smaller than what you perceive it to be: openness is perceived as dangerous, while sharing images on 3rd party sites like Facebook is not, while you then actually give up some rights to Facebook. Another great tip is to develop Wikipedia projects around your content: in this way you can get a lot of additional curated content developed without any effort, and you can track the impact. Also, do it on a small scale: openly license a small part of a collection and publish this on Wikipedia to start seeing the benefits. And finally, don't be paralysed by how daunting it seems: problems are not insurmountable and you are not isolated: others face the same issues and can perhaps help you out.