

# End of project report for the Wikimedian in Residence for the Natural History Museum and Science Museum, London

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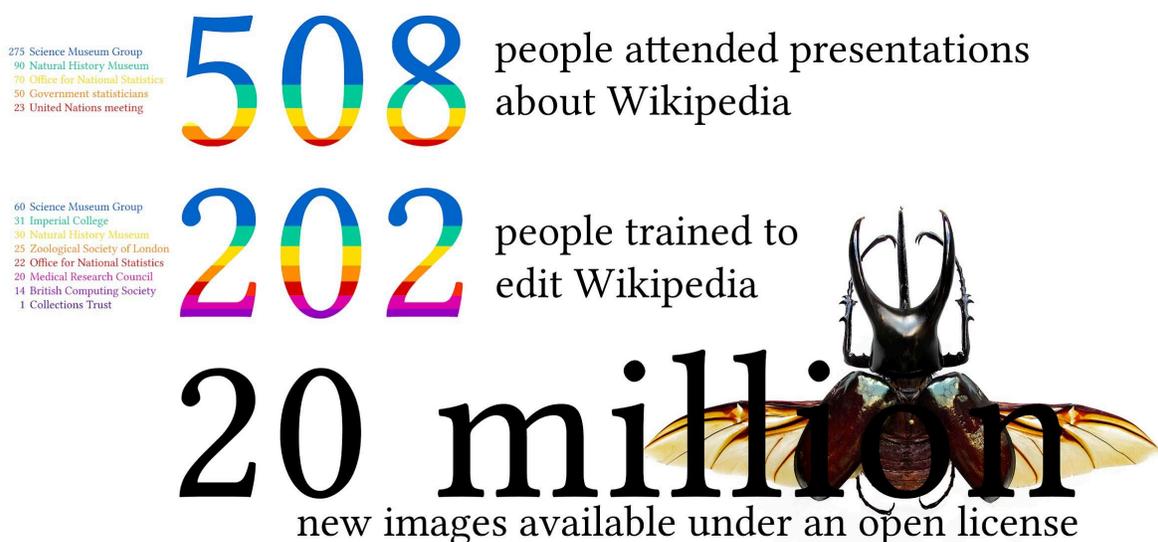
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# Introduction

## Overview of outcomes



The following outcomes have been achieved:

- Education of museum staff on the possibilities of open licensing at both the Science Museum and Natural History Museum; this includes presentations to 508 people and training of 202 people (including external organisations) in how to edit Wikipedia.
- Changing opinion and encouraging debate in public engagement at the The Natural History Museum which will digitise 20 million of its specimens in the next 5 years and [recently chose to make these available under an open license.](#)
- The creation of [a prototype multilingual virtual museum using QRpedia](#) in a new way, QRpedia is a language detecting and mobile friendly Wikipedia redirecting service.
- The Science Museum has started to open its collection with the release of 50 images of significant objects which around 20,000 people are viewing on Wikipedia each day.
- Working at both museums has offered the opportunity to work with several other organisations on open knowledge initiatives including London Zoo, Office for National Statistics, Imperial College, British Computing Society, Medical Research Council, Collections Trust, United Nations, Royal Society of Chemistry, Royal Society, Department for Culture Media and Sport, The Cabinet Office, Wellcome Collection and Royal Veterinary College.

- The creation of new documentation and the improvement of existing documentation.
- The creation of a report on open licensing for the Natural History Museum and Science Museum (see appendix).

An overview can be seen on the project page of the residency at [en.wikipedia.org/wiki/Wikipedia:GLAM/Natural\\_History\\_Museum\\_and\\_Science\\_Museum](https://en.wikipedia.org/wiki/Wikipedia:GLAM/Natural_History_Museum_and_Science_Museum)



Vince Smith

**Biodiversity Informatics**

*Vince leads the NHM's Biodiversity Informatics group and collections digitisation programme. In addition he is a specialist on parasitic lice and helped found the Biodiversity Data Journal.*

Having a Wikimedian in Residence at the Natural History Museum coincided with a paradigm shift in how we think about our digital content and the start of a project to rapidly digitise the museum's collection of more than 80 million specimens at an industrial scale. Having an advocate for Open Science and a culture of reusable content helped us to frame these projects in a context that makes this work useful to a wider audience. Through multiple Wikimedia projects we have moved a step closer to realising the full potential of our specimens, archives and galleries. We have also raised the institution's internal understanding of the benefits of open data. The prototypes described here show that museums can engage in a real and meaningful way with Wikimedia, forming long term partnerships that benefit not only the museum and Wikimedia, but also the many millions of people who can now share our knowledge and understanding of the natural world.



Automated imaging tools such as SatScan (above) allow rapid, high resolution, digitisation of drawers of pinned insects. Complimented with software tools for rapid data entry (below) it is possible to significantly reduce the amount of time it takes to digitise our collection. Without such systems it would take nearly 7,000 person years to digitise our collections.

The image shows the SatScan software interface. On the left, a grid of insect specimens is displayed, with yellow circles highlighting specific areas. On the right, a data entry table is visible, with columns for 'Image', 'SpecimenIndex', 'ObservedDate', 'DateAcquired', 'BaseOfRecord', and 'ImageURL'. The table contains several rows of data, with some cells highlighted in blue. Below the table, there are various input fields and buttons for data entry, including a 'Save' button and a 'Test Mode' button.

Image	SpecimenIndex	ObservedDate	DateAcquired	BaseOfRecord	ImageURL
	10			pinned specimen	E:\sat7\specimens\1_2_2014.jpg
	11			pinned specimen	E:\sat7\specimens\1_7_2014.jpg
	12			pinned specimen	E:\sat7\specimens\1_2_2014.jpg
	13			pinned specimen	E:\sat7\specimens\1_2_2014.jpg
	14			pinned specimen	E:\sat7\specimens\1_2_2014.jpg

Ed Baker  
**Biodiversity Informatics**



*Ed initiated and ran the Wikimedian in Residence project at the Natural History Museum. He is a Biodiversity Information and specialist in stick insects, cockroaches , grasshoppers and allied insects.*

Wikimedians in Residence are advocates for open content and liaisons between their host institutions and Wikimedia. The aim is to facilitate improvement of Wikimedia content, develop understanding of Wikimedia at their institution and lay a foundation for a long term relationship with Wikimedia. Our Wikimedian in Residence programme was funded by Wikimedia UK and the Natural History Museum.

Natural History Museums throughout the world open their doors to the public, inspiring and educating them through displays that document and interpret the history of our planet, and the millions of species that have (or in a few cases still do) make it their home. Behind the scenes there are many more specimens, often orders of magnitude more: the records of natural history that underpin our knowledge about the history of our planet and its life. There are type specimens, individuals that define their species. Series of specimens of the same species collected over centuries allow us to understand how that species may be affected by a changing climate. Specimens will no doubt in future be used to find answers to questions we have not yet thought of. As well as our specimens there are libraries and archives providing documentation of our collective understanding of nature or the history and context of our collections.

One of the great challenges of a 21st century museum is how it embraces technological advances. Museums need to be conservative, to ensure that their holdings will be available (and useful) to many future generations. But museums must also maintain relevance to modern audiences, scientists studying giant datasets created by combining digital data from hundreds of organisations, a visitor walking into the museum with a smart phone or tablet, or somebody searching for information about a species on Google.

Far from the traditional ivory towers stereotype of Victorian academia, modern museums are exciting, vibrant centres of research and education. At the Natural History Museum you will find numerous scientists, professional and amateur, visiting our collections to conduct their research.

When museums embrace the web the potential outcomes should be awe inspiring. Too often however these plans are disrupted by misunderstandings of open licensing and fears of giving up complete control. Having an advocate for openness, as well as somebody who could engage with us and our collections was a big factor in us pursuing funding for the Wikimedian in Residence programme.

As a museum we have a clear ambition: to be a voice of authority on the natural world. Technology allows us to advance this ambition, reaching audiences far beyond those who can visit us in South Kensington or Tring. The projects run by Wikimedia allow us to engage with a global community who will use, reuse, interpret and add value to our content. In short: Wikimedia provides a platform that allows anyone to become a collaborator with one of the world's great museums.

Daria Cybulska  
**Programme Manager, Wikimedia UK**



*Wikimedia UK is dedicated to collecting, developing, promoting and distributing open knowledge. It is the local Wikimedia chapter covering the United Kingdom and supports volunteer editors of, and contributors to, Wikipedia and the other Wikimedia projects such as Wikimedia Commons.*

*Daria is responsible for running and evaluating the Wikimedia UK programme of activities. Over 2012-13 she has been focusing on delivering the Wikimedian in Residence programme at Wikimedia UK, including liaising with partners and setting the residencies up.*

The mission of galleries, libraries, archives and museums is to collect, preserve and make available our common cultural heritage. We have been working with a number of institutions to help them realise this commitment in the modern age. In essence Wikimedia UK is helping to make the sum of human knowledge available to all humanity. Many of the UK's cultural institutions have compatible aims with ours and a remit to make their collections available to all.

An important part of this activity is the [Wikimedian in Residence](#) (WIR) programme. The residency is a programme in which a Wikimedia editor accepts a placement with an institution to enable a productive relationship between the Wikimedia movement and the institution through a range of activities, both internal and public facing. They can work on facilitating content improvements on Wikimedia projects, but even more importantly serve as an ambassador for open knowledge within the host organisation.

The Science Museum and Natural History Museum first contacted Wikimedia UK about the WIR programme in November 2012, indicating their interest in being involved. WMUK accepted their applications on the grounds of a high potential impact, with the condition that the project would be delivered jointly. This was because of their proximity and similar aims, which was deemed to make the resulting project stronger. The project aims were finalised in January 2013, with recruitment delivered over February - March. The residency was awarded to John Cummings, a very capable Wikimedian with varied ideas for the project.

The residency was started in March 2013, initially to last 4 months. In June, we worked on extending the project for a further 6 months on the basis of early successes of the residency, and solid plans for the future. We were particularly keen to see John develop his work towards raising the host institutions' awareness of open knowledge, possible internal changes to reflect that, and hope the move towards openness would continue after the programme's end in January 2014.

After such an intense period of cooperation - the body of the report will outline the work that was done - the challenges lies in being able to sustain the joint projects. Wikimedia UK is committed to continue supporting the move towards openness with the host organisations.

John Cummings

## Wikimedian in Residence



It's been a real privilege to work at the Natural History Museum and Science Museum. During my time in both organisations I have been working with others to take steps towards them becoming more open organisations. I wrote this document to help people to understand what was achieved and lessons learned.

### Natural History Museum

To work with an institution with one of the largest natural history collections in the world and a museum with a huge collection of significant objects covering the history of science has been a wonderful opportunity to further open knowledge. The Natural History Museum is research organisation helping to shape what we know about the natural world, collecting, curating, analysing and publishing the information referenced on Wikipedia over 22,000 times. Natural History Museum has the specialist knowledge, equipment, skills, access to closed journals and collection to make a unique contribution to open knowledge. It has the political environment, technical infrastructure and content generation to share it's knowledge with much of the 500 million people who come to Wikipedia each month.

There are many man made pressures on the natural world, species are becoming extinct at 10,000 times the background extinction rate. Education can help to change this situation, to engender understanding and empathy for the natural world. Wikipedia is a powerful tool to educate people about the natural world and man's effects upon it, there are around 400 million page views a month of articles about species on English language Wikipedia. Projects like Wikipedia Zero make it even more effective, allowing people to access information with no data charges in 27 countries.

### Science Museum Group

The Science Museum Group holds many of the objects that have allowed us to understand the world around us, it is vital partner to Wikimedia to educate the world about the history and future of science.

## Dissemination

The project outcomes will be disseminated through:

- This publicly available report
- Presence in the [Wikimedia UK Annual Report for 2013-14](#).
- Wikimania UK blogs and other social media outlets

## Outcomes at the Natural History Museum

Contributed to the museum's decision on open licensing

I used much of my time at the Natural History Museum educating staff members (around 90 people) about the possibilities of open licensing through presentations, talks (including [the Informatics Horizons conference](#)), discussions and producing a paper collating (see appendix) the activities of the museum and looking at how these activities would be affected by open licensing. Through this work I was able to change opinion and encourage debate in the public engagement part of the museum in a way someone in the science research section of the museum would find hard to do.

As a consequence of this work and the work of others the museum was able put forward a recommendation to the trustees, which they have accepted, to release content of the Natural History Museum digitisation program (images and core metadata) under an open license. <http://www.nhm.ac.uk/resources-rx/files/trustee-minutes---19-november-2013-130955.pdf>

The museum plans to digitise 20 million specimens between 2014 - 2019, this will include several images of each species, whilst not all images would be suitable it would still be a very sizeable contribution to open knowledge, potentially the largest single contribution to Wikimedia project to date. As a comparison of impact NASA have just over 54,000 files on Wikimedia Commons which are used on over 120,000 distinct pages on Wikimedia projects including Wikipedia in over 100 languages. This content receives between 100 million and 250 million views per month on Wikimedia projects based on [BaGLAMa tool statistics](#). An outline of the NHM digitisation strategy can be found at <http://www.slideshare.net/vsmithuk/largescale-digitisation-options-at-the-natural-history-museum-london>

The work of the museum as an educational organisation has been directly obstructed by the lack of open access and a non-free license for its content.

Releasing content under a Creative Commons license is a significant contribution to public understanding of the natural world and promoting greater collaboration in science research, allowing everyone to be both consumer and collaborator and lead to a higher visibility and greater understanding of the museum and the work that it does. Specifically it fits into the following objectives of the [Natural History Museum Strategic Plan 2011 – 2016](#).

- *1.2 To provide access to our collection and information*
- *1.4 To increase the quality and international impact of our research and to establish a position of leadership in our field of science*
- *1.6 To develop and distribute impactful and relevant content that integrates expertise from across the Museum and establishes a position of leadership on certain subjects*

- *2.2 To facilitate meaningful engagement with issues of science and society, empowering people for action and change*
- *2.3 To create learning opportunities, increasing scientific literacy*
- *2.4 To provide evidence to support public policy development in areas relevant to our mission*
- *We will champion the value of natural history collections, nationally and internationally, by building a network of museums, amateur experts, universities and other partners.*

Making a commitment to free and open education through releasing content under an open license will bring many benefits to the museum. It may attract more volunteers to work with the museum both in person and virtually, many people care passionately about open access to information, this is one of the reasons why there are 100,000 regular contributors to Wikipedia. The museum may attract specialist volunteers, especially people with skills in digitising, social media and online education.

#### Other content release

- [A trial release of Natural History Museum archive content](#) under a Wikimedia compatible open license which was then added to Wikimedia Commons and Wikisource.
- I worked with Interactive media to show the value of open licensing content, in the future they plan to produce clips suitable for Wikipedia when producing videos.

#### Multilingual Virtual Museum

##### Description



link to the guide

[bit.ly/NHMguide](http://bit.ly/NHMguide)

In response to these challenges and opportunities I have created [a pictorial representation of the museum](#) on web pages using as little text as possible (to allow easy translation to other languages) linked to a redirecting service called QRpedia to take people to the Wikipedia article for that species in their own language. I created this to address the following opportunities I saw in the museum:

- Wikipedia is the most used reference work in the world, it receives 21 billion page views per month and is the most likely external information source for all language speakers at the museum.
- A resource is needed for both museum visitors and for people wanting to view the museum online, 98% of the UK public do not visit the museum each year.
- A multilingual resource is needed, (around 50% of museum visitors do not speak English as a first language).
- A need for something that users can help create, building a record of the museum public displays is a large task. Many museum visitors take photos in the museum, by making the project collaborative different users can offer unique perspectives and engage more fully with what they see in the museum.
- A resource is needed that complements existing museum visitor resources and projects that museum staff are developing.
- Guides should be accessible for people with vision problems.
- Creation of the museum changing over time including a record of past exhibitions.
- A requirement for low technology barriers compared to something using an app and is platform independent, it works on any browser on most devices, including older products.
- The museum does not have a complete list of what is on display.
- The museum does not have the resources or the space to create or display information in all the languages that people visiting the museum use.
- 80% of people visiting the museum have a smart phone.
- Museum signage generally gives contextual information and interpretation, in contrast as Wikipedia aims to be a different kind of resource.
- The museum will install Wi-Fi in 2014, this will allow people to access the information without data charges (especially important for foreign visitors).
- Ability for the resource to reflect a changing museum and changing technology available.



## ^ Green Zone



Giant Sequoia



Birds



Creepy Crawlies

This is the expanded view of the Green Zone.

Once the user clicks on a specific section it gives the user an overview of the gallery they are in.



Scintillating copper pheasant,  
*Syrmaticus soemmerringii* [↗](#) ●



Superb Lyrebird (Male), *Menura novaehollandiae* [↗](#)



Peacock (Male), *Pavo cristatus* [↗](#) ●

Once the user click on the specimen, event or subject they would like to view the site gives the user the Wikipedia article about the subject in their own language written by a first language speaker, if the article doesn't exist it will offer a translation of the English language article.

## Challenges

Many staff were interested in the idea but permission was not given for me to engage the public through leaflets explaining the project and encouraging participation.

## Documentation

I have created [a crowdsourcing guide](#) for people wanting to take part in the project, this could easily be repurposed for other similar projects.

Currently the pictorial guide is on Wikipedia but could be moved to address the following issues:

- Currently the titles of the pages are automatically generated meaning they are long and not descriptive.
- It is out of scope of Wikipedia which is not a place where multiple guides of this kind would exist. They could potentially be hosted on Outreach Wiki but would ideally need to have control over page names.

A version of this virtual museum with links to NHM content could be created that the museum has control of, this could offer advantages to the museum in that it could direct direct users to it's web content more easily and offer richer experience for English language visitors but does not allow the museum visitors to contribute.

### Highlights of the virtual museum

- [Butterfly identification guide for the butterfly house](#)
- [Mammals Gallery](#) gives Wikipedia articles for species in every display case
- [Browse a book \(The Birds of America\) with links to each species in your own language](#)
- A guide to the [Giant Sequoia cross section at the NHM that has names and dates annotating the rings of the tree](#) the with [links to those events and people](#)
- [To link to Wikipedia articles from text on museum signs and to offer people the opportunity translate museum signage in their own language.](#)

### Other prototypes

#### Layar overlays

[Layar](#) is impressive to look at but was difficult to implement and improve, it requires a more modern phone, a specific app and required a flat surface to analyse the image making them unsuitable for many exhibits. It also would not allow collaboration in the same way as the final concept does.

#### Google Maps

Whilst these were partly successful it was difficult to fit them to existing museum maps and they required a good quality GPS signal which is currently not available in the museum. It also only allowed information and navigation for a gallery and it would have to be used in conjunction with something else to give people information about a specific species.

## Presentations

I delivered many presentations to staff on the value of open licensing including at the Informatics Horizons conference to 50 people <http://scratchpads.eu/nhminformaticsdays>

## Editathons

I found it very hard to work with Natural History Museum staff to train them to edit Wikipedia, staff members could not easily integrate it into their work (see recommendations section for detail).

Running an event outside of work time at the Natural History Museum did not attract many NHM staff who do not seem inclined to come to their place of work on a weekend. A more successful approach was to work with organisations working in the same field, the editathon at London Zoo had more Natural History Museum staff than London Zoo staff. Working with other organisations not in the same field was successful as they were given reassurance by my employment at NHM that I was able to run the workshops. A list of editathons and other events run within NHM. More information on editathons is available in the external organisations section of this document:

- Trowelblazers: Women in archaeology, palaeontology and geology editathon.
- A workshop with Imperial College students to improve articles relating to content that will be released under an open license by the Natural History Museum in the near future.
- A small photography event for students from the Royal College of Art, images are available [here](#).
- I attended Lyme Regis Fossil Festival to talk to people about Wikimedia and open knowledge projects and created [an educational video with Lyme Regis Museum staff](#).
- I worked with researchers in the museum to prototype a citizen science transcription project for scans of specimens.
- Presentation and planning with senior public engagement staff member at the Natural History Museum.

# Outcomes at the Science Museum Group

## Content release

### National Media Museum

I transferred 400 photos from the National Media Museum (part of the Science Museum Group) to Wikimedia Commons, available [here](#). \_\_\_\_

### 50 images released from the Science Museum picture library

I worked with the Science Museum picture library to release 50 images from the Science Museum collection under an open license. I then surveyed the Wikimedia community and Science Museum curators to gauge which would be most useful and have most impact. [These 50 images](#) which are currently viewed around 20,000 times per day (7.3 million times per year) on [10 language Wikipedias](#).

### Blythe House images with volunteers

[As part of GLAMwiki 2013 I arranged a guided photography visit for Wikimedians to Blythe House small object store](#) which produced 130 images.

### Science Museum videos

I worked with the Science Museum media team to make 3 videos from their Pain Exhibition available under an open license and then worked with WikiProject Medicine to find uses for them on Wikipedia.

- [No Pain](#) An interview with someone with congenital insensitivity to pain.
- [Painfully Unaware](#) An exploration of twilight anesthesia.
- [Virtually Painless](#) An interview with someone who suffers from phantom limb pain.

## Presentations and workshops

I ran the following workshops and training sessions as part of my residency:

### Workshops

- Training sessions with the editorial team at the Science Museum, 10 people.
- Joint training and information session with Lane Rasberry, Wikipedian in Residence for Consumer Reports for the Science Museum medical team, 4 people.
- Training with Wroughton Science Museum Group large object store, library and archives with 10 staff.

- Science Museum learning at work week training for 30 people.
- Staff training for Science Museum editorial team, 6 people.

## Presentations

- Presentation to Science Museum staff for around 50 people as part of the project planning meeting, slides are available [here](#).
- A joint presentation to Science Museum Medical team for 5 people with Lane Rasberry, the Wikipedian in Residence with Consumer Reports using Skype.
- Science Museum all staff briefing, around 200 staff: presentation on the impact of open licensing including the 50 images released, the presentation given can be viewed [here](#).
- Presentation to Science Museum senior curation team (all senior curators, 15 people) on the value of open licensing ([link to presentation](#))
- Presentation and planning with Science Museum education department, 5 people.

## Blog posts

I wrote a [blog post](#) for the Science Museum (also available on the Wikimedia UK blog)

## Other Outcomes

### Working with external organisations

Working in a well connected organisation in central London gave many opportunities to meet people from other organisations. Being in a well respected and well known organisations like the Natural History Museum and Science Museum gives a level of confidence to people working in other organisations that I am competent and knowledgeable. I have worked with the following organisations as part of my residency:

#### Office for National Statistics and government statisticians

1. Training for 12 Office for National Statistics staff to work with Wikimedia community and to add content to Wikimedia Commons.
  2. Office for National Statistics training event for 10 people: Wikipedia editing, [link to event page](#)
    - ONS presentation at the Department for Education: Wikipedia's role in education and how statistics work on Wikipedia to 50 people, a copy of the presentation is linked to from [this](#) page.
  3. Worked with the Office for National Statistics to [add 41 infographics to Wikimedia Commons](#) with more existing graphics and future content to be added.
  4. [Presentation to the Office of National Statistics](#) in Newport with 70 attendees.
- Blog post about activities with ONS.

#### Imperial College

- A presentation of Wikimedia projects at Imperial College with two Imperial lecturers and one student given to 31 university students and staff.
- Working with [Maria Toro-Troconis, Strategy and Development Manager at the Faculty of Medicine Centre E-Learning](#)
- Worked with Imperial College Wikipedia Society on a number of events related to the Natural History Museum (listed in NHM outcomes section).

#### Zoological Society of London

- I ran a one day editathon Wonder Women of Natural History at London Zoo to detail the lives and achievements of women scientists in natural history documented [here](#).

#### British Computing Society

- British Computer Society women training events in London and Southampton, [event page](#).

#### Trowelblazers

- [Trowelblazer: Wikipedia editathon](#) a one-day Wikipedia editathon dedicated to improving the Wikipedia pages of key women in archaeology, palaeontology and geology.

#### Medical Research Council

- Helped at the Medical Research Council Women in Science Wikipedia edit-a-thon event at the Royal Society, [link to event page](#).

#### Collections Trust

- Staff training for Collections Trust, including understanding how Wikipedia works and uploading images to Wikimedia Commons and uploaded 100 [images to Wikimedia Commons](#).

#### United Nations

- I [presented](#) to a [United Nations International Seabed Authority workshop](#) looking at Wikipedia, open licensing images and my work at the museums. The workshop was attended by 23 people made up of taxonomists, government contractors and the ISA representative.

#### Royal Society of Chemistry

- I met with the [Royal Society of Chemistry](#) to advise them on how to engage with the Wikimedia community, integrate Chemspider (a chemical database) data in Wikidata and to organise a Women in Chemistry editathon. They now plan to employ a Wikimedian in Residence.

#### Royal Society

- I advised the Royal Society on the requirements for the Wikimedian in Residence and also assisted on their recent editathon.

#### Wellcome Collection

- Working with Daria Cybulska (Programme Manager at Wikimedia UK) and Fae (a Wikimedia volunteer) to help Wellcome Collection employees better understand Wikimedia projects and how to engage with them. Fae uploaded 100,000 images that the Wellcome Collection recently released under a Wikipedia compatible license. [https://commons.wikimedia.org/wiki/Category:Files\\_from\\_Wellcome\\_Images](https://commons.wikimedia.org/wiki/Category:Files_from_Wellcome_Images)

## Royal Veterinary College

- [I created photographs of skeletons within the RVC's anatomy museum](#) and working with them to create and release images of their collection under an open license.

## Improved documentation

I created and improved documentation during this project including:

- [Improved documentation on Commons of video downloads to include process for bulk downloads.](#)
- [Created a Wikihow guide to changing licenses on Youtube videos to Creative Commons Attribution.](#)
- [Created incomplete text for leaflet for content holders at the museums,](#) a how to guide for releasing content under an open license.
- [Created an incomplete simple guide to open licensing for educational organisations](#)
- Photographed events and publicly inaccessible places at both museums.
- Created text for leaflet for visitors to GLAMs why and how to add their photographs to Wikimedia Commons  
[https://docs.google.com/document/d/14xGYv9l\\_4MpzFkBzgS4kbg-WijFNgH9A-QWhTiZFmQ4/edit?usp=sharing](https://docs.google.com/document/d/14xGYv9l_4MpzFkBzgS4kbg-WijFNgH9A-QWhTiZFmQ4/edit?usp=sharing)
- Created Wikimedia Commons categories for the Science Museum and the Natural History Museum to make future large contributions relating the the public collections of the museums easy to categorise.

# Reflections

## Natural History Museum

### Shared goals between the Natural History Museum and Wikimedia

Wikipedia is the most widely used science education resource in the world, the English language Wikipedia articles on species receive around 400 million page views per month (based on average page views of articles multiplied by the 220,000 species articles). Both the Natural History Museum and the Wikimedia movement to have good quality and easily accessible knowledge about natural world so that the public have an informed opinion as to whether to take actions to help conserve it.

The Natural History Museum's mission statement states:

*"Our vision is to advance our knowledge of the natural world, inspiring better care of our planet"*

Which is shared with Wikimedia's goal:

*"Wikimedia [strives](#) to bring about a world in which every single human being can freely share in the sum of all knowledge."*

Wikimedia.org

The section of this *"inspiring better care of our planet"* could be seen as [advocacy](#) and as such a conflict of interest when editing Wikipedia. Much in the same way as curators in museums actively preserve their collection most groups who study the natural world world are engaged in some work to help preserve it. A fundamental difference between an art museum and somewhere like the Natural History Museum is that people are not actively engaged in destroying the possible collections. Advocacy seems to be a natural reaction to being involved in studying the natural world.

No other area is losing so much of what it studies so quickly, the UN Environment Programme estimates 200 species per day go extinct, the background extinction rate, extinction not caused by human activity is estimated to be 1 - 5 species per year. The current extinction rate is 10,000 higher than the natural extinction rate. It is not possible to study the natural world without studying man's effect on it.

Elon Musk recently asked *"Can we learn as fast as the world is changing?"*. This is especially true for the study of the natural world and is a relevant question to most environmental groups. Open knowledge projects including Wikipedia and it's sister projects including Wikidata are the most likely projects to be able to react quickly enough to this rate of change.

A question for many environmental groups have is how can we inspire people to take better care of the environment? Through education we can encourage an appreciation, an understanding of our effect on it and our place within it.

## Cultural differences between the Natural History Museum and Wikimedia

Working with organisations and individuals with common aims to share and improve publicly available and easily accessible information is the best way the Natural History Museum can provide for and reach a truly worldwide multilingual audience with all levels and aspects of understanding.

The Natural History Museum is a large organisations with a very broad spectrum of views, many people have different ideas on copyright and what should be available and where.

A large part of my residency was talking to people about Wikipedia and other Wikimedia projects and helping them to understand it is a very widely used resource that provides people with information that the museum would like to give them.

Image libraries and other paid for services are in direct conflict with museum's remit as an educational organisation as they make money from restricting access to information. Natural History collections are unique but several organisations often hold specimens from a particular species. Natural history museum's commercial image libraries are the most vulnerable to other institutions releasing content under an open license.

## Differences between the Natural History Museum and other GLAM organisations

There are several differences between collections of natural history museums and other GLAM institutions:

- Natural history collections contain many multiples of the same species.
- The collections are used in many kinds of research not just research of the specimens themselves e.g species distribution over time for climate research.
- Many museums and private institutions contain some of the same species as the specimens held at the Natural History Museum.
- The commercial image libraries attached these collections have a uniquely vulnerable business model because the collections are almost entirely not unique in terms of species.

## Science Museum Group

### Shared goals between the Science Museum and Wikimedia

*The Science Museum Group's mission is to make sense of the science which shapes our lives, help create a scientifically literate society and inspire the next generation*

The Science Museum Group's Strategic Ambitions 2012 - 2022

*“Wikimedia [strives](#) to bring about a world in which every single human being can freely share in the sum of all knowledge.”*

*Wikimedia.org*

### Cultural differences between the Science Museum Group and Wikimedia

There were larger cultural differences between Wikimedia and the Science Museum Group than with the Natural History Museum around content licensing. A freedom of information request shows that the Science Museum Picture Library runs a profit. Creative Commons 4.0 licenses make clear that an image at different resolution shares the same license, this makes an earlier used strategy of releasing lower resolution images only under a Wikipedia compatible license a no longer legally valid process, however content holders could still restrict access to the higher resolution images.

#### A joint residency

A joint residency has been extremely useful as it gives twice the number of opportunities to pursue projects and gives a wider range of different perspectives on what could be done. It also allow the Wikimedian in Residence to meet more people inside and outside the institutions. The only downside I experienced is it may lead to time clashes in calendars and deadlines. A joint residency may be less effective during a shorter contract as it takes time to build up contacts and get things started. [Pat Hadley's role as Wikimedian in Residence for York Museum Trust](#) is an interesting model to use. It may also help if two institutions hope to work together more closely and a Wikimedian in Residence can be the bridge between the organisations.

#### Residency length

The length of residency effects what can be done and informs the thinking of the person who is the resident as to what their aims are in changing the culture of the organisation and how quickly they can effect this change will restrict their strategies to the time period available. As a comparison The Collections Trust encourages smaller incremental changes in the process of closed to open content, in part because they do not have a set deadline. Depending on the organisation a large change may not be possible all at once.

#### Open licensing

More people are seeing the value of open licensing. In very large organisations it may not be possible for a person to work on their own to achieve a licensing change, I played a part in the content produced by the Natural History Museum becoming open working with people from across the museum. This kind of work is hard to measure whilst it is happening and because of the length of the residency the change in licensing may not happen whilst a person is resident within the institution. In addition culture change leading to license change will have positive outputs for the open knowledge movement for years.

The Natural History Museum releasing images of specimens is only part of the puzzle for biodiversity and conservation education, Wikimedia should work with a range of other organisations including those with content and knowledge of live species and their habitats.

# Recommendations

## Continued partnership

In around a year's time the Natural History Museum will have produced a sizable portion of content and have the technical infrastructure to make publicly available.

- Look at having a Wikimedian in Residence position to help make the content available on Wikimedia Commons and to find ways to facilitate reuse of the content.
- Encourage researchers in all institutions to release content they produce under an open license, they often have access to restricted sites with endemic species (often the reason they are restricted sites). Vince Smith released his images under an open license as seen at <https://secure.flickr.com/photos/vsmithuk/sets/>.
- The Natural History Museum also work with many official and unofficial partner organisations who have their own unique contributions to open knowledge, these organisation should be engaged with to give a fuller picture of the natural world.

## Metrics

Reporting was sometimes difficult, in part due to the lack of Wikimedia metric tools available that work and partly due to the subjective nature of a lot of the work I was doing in terms of education and culture change. I worked in conjunction with many other people who were also working towards open licensing and so it is difficult to tease out exactly how much effect I had on the decision and therefore hard to gain a metric for the main impact of the residency.

There are a complex set of tools that are not well documented and are partly not working (although they are being developed) to measure impact on Wikimedia projects. All tools I used are listed on [this page](#) on glamwiki.org.

- Invest in developing and expanding functionality of the tools (see infrastructure development section below)
- Create a page for people outside the Wikimedia movement to understand that there are certain metrics available.
- Look at ways to measure qualitative outcomes both in short and long term time scales.

## This project within the wider context of open knowledge

Wikimedia is a very useful case study and application of open knowledge for a host organisation but does not encapsulate all that can be done with open content and cover everything organisations will want to do with open information. A large part of the residency was explaining Creative Commons licenses and also included looking at open crowd sourcing solutions, for

example [Crowd Crafting](#). In addition much of what I was able to achieve was through the network of people I know both who work with Wikimedia and other open projects like the Open Knowledge Foundation and Mozilla.

- Create a resource to give people an understanding of Open as a whole. The [Open Coalition Project Coordinator](#) could address this. Give organisations a wider view of what can be done giving more possibilities of projects and advantages to opening up content.
- For Wikimedians in Residence to be aware of and promote open in general and work with people from other organisations, whilst I and others have done this informally the Open Coalition could make this easier and more concrete.
- To have social events with other open organisations (the Open Coalition will help here also).
- Find ways for Wikimedians in Residence to work together more, the joint training and information session with Lane Rasberry, Wikipedian in Residence for Consumer Reports for the Science Museum medical team was very successful. Each Wikimedian in Residence has a different backgrounds and skill sets they can bring to each project.
- Partnering in some way with other open knowledge organisations including Collections Trust to give clear messages and to increase understanding and to perhaps accelerate culture change in a host organisation.

## Working with other organisations

Whilst working at the museums I met many people working at other organisations, being Wikimedian in Residence offers people in other organisation a degree of assurance that the person is competent and knowledgeable. New Wikimedian in Residence positions have come out of some of the work I have done in conjunction with other organisations. However some possibilities have either been delayed or missed because of lack of time or stopped at the end of the residency.

- Allot a certain amount of time to potentially work with external organisations within a residency.
- Work more closely with Collection Trust, they have many contacts that Wikimedia UK lacks and are the most knowledgeable people I have met about open GLAM.

## The Wikimedian in Residence model

Whilst I think the current Wikimedian in Residence model works well I can see some issues.

- Many opportunities come up in the course of the residency with other organisations which can be missed due to lack of time.

- Keeping experience and knowledge within the organisation may be difficult only offering short term residencies with no job security, especially in London where living expenses are highest but also many organisations WMUK wishes to work with are based.
- Short term residencies and part time residencies sometimes don't cover the cost of living plus the expense of moving location to become a resident.
- There are only a small amount of people with the combination of knowledge of many of the issues, knowledge of tools and skills in training needed to make a successful resident.
- Skills and knowledge transfer between residents is patchy and often reliant on residents using their free time to volunteer at each other's events.
- It often difficult to assess how long a project will take to produce positive outcomes. In addition an occasional residency over a longer period of time may suit some organisations but this does not fix the existing WiR model and volunteers may not be able to offer long term commitment.

To address many of these issues Wikimedia UK could employ some of the Wikimedians in Residence directly to work on several projects concurrently.

### Advocacy goals

A key factor of national museums not engaging with external sites like Wikipedia is that DCMS (Department for Culture, Media and Sport) requires that their ALBs (Arms Length Bodies) which they fund restrict the measurement of the KPI (Key Performance Indicator) for online education to the ALB's website. This encourages siloing of information and development of bespoke platforms making traffic, engagement and cost of development issues more likely both through lack of motivation to make information more widely available and actively restricting reuse of the material through non open licenses. This also leads to the situation when teaching staff how to edit Wikipedia, the only kind of editing that museum staff can measure performance against is conflict of interest editing promoting their institution. The National Archives are an example of an organisation who have a much broader way of measuring impact and as a result have made much content available.

- Encourage DCMS (possibly through the Open Coalition) to change their KPI to allow measurement of impact on other sites rather in addition to their website. The Collections Trust has developed an alternative KPI, Wikimedia UK could work with them on moving this forward.

Currently most national museums have a commercial image library, restricting licenses on publicly owned objects, held in trust by publicly funded institutions and digitised with public money.

- Encourage museums to be open about the amount of money they generate from image libraries so that all stakeholders can have an informed discussion about publicly funded content of publicly funded collections. Wikimedia UK could work with the Collections Trust on this.

A meeting was held by the natural history collections of the UK at the Linnean Society to solve the issue of no centralised repository of natural history collections specimen information. Potentially Wikidata could hold this information and allow researchers from all over the world to contribute to it. Ed Baker at NHM and Nick Poole from the Collections Trust are leading on this.

- Work with Nick Poole and Ed Baker to see if this would be a possibility, it could potentially engage many people in many institutions in open knowledge

## Infrastructure Development

Looking into the future, the release of 20 million images has the potential to double the number of files available on Wikimedia Commons. Based on recent events it appears many more GLAMs will be releasing large collections of content under an open license, by offering a way of crowd sourcing image descriptions and other tasks that need manual processing we could make it useful for GLAMs to engage with Wikimedia not just for outreach but also for other engagement.

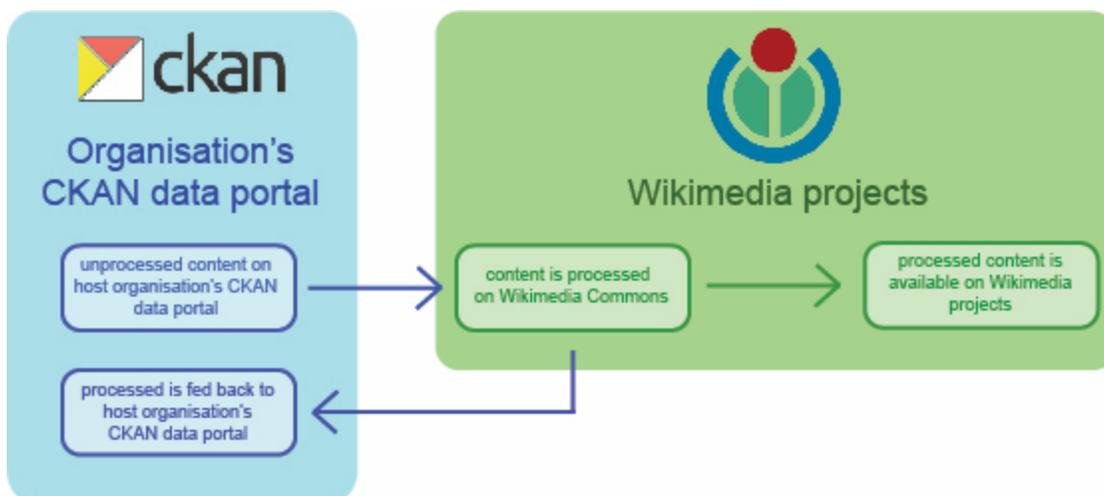
The [Scratchpads](#) platform that the Natural History Museum is developing is already well used and offers the ability to both collaborate and publish for biodiversity research and has many valuable sites already running, many of which offer open license content.

There is also a pressing need for a way of producing viewership statistics for large quantities of images.

- To invest in creating a working stats server to allow metrics for the viewing statistics of several Wikipedia articles at the same time. Several of the most useful tools that are key to working with external organisations are reliant on this service. These tools include [BaGLAMa](#), [GLAMorous 2](#) and [Treeviews 2](#). There are currently two ways of getting this data:
  1. Running each use of each file manually through stats.grok.se which becomes very impractical when measuring over 100 images.
  2. By asking Magnus Manske to add the category to Baglama and wait a month until the next process is run or to run [stats.grok.se](#) for each use of a file which is not practical for more than around 100 files. [Magnus writes in his blog](#) that BaGLAMa is near breaking point so is not a workable solution for many more images.
- For the Wikimedia community develop a section on Wikimedia Commons for partly processed files, e.g files from the NHM digitisation project in need of transcription or images from the British Library in need of description. Several institutions releasing large

collections of images they are unable to annotate themselves and the Wikimedia community could crowdsource the work needed on the content to make it more useful for both Wikimedia projects and the contributing organisation, offering them an additional reason for releasing images under a Wikipedia compatible license. This model of hundreds of thousands of small contributions doesn't fit into Wikisource's current model but should include multiple passes like the current Wikisource model. As an example 20 million images transcribed using the current Wikisource model would mean 60 million transcriptions.

- Wikimedia UK should develop processes to make it easy to export data to and from Wikimedia sites like Wikimedia Commons and Wikidata to and from CKAN data portals like the one the Natural History Museum is developing to make it's content available. There are over [40 CKAN data portals around the world](#) including Data.gov.uk, EU Open Data and Africa Open Data. This would allow the contributing organisation mentioned in the above point to reuse the data created by Wikimedia volunteers. This process could also be developed for other content management systems, Collections Trust are working with Europeana in this area and so could advise on the best way of doing this.



- Wikimedia UK should develop processes to make it easy to export data to Wikimedia sites like Wikimedia Commons and Wikidata from [Scratchpads](#). In addition it could help port a 'Reference this on Wikipedia' button to the platform to engage more people interested in biodiversity.
- Wikimedia UK could invest in the development of a 3D model viewer for MediaWiki, [User: EMW has developed a working 3d model viewer](#) for MediaWiki for specific chemistry model which could fit very well into the work happening with the Royal Society of Chemistry. In addition many institutions are releasing 3d models under open licenses and large libraries exists (e.g Thingiverse) that could be moved to Wikimedia Commons easily. This will offer a new dimension to Wikimedia projects and allow people to understand objects in new ways especially with the advances in 3D printing and people with vision impairments. It will also allow greater cooperation between the open knowledge and open hardware communities who often use CAD models.

## Reporting

Whilst the public reports were useful much of what I was doing was confidential, any Wikimedian in Residence working on policy change in large organisations may have similar problems. An internal report was very useful as it showed to WMUK I was doing useful work that could not be reported, however this may appear to the community as there is no work being done.

Recording names publicly for editathons was difficult, respecting people's privacy, identifying an editor by the event they attend. There may be a way to give useful metrics to show good use of funds but also to allow Wikipedia editors as much privacy as they wish.

The metrics used measure quantitative outcomes, much of the work I did was qualitative culture change and hard to measure in the short term, longer term decisions may be taken because of it outside the length of residency. In addition organisations may not wish to identify their culture change being influenced by an external organisation.

# Appendix

## Contact list

Added to the internal Wikimedia UK contacts list

## Natural History Museum Report

<https://docs.google.com/document/d/1ZHMYzHyC97m9UZVtrpe3Yh9VUX2ZpRtryB524jTi87A/edit?usp=sharing>

## Science Museum Report

[https://docs.google.com/document/d/1qHRMqCdDdu1oAI-1pDH\\_lfbW7FAXCiiPM0F07Jy9\\_zM/edit?usp=sharing](https://docs.google.com/document/d/1qHRMqCdDdu1oAI-1pDH_lfbW7FAXCiiPM0F07Jy9_zM/edit?usp=sharing)

## Background

The Natural History Museum and Science Museum hosted a Wikimedian in Residence John Cummings organised, managed and part funded by Wikimedia UK. The residency ran from the following dates:

### **Natural History Museum**

20 hours per week

11th of March 2013 - 10th January 2014

### **Science Museum**

20 hours per week

11th March 2013 - July 2013

## Wikimedian in Residence job description

The Natural History Museum and the Science Museum are looking for an experienced Wikipedia editor with a good understanding of GLAM projects ([http://uk.wikimedia.org/wiki/Cultural\\_partnerships](http://uk.wikimedia.org/wiki/Cultural_partnerships)) for a joint Wikimedian in Residence ([http://outreach.wikimedia.org/wiki/Wikipedian\\_in\\_Residence](http://outreach.wikimedia.org/wiki/Wikipedian_in_Residence)). As the official Wikimedian in Residence the successful applicant will be expected to make an impactful contribution to the public's knowledge of the work of both institutions and their important and unique collections. In addition the candidate will use their strong communication and organizational skills to promote the use of Wikipedia and sister projects to museum staff including scientists, curators and educators by fostering a broader understanding of Wikipedia (and sister projects) and arranging training in use and editing with groups and individuals. We also expect the Wikimedian in Residence to help us develop strong and ongoing links with the broader Wikimedia community.

## Key tasks and responsibilities

- Work with museum staff to improve the quality of the Wikipedia pages using appropriate items from the museums' collections, libraries and archives in discussion with curators, researchers and other staff.
- Encourage the creation of new content and the improvement of the quality of existing entries relating to the museums' collections on Wikipedia and sister websites, in conjunction with curators, researchers and other colleagues
- Outreach to museum staff about Wikipedia's mission and how they can contribute through organising and running workshops, events and one to one interactions.
- Outreach to general public.
- Training museum staff on the best-practice editing and reviewing of content.
- Helping the museums to build a long term relationship with the broader Wikipedia community by cultivating the relationships with Wikimedia UK and the volunteer community
- Helping to develop methods for assessing the impact of Wikipedia on both institutions and the communities they serve.

Applicants should have a strong background in a science or technology discipline, interest in working with cultural institutions and have an understanding of Wikimedia UK's mission to help people and organisations build and preserve open knowledge to share and use freely. The successful applicant will be able to converse with museum staff on issues related to intellectual property, confidentiality and commercial benefit. The ability to write clearly for varied audiences is essential.