Impact case study (REF3)

Institution: Cardiff University
Unit of Assessment: English Language and Literature (27)
Title of case study: Transforming understanding of, and engagement with, historical illustrations through digital archives
Period when the underpinning research was undertaken: 2004 – 2020
Details of staff conducting the underpinning research from the submitting unit:

Name(s): Julia Thomas	Role(s) (e.g. job title): Professor	Period(s) employed by submitting HEI: 01/09/1997– present

Period when the claimed impact occurred: 01/08/2013 – 31/07/2020
Is this case study continued from a case study submitted in 2014? Yes

1. Summary of the impact (indicative maximum 100 words)

Despite their cultural importance, historical illustrations have largely been hidden from public view, enclosed within books and rarely displayed. Thomas' development of two major online archives – the *Database of Mid-Victorian Illustration* and the *Illustration Archive*, the world's largest online resource dedicated to book illustrations – made these previously inaccessible illustrations available to multiple new publics and uses. Her research: generated new opportunities for the creative re-use of illustrations; influenced user behaviour and perception through crowdsourced tagging; effected changes in international teaching practice and educational understanding; and influenced digital infrastructure methods.

2. Underpinning research (indicative maximum 500 words)

Nineteenth-century book illustrations have largely disappeared from public view. Reprints of Victorian novels, for example, rarely include the original images, while in museums and galleries, illustrations are low on the list of exhibition and conservation priorities. Digital projects have the potential to make illustrations widely available, but often fail to mark or 'tag' them in a way that allows them to be found, and there is a growing risk that whole genres of artistic, educational and informative images may be lost.

Thomas' research on the intersection between the digital world and Illustration Studies, a field she has largely defined, addressed this problem. In her publications **[3.1, 3.2, 3.3, 3.4]** and as PI on three major AHRC-funded projects **[G3.1-3.3]**, Thomas' research led to the creation of two major online archives:

- The *Database of Mid-Victorian Illustration* (DMVI: 2007, updated 2011) – the topic of Thomas' REF 2014 case study (Id=3580), with further continuing impact of DMVI documented here;
- *The Illustration Archive* (IA: 2015) **[3.5]**, the world's largest online archive dedicated to book illustration. This was created in the AHRC-funded 'Lost Visions' project (2014-15) **[G3.3]**, which utilised digital humanities tools and methodologies on a dataset of 68,000 volumes from the British Library.

The key findings that fed into the development of the two archives were:

1) **the significance of historical illustrations and their contemporary invisibility** - Thomas argued that illustrations are culturally significant, but that they have been 'lost' both in print and digital forms **[3.1, 3.2, 3.4]**. An understanding of this 'illustrated world' of the past **[3.1]** is only possible if the images are made publicly available;

2) **the creation of specialist illustration databases with adequate metadata for search and retrieval** - research on the infrastructure and methodologies of DMVI **[G3.1]** included research on words and images in the digital archive, analyses of methods of image tagging **[3.3]**, and methods for making illustrations searchable online **[3.1]**. These findings fed directly into the system used for the IA;

3) **crowdsourced image tagging as a method of public engagement and impact in digital resources** - crowdsourcing obtains information by requesting input from the public. Thomas' monograph dealt with the 'politics of crowdsourcing', examining its potential benefits and its significance for how illustration is understood **[3.1]**. This research resulted in the bespoke crowdsourcing infrastructure developed for the IA, which has meant that non-academic impact was built into the archive from the start;

4) **the use of digital methods to increase understanding of illustrations** - Thomas' work highlighted the radically new opportunities that digital archives provide for displaying and understanding historical illustrations. For the first time, illustrations can be searched by subject matter (as well as bibliographic metadata) and viewed alongside each other in ways that are impossible in their material form **[3.1, G3.1-3.3]**.

Thomas used these research findings to create bespoke keywording systems for describing the content of images: the valuable in-house 'mark-ups' in DMVI, and the crowdsourced tagging in the IA with its unique set of sequences and user prompts that were developed specifically for illustrated material. These systems enable users to search for and retrieve images by content and by bibliographic information. IA created the first crowdsourcing infrastructure for historical illustrations **[3.1]**, which allows users to tag images themselves and build their own collections and 'exhibitions' on the site.

The content and enhanced searchability of the archives support interaction with important images which otherwise would have been lost and have led to increasingly accurate methods of classifying and analysing large visual datasets. The IA was reviewed by Kate Holterhoff & Nicole Lobdell, *Nineteenth-Century Gender Studies* (11.2, 2015), who commented "*This archive represents an enormous step in bringing lost and forgotten illustrations back to the attention of contemporary scholars and the public at large… The importance of digital databases in recovering the lost histories and forgotten biographies of individual illustrators, especially women illustrators, cannot be overstated*".

3. References to the research (indicative maximum of six references)

[3.1] Thomas, J. (2017) *Nineteenth-Century Illustration and the Digital: Studies in Word and Image*, New York: Palgrave Macmillan

[3.2] Thomas, J. (2016) 'Illustrations and the Victorian Novel', in Juliet John (ed.) *Oxford Handbook of Victorian Literary Culture,* Oxford: Oxford University Press, pp. 617-636

[3.3] Thomas, J. (2007) 'Getting the Picture: Word and Image in the Digital Archive', *European Journal of English Studies* 11:2, pp.193-206 DOI: 10.1080/13825570701452946

[3.4] Thomas, J. (2004) *Pictorial Victorians: The Inscription of Values in Word and Image*, Ohio: Ohio University Press

[3.5] Databases:

- *Database of Mid-Victorian Image* (DMVI): www.dmvi.cardiff.ac.uk; www.dmvi.org.uk (2007; 2011: online)

- *The Illustration Archive* (IA): https://illustrationarchive.cf.ac.uk/ (2015: online)

Selected grants:

[G3.1] Thomas, J. (PI), AHRC award for 'A Web-Mounted Database of Mid-Victorian Wood-Engraved Illustrations' (2004-07): £198,132 – graded 'outstanding'

[G3.2] Thomas, J. (PI), AHRC Follow-on-Funding award for 'Enhancing the Database of Mid-Victorian Wood-Engraved Illustration' (October 2010 - February 2012): £96,396

[G3.3] Thomas, J. (PI), AHRC award for 'Lost Visions: Retrieving the Visual Element of Printed Books from the Nineteenth Century' (January 2014 - March 2015): £351,980

4. Details of the impact (indicative maximum 750 words)

This study demonstrates the continuing impact of the *Database of Mid-Victorian Illustration* (DMVI) during this REF period, as well as the impact of the new *Illustration Archive* (IA) since its launch in 2015, and how their usage has created cultural, social, and digital benefits.

4.1 Generating new opportunities for creative re-use of illustrations

"The printed pages of the 19th century are full of remarkable images, if we can find them. The Illustration Archive puts a million of them within reach. Amazing" - Illustrator Quentin Blake **[5.1]**.

In the physical world, access to libraries and special collections is limited, illustrations cannot easily be seen side by side, and finding multiple illustrations in terms of subject matter and picture content is exceptionally difficult. The digital infrastructure of Cardiff's archives has enabled searchable, user-friendly access to illustrations from anywhere in the world.

The archives make available over a million illustrations previously inaccessible to the public and have a **wide reach both in terms of global accessibility and range of user groups**. They attract a monthly average of 3.5K visits from over 20 countries including Australia, India and the USA **[5.2]**. An optional pop-up online user survey with 107 responses (June 2018 - July 2020) provided insight into the diverse backgrounds of users, including creative practitioners, librarians, museum curators, members of the public, teachers, publishers, advertisers, filmmakers and television producers **[5.3]**.

Thomas' accessible and searchable design has enabled the archives to be widely used both commercially and culturally. Since 2013, the archives have received requests to download and reproduce illustrations, which have since been used on book covers, and in a documentary, a graphic design project, exhibitions, heritage leaflets and greeting cards **[5.4]**. Respondents to the user survey also reported using the images in multiple, enriching ways, including for their personal research (for example into artwork or local history), to make videos and webpages, and for pleasure and recreation **[5.3]**.

The accessibility and use of these illustrations have resulted in **changes in awareness and knowledge of the images**. Targeted workshops introducing community groups to the IA (Glasgow and Cardiff, 2018; 20 participants per workshop) focused on new strategies for the use and exploration of these illustrations. Participants noted that the IA *"open[s] up a whole new way of thinking about and accessing these things"* **[5.5]**; *"it allowed me to discover a Glasgow that I don't know"* **[5.3]**. Similar benefits have also been registered by visitors to the site. In the online user survey, 97% responded that the IA had deepened their understanding of illustrations **[5.3]**, for example:

- it *"has made me appreciate my culture more"* (user from Italy);
- *"I now have a much deeper understanding of how important these lost illustrations are for the history and memory of places"*;
- *"They have taught me so much about history and life"*;
- *"I use this site to see pictures of places I am visiting as I travel a lot with my job. It has thoroughly enriched, and sometimes challenged, my idea of these places and how I actually view them when I am there"*;
- *"I have spent endless hours tagging images on this site during lockdown. I also found a lot of pictures of the part of Australia where I live. It's been enlightening seeing these. I have shown them to my friends"* **[5.3]**.

4.2 Influencing user behaviour and perception through crowdsourced tagging

By enabling the public to tag images for themselves, the IA has influenced user behaviour and supported a deeper and more engaged viewing of illustrations. Research has pointed to the fact that today's readers tend to 'skim read', especially in a digital environment, where images are quickly glanced over (see, for example, Nicholas Carr, *The Shallows*, 2010; Maryanne Wolf, *Reader, Come Home*, 2018). The crowdsourced tagging structure in the IA instead invites users to pause and look closely at the image in order to determine how it can be

classified, to describe what it contains, to transcribe its caption and add any additional information. The feature is very popular on the site; 89% of respondents to the user survey stated they had used the tagging function, from sectors as diverse as libraries, creative and commercial industries, education, research and those using the site for recreational purposes **[5.3]**. Users have tagged 86,000 images with 186,000 tags ('Tagging Stats' online, **[5.2]**).

By encouraging a more focused viewing of the illustrations, the crowdsourcing structure means users see things in far more detail than they would otherwise, recognise the significance of background details, and learn new things about the images and what they signify **[5.3]**. These new ways of looking can have a profound impact on perception in other areas, too: *"I have learnt so much about the pictures while I have been tagging, especially about the way that women are depicted. It has made me view the magazine and newspaper illustrations that we have today in an entirely new way. I don't accept them at face value any more"*; *"Fake news seems to start with the fakeness of the image. I wouldn't really have learned this if I hadn't been tagging the images in this archive"* **[5.3]**.

The tagging infrastructure makes users active agents in the creation of the site and the curatorship of heritage in a way previously reserved for experts. The benefit of this has been noted by users: *"[tagging] has given me a sense of ownership over the material I am looking at. I become a curator every time I visit the Illustration Archive"; "Tagging the illustrations has had a big personal impact on me. I feel like my input is really valuable because I am making these rare images searchable for other people"* **[5.3]**.

4.3 Effecting changes in international teaching practice and educational understanding

The archives are used by teachers in the UK, Australia, Canada, Finland, Germany, Switzerland, Sweden, India and USA. 57% of online user survey respondents had accessed the 'In the Classroom' material, developed in workshop consultations with teachers, which suggest multiple applications of the IA across age ranges and curricula **[5.3]**. The scale and diversity of the illustrations means that they are used across a range of subject areas (English, History, Geography, Art, Science etc.). For example, a teacher from the UK noted: *"I am a teacher in lockdown and am using it for my online classes. There are so many activities for the children to do with the pictures"* **[5.3]**. The educational benefits of the archives were promoted through a global creative competition on the site (Re-Imagine, 2015), in which entrants imaginatively re-created an illustration from the IA in any media. The competition attracted over 200 entrants and 3,500 visits to the YouTube video, with awareness boosted by workshops in schools and libraries (c.250 schoolchildren aged 4-11).

Feedback from teachers indicates **changes in teaching practice and pupils' greater awareness of illustration as a result of using the archive**: *"I have used the illustrations to develop new teaching materials. The archive images were not accessible before so I never thought to use illustrations in my classes…This has given me a new confidence to use illustrations in my lesson plans … and increased the students' engagement substantially"* (teacher from India) **[5.3]**. In higher education, the archives are used globally and across disciplines. For example, a teacher from Georgia Institute of Technology, USA, describes how students study the IA's crowdsourced metadata feature: *"I have benefited tremendously from The Illustration Archive…My students…benefited from seeing the vast corpus of illustrations archived"* **[5.6]**.

4.4 Influencing digital infrastructure methods

The tools, methods and structures developed in DMVI and the IA have become a **model for the infrastructure of digital illustration resources around the world**. A range of online archives have benefitted from the enhanced functionality of the mark-up systems underpinning DMVI. By using DMVI's bespoke keywording system for describing the content of images, other archival collections have made their images searchable in terms of their iconographic content and subject matter **[5.7]**. Resources that have benefitted directly from applying Thomas' methodologies include:

- *Yellow Nineties Online* (illustrated editions of aesthetic periodicals; based in Ryerson University, Canada), which states on its site that *"In order to return visual texts along*

> *with verbal texts in all searches, we have adapted the iconographic proforma developed by Dr. Julia Thomas at the Database of Mid-Victorian Victorian Illustration (DMVI) to markup periodical images"* **[5.7]**;

- *Nineteenth-Century Serials Edition* (over 5,000 images from periodicals and newspapers; based in Birkbeck, University of London/King's College London), which credits Thomas' research and describes the site's adaption of DMVI's iconographic schema **[5.7]**;
- *Illustrating Scott* (over 1,500 illustrations from Walter Scott's fiction; based in University of Edinburgh), which was modelled on the DMVI interface and used its iconographic schema **[5.7]**;
- The features and tools of the IA are also currently being used by the Plantin Moretus Museum in their digitisation of the Officina Plantiniana's collection of 14,000 woodblocks (UNESCO World Heritage collection) **[5.8]**.

The methodologies and principles of DMVI and IA have fed directly into the **creation of other image archives** from Cardiff University, each with their own impact trajectories and global reach: 'Women in Trousers' (dir. Becky Munford) and the 'Victorian Illustrated Shakespeare Archive' (VISA; dir. Michael Goodman). 'Women in Trousers' uses the IA as a model and includes a crowdsourced image gallery developed in consultation with Thomas where users around the world have submitted images. VISA uses the bespoke keyword systems developed in DMVI and IA to make over 3,000 tagged illustrations from major Victorian editions more searchable for users. The site was the focus of a short film created by BBC Arts Online (68K views to date) **[5.7]**.

DMVI's infrastructure has also enabled its images and metadata to be made cross-searchable **on other sites and platforms:** Connected Histories (UK) and Arkyves (Netherlands). DMVI's images have enriched these sites by expanding their content, reach, and accessibility. The Director of Arkyves (an online collection of historical pictures and texts from museums, libraries and research institutes) writes, *"The DMVI has been a very welcome addition to the corpus of images and texts indexed by our Arkyves database … the use of international standards and open data standards and software meant we could tightly integrate the projects with minimal administrative overhead. The DMVI content enriches our database with more modern content"* **[5.9]**.

During this REF period, Thomas' major online archives have put a million previously lost and forgotten illustrations within reach of anyone with an internet connection. Artists, librarians, curators, community groups, educators, publishers, members of the public, and image archive developers around the world have all benefited from the new opportunities offered through the resources, which have influenced user perceptions and behaviour, effected change in teaching practice and understanding, and influenced other digital infrastructures.

5. Sources to corroborate the impact (indicative maximum of 10 references)

[5.1] Statement from Illustrator Quentin Blake
[5.2] Google Analytics and 'Tagging Stats'
[5.3] Results of the *Illustration Archive* user survey
[5.4] Requests for high-resolution images from specialist users
[5.5] Participant response to workshops held in Glasgow for members of University of the Third Age, an international organisation for retirees
[5.6] Email from a postdoctoral teaching fellow, Georgia Institute of Technology (16th Nov 2018)
[5.7] Online acknowledgements on other sites and platforms: *Yellow Nineties Online, Nineteenth-Century Serials Edition, Illustrating Scott, Women in Trousers: A Visual Archive, Victorian Illustrated Shakespeare Archive*
[5.8] Email from curator of Plantin Moretus Museum, requesting use of features of *The Illustration Archive* for the Officina Plantiniana's woodblock collection
[5.9] Email from Director of Arkyves, supporting the benefit of cross-searchability with DMVI