CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

Title	Scholarly equivalents of the monograph? An examination of some digital edge cases
Authors	O'Sullivan, James
Publication date	2017-06-01
Original Citation	James O'Sullivan (2017) 'Scholarly Equivalents of the Monograph? An Examination of some Digital Edge Cases', part of The Academic Book of the Future (AHRC-funded project)
Type of publication	Report
Link to publisher's version	https://academicbookfuture.org/end-of-project-reports-2/
Rights	© 2017 The Author; Part of The Academic Book of the Future Project Report (AHRC)
Download date	2026-11-06 08:12:40
Item downloaded from	https://hdl.handle.net/10468/4273



UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Scholarly Equivalents of the Monograph?
An Examination of some Digital Edge Cases

James O'Sullivan
University of Sheffield

June 2017





Arts & Humanities
Research Council

Dichotomising the monograph as form and content is an advantageous strategy when considering the academic book of the future. The digital has shifted the forms through which we present scholarship, and as academic projects become increasingly disconnected with the codex form, our conceptions of what constitutes an academic book warrants problematisation. This is particularly so with "edge cases", projects which look to collate, curate, and create thematically consistent critical insights on topics of relevance to the Arts and Humanities, using unfamiliar forms. Examining our classification of such edge cases is an important undertaking, as the book remains the most valuable currency of our discipline, and whether we might consider something to be bookish has profound professional repercussions for the future of our field. The forms of contemporary scholarship might have been transformed, but digital modes of dissemination have not altered the purpose of this scholarship—for a book to be scholarly, however it is that a "book" might be manifested, it must adhere to a set of underlying principles. The nature of academic content, unlike form, has remained consistent in terms of its critical rigour, interpretive qualities, and general intention, which is to create new knowledge and meaning. New forms have augmented the ways in which meaning can be shared and communicated, functioning as instruments for long-established critical practices that must always dictate, rather than facilitate, the frameworks from which they emerge.

The structure of edge cases is so varied that it would be infeasible to situate them within a stable taxonomy—valuable scholarship is increasingly appearing in the shape of digital resources, curated spaces, participatory and community-based projects, visual representations, and a multiplicity of other arrangements that are clearly scholarly, but not immediately distinguishable as academic books. This brief report explores a selection of Digital Humanities projects that might be classified as edge cases,[1] interacting with relevant stakeholders as part of their analysis.[2] As acts of scholarly communication, these projects are outliers, availing of the affordances of digital platforms in a manner that goes beyond remediation. This is not a criticism of electronic forms that might be considered to be skeuomorphic, and the argument that we should "replace books with something different and better"[3] suggests an under-appreciation of the capabilities and possibilities of enduring designs like the codex. The purpose of this report is to query whether such outliers can be considered, as exemplifiers of what is meant by an edge case, to be the equivalent of the academic book. "Equivalence", in this context, refers to an output's contribution to the scholarly record; the amount of knowledge, perspective, and meaning it generates and shares. This report is based on the assumption that a scholarly book, as already noted, is about the systematic ordering and presentation of knowledge in a way that explicitly advances and challenges new and existing ideas—this the basis on which assessment of the chosen exemplars is conducted.

Writing on this subject as part of their contribution to the AHRC-funded Academic Book of the Future project, Lyons and Rayner underline the importance of books: "Books matter. They contain knowledge, and knowledge, as the saying goes, is power."[4] They also point to the transience of the book as a definable entity: "it exists in so many different guises, and is always finding new ways to reinvent itself."[5] This report does not attempt to provide a conclusive definition of what makes a book, and as such, is in the difficult position of having to assess a set of publications on their affinities to an elusive concept. Despite this, the notion of the academic book, while volatile, is at least recognisable, in that we all have a sense, however subjective, of what constitutes good scholarship. If scholarship is what we are looking for in the content of academic books, then we should not allow ourselves to be distracted by forms which support the enrichment and dissemination of that content.

I ♥ E-Poetry
http://iloveepoetry.com/

I ♥ E-Poetry was founded by Leonardo Flores, who launched the project as a means of building a knowledgebase of short-form scholarship on digital poetry and poetics. The initial concept was to read and write 100 words each day about a new piece of born-digital literature. The project has since grown to the point where it now includes longer entries, and has a number of contributors. This encyclopedic resource contains approximately 700 posts, totalling some 210,000 words—more than enough content to satisfy established conventions of what constitutes a monograph. The format of the resource as a scholarly blog updated daily precludes substantial editorial interventions or peer review; however, in instances where graduate students or junior faculty propose entries, these are refereed. While the entries are short form, they are critical and interpretive, offering new meaning on a consistent theme, the hallmark trait of an academic book.

The academic value of this resources comes from the speed with which it is able to publish new entries, all of which are written in a casual style, so as to make the resource an accessible, informative guide to electronic literature:

> The speed necessary for daily publication was only possible within the genre and conventions of the blog. As its readership within the electronic literature community grew, it became clearer that this was a constraint driven critical writing performance. Some conversations with the community led to adapting and broadening its focus, from strictly reading poetry to including other works of e-literature and Internet culture from a poetic perspective.[6]

This speed is important in a domain where the critical focus is on an experimental literary movement which continues to garner broader academic and popular attention. There has never been a greater need for Arts and Humanities scholarship to have an impact beyond the Academy—*I ♥ E-Poetry* receives upwards of 5,000 views from 2,000 unique visitors each month, recording some 200,000 unique visits since it was launched. Beyond the popular appeal of the resource, it is extensively cited in critical writing and used in pedagogical contexts—its scholarly value is demonstrated in its appeal to both general and specialist audiences.

Pathfinders
http://scalar.usc.edu/works/pathfinders

Produced by Dene Grigar and Stuart Moulthrop, *Pathfinders* looks to document the experience of first-generation electronic literature by recording interactions with the authors of such works, as well as traversals by readers interacting with relevant pieces. Funded through an NEH Digital Humanities Startup grant (NEH HD-51768-13), *Pathfinders* worked with five authors of early digital fiction, asking them to demonstrate their works on camera, using equipment closely approximating the platform for which the work was originally designed; authors also gave interviews and, in some cases, a public talk. In 2013 and 2014, Grigar, Moulthrop, and their students compiled and edited results of the *Pathfinders* sessions into a Scalar e-book. The e-book offers a framework for the segmented video presentations, as well as curatorial information on the four digital fictions ultimately presented.

The *Pathfinders* e-book went live on June 1, 2015 and has been used extensively by teachers, researchers, and students, fulfilling the project's aim to maintain access to key works of electronic literature that have been threatened with obsolescence. To date, it has seen 18,593 visits from 273 universities, centers, libraries, and schools located in 58

countries. In addition to the audio-visual materials that the project's Scalar edition makes available, Grigar and Moulthrop have a print book, *Traversals*,[7] that offers close readings of these works. In this sense, *Pathfinders* might be described as a methodology, and *Traversals* the product of that methodology:

> In essence, what the project produced is a methodology (pathfinders) and a process (traversal) for documenting multimedia, interactive born digital works that expands beyond electronic literature to video games, virtual worlds, media art, and other forms.[8]

Pathfinders and *Traversals* are distinct projects, but both are legitimately academic—the latter could have been written without the former:

> The books address different audiences and purposes: *Pathfinders* primarily aims to compile a literary-historical record, through that record to maintain the availability of key contributions, and by investigating a novel approach, to enhance the work of preservation. *Traversals* is a more traditional work of bibliographic criticism and literary history, written for a specialist scholarly audience. *Pathfinders* is meant to be a teaching resource as well as an archival project, and so may have greater reach or social impact.[9]

Pathfinders suggests that thorough research of electronic writing—specifically research involving digital textual analysis of multimedia, interactive born digital texts—requires access not only to library collections, but also to rogue archives[10] where electronic literary works can be experienced on computers they were originally published and intended to be viewed. This project is an interesting example of how edge cases interact with more traditional forms, being both resource and insight at once. *Pathfinders* is an example of how many academic books are now digital out of necessity, a consequence of authors having to account for new types of materials and novel methodologies which cannot be similarly accommodated in print.

Radio Nouspace
http://radionouspace.net/

Produced by John Barber, *Radio Nouspace* is a repository for research, scholarship, and creative practices regarding radio and sound. It was established in 1997 as part of Nouspace Gallery & Media Lounge, a virtual environment experimenting with online, participatory communities. *Radio Nouscape*, as Radio Nouspace Internet Café, with the tagline "the sounds of intelligent cyberspace", provided online teaching and learning opportunities. The "Wednesday Café" program was popular for its broadcasts of local poetry readings over the Web to international audiences.[11] Different media draw attention in different ways; *Radio Nouspace* is an example a discursive process that recognises the potential of audio materials to engage with an audience:

> *Radio Nouspace* is inspired by the radio medium and its multilayered cultures, each with an emphasis on sound(s) consciously curated and broadcast as related knowledge modalities (i.e. programs) for the purpose of interpreting and distributing information to a broad public. Radio is based primarily on the sound of the human voice. With no opportunity to see the speaker, we are forced to listen.[12]

This notion of layering is essential to scholarship that is published in born-digital contexts: media can be overlaid, materials augmented, information nodes can be interconnected and distributed content curated.

The academic book has traditionally privileged text, but the digital age has liberated other media, allowing more visual and aural modes to take precedence in relevant contexts. *Radio Nouspace* is an interesting edge case in that it demonstrates two things: it shows how text can be subverted through digital publishing, and it represents the distinction between "a blog" or Web-based portfolio, and a consistent collection of valuable scholarship that replicates what we consider a monograph. It is a collection of materials on a consistent theme, containing all of the information and representing the scholarly rigour that one would expect of an academic book. The digital holds the potential to re-construct the book as laboratory, wherein initiatives like *Radio Nouspace* provide a space for scholars, in individual and collective capacities, to undertake practice-based research and creative meaning-making.

Infinite Ulysses
http://www.infiniteulysses.com/

Infinite Ulysses supports social annotation of James Joyce's challenging novel, *Ulysses*, allowing any reader to highlight words and phrases in the novel and add questions, interpretations, reactions, translations, definitions, and other comments to the highlighted text. The goal is to explore the design of digital edition interfaces towards meaningful public participation in the literary conversation around a complex text. The site also tries to let each reader personalise the annotations they see, so as to display those that match their interests and needs. The project was Amanda Visconti's doctoral dissertation at the University of Maryland,[13] motivated by its creator's interest in textual scholarship as an open and inclusive practice:

> I decided that instead of focusing on the scholarly editing aspect of digital editions, my skills and interest were more in line with work like that of Alan Galey, whose Visualizing Variation project created code that lets editors of digital editions intervene in their texts in unique ways. Rather than creating a scholarly edition, I focused more on interface design aimed at opening a literary edition to a public audience.[14]

Infinite Ulysses went on to receive its institution's Distinguished Dissertation Prize,[15] a promising sign that universities are starting to give equal recognition to work that goes beyond the proto-monograph.

Interestingly, Visconti herself does not consider the project to be an academic book, and points instead to projects like the Web-based drafts for Fitzpatrick's *Planned Obsolescence*,[16] "that uses some of the affordances of the print codex" like a table of contents, chapters, and paragraphs for structure.[17] She also references Sample[18] in her definition of scholarship:

> For me, scholarship is thinking hard and sharing that thinking so that others can learn from and build on it. The academic book and peer-reviewed journal article are two of many possible methods for and forms of scholarship. With humanities scholarship, the research method of *writing*, often results in the research communication of *writing*. With DH, method and communication may be disjoint: I might learn through design and code, and then share this knowledge by writing or through a performance like InfiniteUlysses.com.[19]

Visconti's position highlights how the scholarly record is increasingly comprised of contributions designed to enable others to create meaning. This is not to say that previous forms of print-based scholarship do not provide strong foundations for knowledge iteration, but rather, that the intention is different—in an edge case like *Infinite Ulysses*, the emphasis

of the principal investigator is on *enabling* others, rather than disseminating their own position.

As a crowdsourced annotated edition, *Infinite Ulysses* shows how edge cases might include "community books", projects wherein new knowledge and meaning are created, but through the annotations of the crowd. What is interesting about *Infinite Ulysses* is that much of the project's value is crowd-sourced. This is unlike various scholarly collections which have included commenting and annotation features alongside the new scholarship they present; *Infinite Ulysses* is taking old material, and giving it renewed significance through open collation—it is scholarship as interface.

Poetics of the Archive
http://bloodaxe.ncl.ac.uk/

Funded by the Arts and Humanities Research Council, the *Poetics of the Archive* project followed the accession by Newcastle University of the Bloodaxe Books archive in 2013. Led by Linda Anderson, the project was designed as a creative and community engagement project, introducing poets, artists, readers and community groups to Bloodaxe archival materials and fostering innovative and creative responses to the archive. As part of the project, a website with a generous interface[20] was designed, featuring digitised archival materials, short films, photographs, author interviews, new poems, innovative search functions and short critical writings. *Poetics of the Archive* is participatory in the sense that it encourages responses to the archive—including films, artworks, and author interviews. Furthermore, the website itself is designed as an innovative medium for engagement with archival materials, providing a space for open and interactive digital encounters with typescripts, page proofs, and other archival matter. Its researchers view it as a "living archive", subject to "continued accumulation and provoking ongoing critical and creative responses".[21]

The project is a further example of how the digital is attracting scholars who wish to extend the creative potential of their outputs so as to match the critical aspects:

> Output from the project has taken a number of forms, both creative and critical. In addition to the website itself, new poems, artwork and short films were produced in direct response to the Bloodaxe archive. Short critical writings on poems and items in the archive have also been incorporated into a dedicated 'Research' section of the website.[22]

Archival practices are often mischaracterised as acts of remediation rather than an inherent part of the critical ecology. Archives are more than instruments, they are scholarly outputs in themselves, born of expertise and interpretation. They operate as scholarly editions, making available materials which would otherwise have remained concealed. They can also facilitate public expression:

> *Poetics of the Archive* was guided by a conception of the 'living archive', the archive as ongoing accumulation, a point of documentary transformation, and a space for critical, creative and affective engagements. This idea extended to the website itself, which seeks to go beyond simple information-retrieval and instead encourage more open-ended, subjective and serendipitous engagement with the archival material presented.[23]

This expression is archived in turn, producing, as in many of these edge cases, a more organic and diverse form of scholarly discourse.

Christianity & Culture
http://www.christianityandculture.org.uk/

The Centre for the Study of Christianity and Culture at the University of York undertakes research projects which make use of digital modelling to creative visual representations of significant sites. One such project has seen virtual reconstruction of St Wilfrid's seventh-century Hexham Abbey[24] so as to present the structure's "rich and largely hidden history to visitors in a way which was engaging, thought-provoking and fun".[25] The Abbey is "a fascinating amalgam of the many phases of its long history",[26] largely because it still retains its Anglo-Saxon crypt, constructed from re-used Roman stone:

> We were commissioned to create a digital model of the abbey's development through time, from Wilfrid's church to the present day, and to incorporate the archaeological and historical evidence in ways which would encourage people to explore and question for themselves. The result is a touch-screen based interface composed of model phases and layered information which can be explored as visitors' interest dictates, but which allows people to see some of the exhibition objects on display in their historical context and to understand more about the evolution of the building and the role in the history of the area.[27]

Computer-generated three-dimensional models provide a means through which scholarship can be embedded in a form that is spatially aware, representing an opportunity to move beyond place as fact to space as meaning, giving readers a true sense of a location where certain places or contexts might now be lost to them.

This project is a useful example of the intellectual investment that is required to develop resources of this nature:

> Although tantalisingly described in some respects in contemporary or early sources, there was little hard evidence to go on and some extremely ambiguous archaeological data to interpret. We were fortunate to have the advice and input of Professor Richard Bailey and Professor Eric Cambridge whose expertise was brought to bear on the tentative reconstructions we based on continental comparanda and the limited evidence available. The result is something which stands up to academic scrutiny, but which also adds something meaningful to the debate. The process of creating a 3D digital model is an unforgiving one and details which can be elegantly elided in a written piece are brought into sharp focus when trying to rebuild something. The "many coloured columns" or "twisting staircases"—where were they, how many, how tall, staircases to where?—and so on.[28]

If we consider the academic book as the outcome of a prolonged and intensive process of discovery and interpretation, then the computer-assisted work of such initiatives should be considered the equivalent of any such product.

Conclusions

Elucidating on the academic book of the future entails predicting what forms might soon be considered to be the equivalent of rather than a replacement for the codex—the book, as we have known it for centuries, is far from dead. If anything, it is thriving, and considering its demonstrated capacity for perseverance, coupled with an alignment with the tenets of the Arts and Humanities, such a trend should be construed as positive. However, as we continue to synthesise scholarly practices with the affordances of contemporary modes of expression and dissemination, there is a need to accept the inevitability of the book's rhizomic future. The

codex will persist, not only in print, but in the shape of the e-book, which largely mimics the structures and qualities of its predecessor. What will change is the centrality of the codex, which will in time have to concede its dominance of the academy to a multiplicity of scholarly arrangements. As demonstrated by some of the projects in this report, this is already happening, and so it is vital that we now begin to demand that colleagues and institutions begin to recognise the value of this work. Despite the prevailing discourse that has emerged from fields like the Digital Humanities, this type of scholarship is not yet recognised as equivalent to more established forms, such as, the print monograph. The sad reality is that senior faculty who tell students and junior colleagues otherwise are doing their protégés a disservice, as traditional publications—again, be they print or digital—are still the best way to enhance one's employability and prospects.

The suggestion here is not that all digital outputs are equivalent in scholarly value to their antecedents—the significance of many digital projects can be questioned, just as one might challenge the importance of any other form of scholarship. This brief report simply outlines a few of the many examples where scholars and practitioners have availed of the affordances of computation in order to create academic resources that might be considered equivalent to more established forms—the content of initiatives like *Radio Nouspace* and *I ♥ E-Poetry* would easily fill the page space of a standard-length monograph, but such content is unsuited to the page, and so it has had to be articulated through the screen. These projects are not scholarly because they are representative of trends which happen to be en vogue, but because they demonstrate the intellectual, curatorial, and communicative rigour that should be expected of any academic undertaking. The privilege of print is that we assume its content possesses such rigour by default, when the reality is that there are many examples of careless writing and trivial research being legitimised by questionable publications and reviewing processes. The role of Arts and Humanities scholars is to create and share knowledge and meaning that is of value to their students, communities, and indeed, the general populace—the tools which scholars use to generate, frame, and disseminate their work should not distract from the quality of that which is being shared. The examples outlined in this report are compelling examples of how edge cases, while not mimicking the academic book, are equivalent in terms of the scholarship entailed.

A number of commonalities emerged while interacting with the project stakeholders. Particularly, there was a very strong emphasis on public engagement, and how the digital appeals to them because of its disseminative potential. There is a marked desire to produce outputs that might be seen as foundations upon which others can build, and digital forms are seen as the best way to realise that objective. There are distinct ideological consistencies amongst these scholars which align with those of the open movement. But form is not always political, and sometimes, print just will not do. It is clear in each of these cases that computation was absolutely required to satisfy the needs of their investigators, and that their use of digital apparatus was born more out of necessity than a desire for a wider audience. Herein lies one the major distinctions between edge cases and digital projects which mimic the codex: they have no alternative to operating on the screen, and are born digital because they could not exist any other way. The ability to iterate quickly, to create ongoing and open-ended resources, is highly attractive to those scholars surveyed in this report. There is also a distinct creative element, wherein scholars are looking to augment the critical components of their work through multimodality. *Poetics of the Archive*, for example, foregrounds non-textual responses to archival material.

The changing face of the scholarly book is symptomatic of broader cultural shifts within the academy: scholars are no longer siloed masters of the esoteric tasked with lecturing and writing, they are, amongst a great many other things, archivists, developers, designers, and cultural commentators—public servants in the truest sense. Edge cases also

have repercussions for the ways in which we assess scholarship. Many of this report's respondents outlined how the materials they are disseminating are continually vetted and peer-reviewed by users, who often provide additional information and feedback, requiring expert stakeholders to perform as editors as well as contributors. It is beyond the scope of this report to discuss the benefits and failings of peer-review models, but it is worth noting that we need to continue to address the issue of assessment as new forms of scholarship continue to emerge.

Exploring the academic book of the future is not just about evaluating and anticipating the new forms that scholarship might take, it is about considering the value systems that we adhere to as critics and educators. That we still have to compare the scholarly equivalence of edge cases with that of their print-based counterparts is evidence that the Arts and Humanities are not embracing the culture of transformation that these fields pretend to embody. By the same token, we should not abandon established forms which still have much to offer a world that is increasingly dominated by ephemera circulated throughout an ecosystem controlled by a small few profit-driven organisations. Scholarship is about creating and enabling, and both print and digital can serve these acts. Our value systems need to adapt to the multiplicities of expression that continue to emerge, not for the purposes of replacing "the old", but so that all academic activities might be weighed within frameworks constructed of consistent parameters. The reality is that the authors, creators, and producers of edge cases might have been better placed exerting their efforts in the writing of books. In essence, we need to reconsider what it means to be bookish, so that we might reconsider the currencies of our field.

About the Author

James O'Sullivan (@jamescosullivan) is a Research Associate at the University of Sheffield, working with the Digital Humanities Institute and Humanities Research Institute. He has previously held a faculty position at Pennsylvania State University, as well as adjunct roles at Washington State University, Vancouver as part of their Creative Media & Digital Culture program, and Cork Institute of Technology. His work has been published in a variety of interdisciplinary journals, including *Digital Scholarship in the Humanities*, *Digital Humanities Quarterly*, *Leonardo*, and *Hyperrhiz: New Media Cultures*. He is the co-editor of *Reading Modernism with Machines* (Palgrave Macmillan 2016). James is Chair of the DHSI Colloquium at the University of Victoria, and a member of the Association for Computers and the Humanities' Standing Committee on Affiliates. Further information on James and his work can be found at josullivan.org.

Notes

[1] The selection of projects is by no means exhaustive in terms of structural, technical, or cultural representation. A number of projects from the field of electronic literature (see http://eliterature.org/what-is-e-lit/) were chosen because of the author's familiarity with the domain, though the natural tendency of e-lit scholars to embrace digital modes of communication has undoubtedly led to an abundance of edge cases within this cohort. All of the projects discussed are exemplars of what might be considered an edge case, and form a useful sample that, while not necessarily extensive, is suitably illustrative for the scope of this report.

[2] The author would like to thank the following individuals for their direct contributions to this report: Leonardo Flores, John Barber, Dene Grigar, Stuart Moulthrop, Amanda

Visconti, Patrick Gibbs, and Mark Byers, as well as colleagues at Sheffield's Digital Humanities Institute, most notably Michael Pidd.

[3] Tom Abba, "The Future of the Book Shouldn't Be Skeuomorphic," *New Statesman*, 2013, http://www.newstatesman.com/culture/2013/02/future-book-shouldnt-be-skeuomorphic.

[4] "Introduction: The Academic Book of the Future," in *The Academic Book of the Future*, ed. Rebecca E. Lyons and Samantha J. Rayner (Palgrave Macmillan UK, 2016), 2, doi:10.1057/9781137595775_1.

[5] Ibid.

[6] Leonardo Flores, "I ♥ E-Poetry," 2017.

[7] *Traversals: The Use of Preservation for Early Electronic Writing* (Cambridge, Massachusetts: The MIT Press, 2017).

[8] Stuart Moulthrop and Dene Grigar, "Pathfinders," 2017.

[9] Ibid.

[10] Abigail De Kosnik, *Rogue Archives: Digital Cultural Memory and Media Fandom* (Cambridge, Massachusetts: The MIT Press, 2016).

[11] Dene Grigar and John Barber, "Winged Words: On the Theory and Use of Internet Radio," in *Going Wireless: A Critical Exploration of Wireless and Mobile Technologies for Composition Teachers and Researchers*, ed. Amy C. Kimme Hea (Cresskill, New Jersey: Hampton Press, 2009), 275–88.

[12] John Barber, "Radio Nouspace," 2017.

[13] Amanda Visconti, "Dissertation Project Abstract," *Amanda Visconti's Digital Dissertation*, 2015, http://dr.amandavisconti.com/.

[14] "Infinite Ulysses," 2017.

[15] University of Maryland, "Amanda Visconti, PhD 2015, Has Won the University of Maryland Distinguished Dissertation Prize," *University of Maryland*, 2016, http://www.english.umd.edu/news/23366.

[16] *Planned Obsolescence: Publishing, Technology, and the Future of the Academy* (New York: NYU Press, 2009), http://mcpress.media-commons.org/plannedobsolescence/.

[17] Visconti, "Infinite Ulysses."

[18] "When Does Service Become Scholarship?," *Samplereality*, 2013, http://www.samplereality.com/2013/02/08/when-does-service-become-scholarship/.

[19] "Infinite Ulysses."

[20] Mitchell Whitelaw, "Generous Interfaces for Digital Cultural Collections" 9, no. 1 (2015), http://www.digitalhumanities.org/dhq/vol/9/1/000205/000205.html.

[21] Mark Byers, "Poetics of the Archive," 2017.

[22] Ibid.

[23] Ibid.

[24] The Centre for the Study of Christianity & Culture, "Hexham Abbey," *Christianity & Culture*, accessed April 25, 2017, http://www.christianityandculture.org.uk/partnerships/hexham-abbey.

[25] Patrick Gibbs, "Hexham Abbey," 2017.

[26] Ibid.

[27] Ibid.

[28] Ibid.