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In the Cloud: Nineteenth-Century Visions and Experiments for the Digital Age

Luisa Calè and Ana Parejo Vadillo

I am the daughter of Earth and Water,
And the nursling of the Sky;
I pass through the pores, of the oceans and shores;
I change, but I cannot die —
For after the rain, when with never a stain
The pavilion of Heaven is bare,
And the winds and sunbeams, with their convex gleams,
Build up the blue Dome of Air —
I silently laugh, at my own cenotaph,
And out of the caverns of rain,
Like a child from the womb, like a ghost from the tomb,
I arise, and unbuild it again. —
Percy Bysshe Shelley, 'The Cloud' (1820).

In 2011 the *Journal des Savants*, the world's oldest scholarly periodical founded in 1665, made a rare first-person address to the *Journal of Scholarly Publishing* about the migration from the paper archive to the cloud library.¹ Utopian notions of the 'library without walls',² and a rhetoric of emancipation, shape the contrast between the closed and guarded 'citadel of manuscript and print' and 'the gleaming spaceport of

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¹ Claude H. Potts, 'Journal des Savants: From the Republic of Letters to the Cloud Library', *Journal of Scholarly Publishing*, 43 (2011), 68–75.

² On the dream of a total library, see Roger Chartier, 'Libraries without Walls', *Representations*, 42 (1993), 38–52. The title is adapted from André Malraux's *Le musée imaginaire*, translated as *Museum without Walls*. See also Marilyn Deegan and Kathryn Sutherland, 'The Universal Library', in *Transferred Illusions: Digital Technology and the Forms of Print* (Farnham: Ashgate, 2009), pp. 119–54. For a comparison between the digital library and the Library of Alexandria, see Jerome McGann, *A New Republic of Letters: Memory and Scholarship in the Age of Digital Reproduction* (Cambridge, MA: Harvard University Press, 2014), pp. 43, 46, 199.

the information age', as Anthony Grafton puts it.³ Collecting, restoring, recomposing specimens obtained by supplementing imperfect copies in incomplete print archives with missing elements gleaned from other sources, and centralizing collections scattered across different geographical locations, are some of the possibilities of the digital archive. Yet the dream of an infinite library in the digital republic of letters has its discontents: from libraries without walls to the reality of paywalls and the dissolution or dispersal of paper archives, dematerialized collections can provide a rationale for 'regional initiatives to systematically de-duplicate their costly, problematic, redundant, and very much terrestrial print collections' (Potts, p. 68). While digital materials make individual copies available at one click, and digital photography enables us to see beyond the powers of the human eye, the move of print archives to remote storage makes their original materiality harder to handle. Optical character recognition and data mining make an ever-widening corpus available for keyword searching, but risk divorcing the work's linguistic from its bibliographic codes. Yet the format and logic of the codex and the manuscript are being addressed by a new generation of metadata elaborated in response to digital documentary editions: Elena Pierazzo and Kathryn Sutherland have worked on new TEI modules to encode the temporal and spatial configurations of Jane Austen's manuscripts,⁴ which are central to the *Blake Archive* encoding of the *Four Zoas* manuscript discussed in this anniversary issue. Virtual codex forms can bring back together

³ Anthony Grafton, 'Apocalypse in the Stacks?: The Research Library in the Age of Google', *Daedalus*, 138.1 (2009), 87–98; on Google Books, see Google CEO Eric Schmidt, 'Books of Revelation', *Wall Street Journal*, 18 October 2005 <<http://www.wsj.com/articles/SB112958982689471238>> [accessed 20 November 2015]; Jeffrey Toobin, 'Google's Moon Shoot: The Quest for a Universal Library', *New Yorker*, 5 February 2007 <<http://www.newyorker.com/magazine/2007/02/05/googles-moon-shot>> [accessed 20 November 2015]; Robert Darnton, 'Google's Loss, the Public's Gain', *New York Review of Books*, 28 April 2011 <<http://www.nybooks.com/articles/archives/2011/apr/28/googles-loss-publics-gain/>> [accessed 20 November 2015].

⁴ On the paradoxical tendency of book-based editions to produce idealist theories of editing against the digital emphasis on the materiality of the text, and a shift from 'the old book-bound author–editor alliance to an editor–reader/user partnership, brokered by the computer', see Kathryn Sutherland, 'Being Critical: Paper-Based Editing and the Digital Environment', in *Text Editing, Print and the Digital World*, ed. by Marilyn Deegan and Kathryn Sutherland (Farnham: Ashgate, 2009), pp. 13–26 (pp. 17–18); on the Jane Austen edition, the limits of TEI guidelines, and the development of new modules to encode the genetic evolution of modern manuscripts, see Kathryn Sutherland and Elena Pierazzo, 'The Author's Hand: From Page to Screen', in *Collaborative Research in the Digital Humanities*, ed. by Marilyn Deegan and Willard McCarty (Farnham: Ashgate, 2012), pp. 191–212.

specimens dispersed among different archives,⁵ and enable alternative sequencing of papers. Yet, against the mobile wonders of the virtual codex, *Book Traces*, a crowdsourcing project aimed at capturing marginalia led by Andrew Stauffer and supported by NINES, emphasizes the uniqueness of books as a record of the social life of books and reading communities: ‘scenes of evidence’, argues Stauffer, ‘at once exposed and occluded by the digitization of our library collections’.⁶ As objects float free of their bibliographic and museum anchoring, they gain new lives in technological platforms and social media, where they are opened up for new creative and critical acts.

In the ‘Fantasia of the Library’, Michel Foucault discusses the library as the imaginative space of the nineteenth century: the nineteenth-century imaginary ‘grows among signs, from book to book, in the interstice of repetitions and commentaries; it is born and takes shape in the interval between books. It is a phenomenon of the library.’⁷ In *Discourse Networks 1800/1900* Friedrich Kittler turns away from the library as the condition of possibility for the rules of composition and the discursive formations that shaped nineteenth-century orders of knowledge.⁸ In the discourse networks 1800 the book had functioned as the repository of the human sensorium, but ‘the technological differentiation of optics, acoustics, and writing exploded Gutenberg’s writing monopoly around 1880’.⁹ With the invention of photography and sound storage, alternative archives produced a separation of the senses in discourse networks 1900; as a result, the book no longer held the task ‘to hallucinate Goethe’s voice between

⁵ On the *Codex Sinaiticus*, dispersed between St Catherine’s Monastery, Sinai, the British Library, and the University of Leipzig and the National Library of Russia, see Deegan and Sutherland, *Transferred Illusions*, p. 130. In the Jane Austen editions, ‘structural metadata allows for the online reconstruction and deconstruction of these material surfaces which instantiate in miniature, booklet by homemade booklet’. See ‘Methodology’, Jane Austen’s Fiction Manuscripts <<http://www.janeausten.ac.uk/about/methodology.html>> [accessed 20 November 2015]; and personal communication with Kathryn Sutherland, May 2015.

⁶ Andrew Stauffer, ‘The Nineteenth-Century Archive in the Digital Age’, *European Romantic Review*, 23 (2012), 335–41 (p. 335).

⁷ Michel Foucault, ‘Fantasia of the Library’, in *Language, Counter-Memory, Practice*, ed. by Donald F. Bouchard; trans. by Donald F. Bouchard and Sherry Simon (Ithaca: Cornell University Press, 1977), pp. 87–109 (p. 91).

⁸ Friedrich A. Kittler, *Discourse Networks 1800/1900*, trans. by Michael Metteer and Chris Cullens (Stanford: Stanford University Press, 1992), p. 369; first published in German as *Aufschreibesysteme 1800/1900* (Munich: Fink, 1985). Foucault’s essay is also discussed on p. 99.

⁹ Friedrich A. Kittler, *Gramophone, Film, Typewriter*, trans. by Geoffrey Winthrop-Young and Michael Wutz (Stanford: Stanford University Press, 1999), p. 16.

the silent lines of writing'.¹⁰ The task for 'archaeologies of the present', Kittler argued in the mid-1980s, is to 'take into account data storage, transmission, and calculation in technological media'.¹¹ Writing in 2004, Alan Liu suggested that XML enables authors and readers to 'join with their institutions to complete a new discursive circuit we might call, updating Friedrich Kittler's media analysis, discourse network 2000'.¹²

This issue on the Nineteenth-Century Digital Archive celebrates the tenth anniversary of our open access online journal *19: Interdisciplinary Studies in the Long Nineteenth Century*. It starts with two forewords on the journal's history. The founding and current editors, Hilary Fraser and Carolyn Burdett, recollect the journal's original vision and its born-digital challenges from the early Dreamweaver days through its migrations to the King's College London server, and its most recent new home in the Open Library of Humanities; David Gillott discusses the work of post-graduate interns, takes us into the journal's digital laboratory, and unveils the research and rationale behind the choice of fonts, their perceptual qualities, and the disciplinary anchoring implicit in the journal's typographical layout. We also wanted to trace the journal's life cycle in the early twenty-first century media ecology through a visual record of its changing digital forms, but here we came up against the challenges of the digital archive. While much attention of nineteenth-century book historians has illuminated the life cycle and material metamorphoses of paper, tracing the history of our born-digital journal meant experiencing what Matthew Kirschenbaum calls the 'radical new ontology of the medium'.¹³ Looking back involved coming to terms with 'the materiality of first generation electronic objects', and the challenges of digital preservation posed by the digital cycle of transmission, decomposition, and migration. The platform changes in the journal's history testify to what Alan Liu considers 'the governing ideology of discourse network 2000: the separation of content from material instantiation or formal presentation', and the dematerialization of the medium (Liu, p. 58). As the journal's issues had been ported to new

¹⁰ Kittler, *Gramophone, Film, Typewriter*, pp. 10, 69. On the changing function of the book in the age of acoustic storage media, see Matthew Rubery, 'Canned Literature: The Book after Edison', *Book History*, 16 (2013), 215–45. The emerging technologies of sound and vision, and their changing discourse networks, have been at the centre of an issue of *19* on 'Orality and Literacy'.

¹¹ Kittler, *Discourse Networks 1800/1900*, p. 369. Matthew G. Kirschenbaum's *Mechanisms: New Media and the Forensic Imagination* (Cambridge, MA: MIT Press, 2008) criticizes Kittler's narrative of diversification and digital convergence, its aim being to explore 'the heterogeneity of digital data and its embodied inscriptions' (p. 6).

¹² Alan Liu, 'Transcendental Data: Toward a Cultural History and Aesthetics of the New Encoded Discourse', *Critical Inquiry*, 31 (2004), 49–84 (p. 50).

¹³ Matthew Kirschenbaum, 'Materiality and Matter and Stuff: What Electronic Texts are Made of', *Electronic Book Review*, 12 (2001) <<http://www.altx.com/ebr/riposte/rip12/rip12kir.htm>> [accessed 20 November 2015].

platforms, we thought we should retrace the journal's digital history. We turned into media archaeologists and went looking for the digital traces of our journal's past. So we entered the Wayback Machine at *Internet Archive* in search of its earlier instantiations, hoping to capture its changing platforms, layouts, and aesthetics in the last ten years. Inside the Wayback Machine we found a calendar view, which 'maps the number of times <http://www.19.bbk.ac.uk> was crawled by the Wayback Machine'. 19 screenshots were 'saved 90 times between December 25, 2005 and September 5, 2015'.¹⁴ Clicking on the dates when screenshots were taken led to traces of its earlier layers in the form of broken links, faulty architectures, mechanisms that no longer worked. The textual condition of the journal reveals its electronic material make-up as a born-digital object when it ceases to work. While we retained a record of typographical choices, layout, and design (in Word documents, emails, PDF files), our memory was page and 'screen deep'; we lost the mechanisms, the digital infrastructure.¹⁵ Broken links point to the ghosts of previous instantiations; they function as evidence for 'the intervening layer of transmission management', that 'secret agent cutout' which allows 'content management at the source and consumption management at the terminus to be double-blind to each other' (Liu, p. 58). Thanks to our institutional repository, the [earliest instantiation](#) on Dreamweaver is still miraculously preserved at the original IP address on the Birkbeck server (*Fig. 1*). Tracking the metamorphoses of digital versioning offers a window into the mutability of the digital. Consider the changing forms of 'Rethinking Victorian Sentimentality' from its [original landing page](#) (*Fig. 2*), seen through the [Wayback Machine](#) (*Fig. 3*), and in its [present form](#) on the Open Library of Humanities (*Fig. 4*). While design features of past iterations are retained in the journal's new form, [earlier issues](#) are carried over to the new iteration and translated into its new structure in a form of digital presentism (*Fig. 5*). Of the journal's instantiations on the King's College London server from 2009 nothing remains, but what has left a [trace](#) in the Wayback Machine (*Fig. 6*). We have lost the originals.

This institutional anecdote helps open up broader questions about the nineteenth-century digital archive. The possibilities and the pitfalls of digital archives, which have recently exercised the media, were already pointed out in 'Archiving the Internet', the visionary manifesto penned in 1996 by Brewster Kahle, the digital librarian and founder of the *Internet Archive*, who is a contributor to this anniversary issue. What skill sets and

¹⁴ *Internet Archive* Wayback Machine <http://web.archive.org/web/20060101000000*/http://www.19.bbk.ac.uk> [accessed 20 November 2015].

¹⁵ Kirschenbaum uses the word 'mechanism', drawing on William Gibson's *Agrippa* (1992), where it functions as 'a trope for technologies of representation — the book, the camera, the photograph album'. See Matthew G. Kirschenbaum, 'Editing the Interface: Textual Studies and First Generation Electronic Objects', *Text*, 14 (2002), 15–51 (pp. 16, 26); *Mechanisms*, pp. xiii–xiv.

what old and new crafts do we need to seize the possibilities and challenges of the nineteenth-century digital archive? How does digitization change the perceptual paradigms of objects migrating across disciplinary boundaries? How is the nineteenth-century paper archive remediated and remixed in the twenty-first century digital archive? What kinds of authoring does it support? What is the structure of labour and ‘the social logic that underlies the technological discourse network 2000?’ (Liu, p. 52). These are some of the questions addressed in this issue. Moving beyond simulation and surrogacy, Foucault’s notion of the ‘Fantasia of the Library’ invites us to think about the new digital lives of the nineteenth-century paper archive through a range of experiments and visions, and to ask what they have to say about the digital poetics of nineteenth-century studies.

The section on ‘The Craft of the Archive’ captures editorial, archaeological, and critical practice in the domain of digital editing and sound archive forensics. The first article takes us through current work in the *Blake Archive*. Founded in the footsteps of the *Rossetti Archive* with the support of the [Institute for Advanced Technology in the Humanities](#) at the University of Virginia (IATH), the *Blake Archive* was designed to provide a digital environment in which to collect and collate Blake’s composite art, a hypermedia ‘critical archive’ of Blake’s illuminated books.¹⁶ In ‘Prototyping an Electronic Edition of William Blake’s Manuscript of *Vala, or the Four Zoas*: A Progress Report’, Morris Eaves, Eric Loy, Hardeep Sidhu, and Laura Whitebell reflect on the *Blake Archive*’s shift from its original image-based model to the adoption and adaptation of the XML tagset developed by the Text Encoding Initiative (TEI) to account for manuscript variants. Taking us through Blake’s digital laboratory, from technicolour versioning to digital encoding, they trace how the hypertext remediates the manuscript, breaking through the bidimensional limits of the line and the page to represent the space and time of composition through new <zone> and <stage>

¹⁶ On the Blake critical archive and hypermedia editions, see Jerome McGann, ‘The Rationale of HyperText’, (1995) <<http://www2.iath.virginia.edu/public/jjm2f/rationale.html>> [accessed 20 November 2015]; on the history of the *Blake Archive*, see Kari Kraus, ‘“Once Only Imagined”: An Interview with Morris Eaves, Robert N. Essick, and Joseph Viscomi’, *Studies in Romanticism*, 41 (2002), 143–99 (repr. as Kari Kraus, ‘Interview with Morris Eaves, Robert N. Essick, and Joseph Viscomi’, *Romantic Circles*, Praxis Series, (March 2003) <<https://www.rc.umd.edu/praxis/blake/blakeinti.html>> [accessed 20 November 2015]); Morris Eaves, ‘Crafting Editorial Settlements’, *Romanticism on the Net 1996–2006: Celebrating Ten Years of Online Publishing*, 41–42 (February–May 2006) <<http://www.erudit.org/revue/ron/2006/v/n41-42/013150ar.html>> [accessed 20 November 2015]; on the conflict between the simulation of the object’s original material properties and cybernetic difference, see N. Katherine Hayles, *My Mother was a Computer: Digital Subjects and Literary Texts* (Chicago: University of Chicago Press, 2005), pp. 90–91.

markups.¹⁷ Moving beyond the limitations of book-bound editing also involves envisioning a virtual form that enables the reader to arrange the manuscript's digital pages in different orders so as to capture the changing, alternative, and parallel versions of the manuscript.

In 'Historicist Audio Forensics: The Archive of Voices as Repository of Material and Conceptual Artefacts', Jason Camlot addresses the materiality of the sound archive, the digital crafts of the media archaeologist, and the combination of philology, forensics, and close listening required to investigate early sound artefacts. The advent of sound recording pointed to the possibility that the printed page would become an unnecessary form of mediation substituted by the unmediated experience of the voice of the author, and of an archive of voices that could transcend 'the "technology" of reading (as decipherment)'. Yet the materiality of the medium is stronger than ever in the archaeological imaginary with which Thomas Edison 'likened the markings of a phonographic recording to those found on ancient Assyrian and Babylonian clay cylinders'.¹⁸ From physical paper, to cylinders, to paraffin, plastic, and MP3, Camlot reflects on the transformations that 'differential texts' encounter in following 'a machine-generated audio fossil' — the voice of the master? Whitman? — remediated from one medium to another, 'complicated by the possible migration history of the recording itself' across different formats and platforms. The article ends with a switch from format and platform studies and forensics to an exercise in close listening. Camlot draws on ethnomusicology and nineteenth-century elocutionary theory and practice to analyse vocal action in early audio recordings.

The middle sections of this issue explore a range of digital experiments with nineteenth-century archives. Going against a criticism aimed at convergence, which establishes the text in an ideal and stable form, the concept of experiment calls for a creative and critical practice whose aim is to 'liberate the multiplicities of texts through a series of deformations'.¹⁹ The effort to represent, reproduce, and simulate the material properties of the codex as a leafing-through mechanism can be a symptom of the 'fantasy of complete recuperation' that for Dino Franco Felluga tries to compensate

¹⁷ On the development of a genetic TEI tagset, see Elena Pierazzo, 'Digital Genetic Editions: The Encoding of Time in Manuscript Transcription', in *Text Editing, Print and the Digital World*, ed. by Deegan and Sutherland, pp. 169–86 (pp. 174–76).

¹⁸ Jason Camlot, 'Early Talking Books: Spoken Recordings and Recitation Anthologies, 1880–1920', *Book History*, 6 (2003), 147–73 (p. 148); Thomas Edison, 'The Perfected Phonograph', *North American Review*, June 1888, pp. 641–50 (p. 645).

¹⁹ Hayles, *My Mother was a Computer*, p. 98, commenting on McGann's practice of deformation; on which see Jerome McGann, *Radiant Textuality: Literature after the World Wide Web* (New York: Palgrave Macmillan, 2001); Jerome McGann and Lisa Samuels, 'Deformance and Interpretation' <<http://www2.iath.virginia.edu/jjm2f/old/deform.html>> [accessed 20 November 2015].

for the disappearing Victorian archive.²⁰ Drawing on archaeological anthropology and the work of N. Katherine Hayles, Alan Liu and Felluga adopt the term ‘skeuomorph’ to describe ‘retrofeatures of the present’ that ‘negotiate a comfort zone between the past and the present’.²¹ At the other end of the spectrum, the nineteenth-century digital archive experiments with digital platforms that transform the act of reading through a reconfiguration of the human sensorium.

Johanna Drucker and Jerome McGann have called ‘the metalogic of the book’ the endeavour to use ‘computers to explore how the graphic features of textual documents function in a signifying field’, how digital markup can capture their bibliographical codes, and ‘how digital tools fail to render or realize complex forms of imaginative works’.²² This intermedial exercise indicates a diacritical approach to rethinking the materiality of the book in conjunction with the materiality of the digital. If the text’s bibliographical encoding ‘display[s] [...] its generative rules’, as McGann maintains; if the book is a reading machine, then the act of reading should be part of the ‘virtual codex’; hence Johanna Drucker’s desire for ‘a 4D model of the book’, which ‘unfolds along the temporal axis (axes) of reading’.²³ Our first experiment multiplies the dimensions of the book as a four-dimensional medium, reflecting on the different temporal axes of reading that a novel produces when encountered in monthly parts or collected in the form of the bound book.

The *Our Mutual Friend* Reading Project is a durational reading experiment set up by the Centre for Nineteenth-Century Studies at Birkbeck and led by Luisa Calè, which restores the original nineteenth-century rhythm of novels published in parts. Between May 2014 and November 2015 we read the novel at monthly intervals mirroring its original run from May 1864 to November 1865. While the interruptions of reading have been a key concern of reader-response theory, our experiment in interval reading

²⁰ Dino Franco Felluga, ‘Addressed to the NINES: The Victorian Archive and the Disappearance of the Book’, *Victorian Studies*, 48 (2006), 305–19.

²¹ Liu, pp. 71–72, drawing on N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), p. 17; Dino Franco Felluga, ‘Introduction: *Skeuomorphs* and Anti-Time’, *Romanticism on the Net 1996–2006: Celebrating Ten Years of Online Publishing*, 41–42 (February–May 2006) <<https://www.erudit.org/revue/ron/2006/v/n41-42/013149ar.html?vue=integral>> [accessed 20 November 2015]. These ideas are rearticulated by Felluga in ‘The Eventuality of the Digital’ in this issue of 19.

²² See Jerome McGann, ‘Rethinking Textuality’ <<http://www2.iath.virginia.edu/jjm2f/old/jj2000aweb.html>> [accessed 20 November 2015]; *Radiant Textuality*, pp. 138, 142, 144–46.

²³ McGann, *Radiant Textuality*, p. 146; on Johanna Drucker and Bethany Nowviskie’s Time Modelling Project, which ‘is designed to store the game players’ performative interpretational moves and it then produces algorithmically generated analyses of the moves after the fact’, see McGann’s *New Republic of Letters*, pp. 100–01.

explores the constraints of technical memory, a temporal form determined by the text's production in monthly parts. Reading against the grain of the long form the Dickensian novel acquires when bound in volume, we tried to revisit what it is like to read it in the original thirty-two page instalments published each month. The virtual coordinates that brought readers from across the world were provided by a WordPress blog, which marked the monthly rhythms with blogs on each instalment and was linked to a dedicated Facebook page. In "May We Meet Again": Rereading the Dickensian Serial in the Digital Age', Ben Winyard discusses the online reading project in the context of other digital Dickens reading experiments, focusing in particular on *A Tale of Two Cities* and *The Drood Enquiry*.

The most innovative aspect of the reading project was a Twitter experiment created by Emma Curry, which turned the text into a script for performance: participants were invited to take on the identity of a Dickens character, endowed with Twitter accounts, to adapt the novel to the dialogic possibilities of the Twittersphere. In *Radiant Textuality*, McGann advocates a gaming feature to explore the 'dynamic space of textuality', 'simulating its social reconstruction'. While Plato criticized the advent of writing, indicating that 'texts are inadequate because they do not converse', McGann argues that Multi-User Domains (MUDs) enable 'the construction of a textual scene that simulates in real time an n-dimensional spatial field'.²⁴ In the *Our Mutual Friend* Twitter experiments, the serial format functions as a cue for narrative innovation. Dickens's characters reveal and reinvent the text's dynamics through role play. In 'Doing the Novel in Different Voices: Reflections on a Dickensian Twitter Experiment', Curry discusses how she set up the experiment on Twitter, and the narratological implications of her role as editor/narrator in collecting, selecting, and ordering the tweets on Storify. Looking at the characters' new voices, this digital performance illuminates the possibilities of Twitter as a medium for the enactment of a twenty-first century Dickens in a negotiation between historical simulation and the experience of the everyday, Dickensian dialogue, and the contemporary grammar, idiom, and experience of the Twittersphere. Curry's article also reflects on the critical possibilities that character speech produces for a close reading of the novel. This point is beautifully illustrated by the Twitter character pieces that follow. 'However Dickensian our beginnings, our ends are varied and open', argues Pete Orford in the character of John Rokesmith. When *Our Mutual Friend* becomes a playtext, reading in parts also means, of course, reading for the part: what does the text look like

²⁴ McGann, *Radiant Textuality*, pp. 158–60. McGann's discussion revolves around IVANHOE, 'an online interpretational playspace for exploring our acts of critical reflection'. See Jerome McGann, 'Ivanhoe: An Interface for Interpretation' <<http://www.litencyc.com/theliterarymagazine/ivanhoeinterface.php>> [accessed 20 November 2015].

from a character's point of view?²⁵ One of the most distinct and playful aspects of the Twitter experiment is that the traditional concept of character assumes a new ontology based on the material and philological make-up of the novel. Can the alligator speak? Melissa Symanczyk describes her struggle to be digitally born as a Dickensian character, casting, and the actor's work of getting into the character she's been cast as through her exploration of Victorian taxidermy. Beatrice Bazell discusses the *mise en scène* of Bella Wilfer through research in Victorian fashion periodicals; Holly Furneaux finds the opportunity to try out her queer Dickens as she enacts the queer possibilities of Mortimer Lightwood.²⁶

The section on experiments highlights the creative process that underscores the nineteenth-century archive, understood in this instance as a sort of new fountain of Hippocrene, a digital warehouse of nineteenth-century materiality with an abundance of media objects that are easily accessible, downloadable, and remixed in a creative process that potentiates new art. 'Remix', William Gibson argues, 'is the very nature of the digital.'²⁷ In *Remix Theory*, Eduardo Navas claims that remixing is at the heart of digital innovation. This process values fragmentation and reimagination; its roots are in the nineteenth century, when mechanical copying became possible.²⁸ The nineteenth-century archive has entered a new ontological moment through the aesthetics of sampling. The digital remixes featured in this issue illuminate how digital platforms articulate the dynamic of the canon and the archive. Against Dickens's ongoing canonical presence, other experiments engage with alternative archival afterlives. Unlike the canon, Aleida Assmann argues that the archive preserves objects that 'have only lost their immediate addresses; they are decontextualized and disconnected from their former frames which had authorized them or determined their meaning'.²⁹ The 'Experiments' section features initiatives that employ digital media to create new forms of address.

Bob Nicholson identifies keyword strings in Victorian printed collections of jokes, tracks their dissemination in the nineteenth-century digital archive, and remixes them through automatic image-text attributions,

²⁵ On character texts, see Simon Palfrey and Tiffany Stern, *Shakespeare in Parts* (Oxford: Clarendon Press, 2007).

²⁶ Holly Furneaux, *Queer Dickens: Erotics, Families, Masculinities* (Oxford: Oxford University Press, 2009).

²⁷ William Gibson, 'God's Little Toys: Confessions of a Cut and Paste Artist', *Wired*, 13.7 (2005), p. 118.

²⁸ Eduardo Navas, *Remix Theory: The Aesthetics of Sampling* (Vienna: Springer, 2012), p. 12.

²⁹ Aleida Assmann, 'Canon and Archive', in *Cultural Memory Studies: An International Interdisciplinary Handbook*, ed. by Astrid Erll and Ansgar Nünning in collaboration with Sara B. Young (Berlin: de Gruyter, 2009), pp. 97–108 (p. 99); see also Jerome McGann, 'Philology in a New Key', *Critical Inquiry*, 39 (2013), 327–45 (p. 345).

which are posted on Twitter by the ‘Mechanical Comedian’. Nicholson’s experiment measures the impact of the project, widening participation beyond the Victorian studies community to explore the dynamics of the jokes’ digital circulation, whether their new digital makeover gains them a new lease of life in the Twittersphere, and how they change through this new channel of transmission.

Rob Gallagher and Vadillo reconstruct the visual aesthetic of Michael Field’s *Sight and Song* and remix it to open it up to social media recreations for a transgender community. In a visionary combination of philology and poetics, Antonello da Messina’s *Saint Sebastian* is animated in such a way as to reconstruct the path of the poem’s gaze across the painting. Yet the animation also records the painting’s new materiality as a digital object, registering its transmission through screen media as a condition of possibility for its remediation and remixing, given that the permission to recycle and modify it is limited to a filmic take. It also suggests Michael Field’s vision as a cultural binder in posing current questions about fair use and identification.

In ‘Walking Victorian Spitalfields with Israel Zangwill’, Nadia Valman uses Zangwill’s *Children of the Ghetto* (1892) ‘to read the East End’. Digitally glued together with sound clips of oral history, interviews, and digital images from the Jewish Museum London and other archives, the novel is remixed as ‘a walking guide through Spitalfields’ in an app created in conjunction with the Jewish Museum. Taking the archive out for a walk, this invention is a reflection of what it is like to experience the digital archive phenomenologically as a series of virtual objects without walls, freed from their terrestrial exhibitionary complex, on the move. The app brings together in an archaeological manner the city and the recorded voices of the nineteenth-century East End with the twenty-first century gentrified city.

The final section, ‘Visions’, brings together a series of interviews and conversations in which members of the Birkbeck Centre for Nineteenth-Century Studies take the opportunity of the tenth anniversary of *19* to discuss the current state of play, as well as past and future visions for the nineteenth-century digital archive. We have invited digital humanists who have shaped the field from different sides of the digital humanities: Brewster Kahle discusses the *Internet Archive*; Ray Abruzzi explains the commercial logic of *Gale Digital Collections*; Sally Shuttleworth, Gowan Dawson, Geoff Belknap, and Alison Moulds reflect on the dynamics of Citizen Science; Dino Franco Felluga envisions his Central Online Victorian Educator; Julia Thomas sheds light on retrieving illustration from the paper archive in *Lost Visions*; Laurel Brake and Jim Mussell analyse periodical digitization projects and imagine the new possibilities of born-digital journals; and Jerome McGann outlines the rationales of

digital editing from the *Rossetti Archive* to NINES, and 19. This section is offered to you in a variety of formats to experiment with the variations of the digital. Using videos, podcasts, Twitter, Storify, and email, we experimented with modes of engagement supported by multimedia platforms. Edited transcriptions are also provided for those who prefer portable document formats to the possibilities of sight and sound recording. This plurality of formats (visual, aural, textual) aims to pose the question of what constitutes research in the digital age. In content and form these interviews challenge one of the cornerstones of modern academia: the supremacy of the essay. Their dialogic dimension, in turn, highlights the sociability of research in the digital age, based upon a collaborative model dependent on knowledge specialisms, which is fighting another struggle: the undemocratic distribution of credit.

The nineteenth-century paper archive has been ideal terrain for digitization because it is out of copyright. Indeed, the peculiar periodization that shapes the special relationship between the nineteenth and the twenty-first centuries is itself a product of the copyright that limits the circulation of the twentieth century, closed up as it is in ‘copyright jail’, as Brewster Kahle puts it. [Constructing Scientific Communities: Citizen Science in the Nineteenth and Twenty-First Centuries](#) has a ‘twentieth-century-shaped hole’ for the same reason, Gowan Dawson argues. Kahle’s ambition to salvage the ephemeral archive, starting with ‘Archiving the Internet’, television, and then turning to the paper archive, is embodied in *Internet Archive*. His idea of a ‘Library of Alexandria 2.0’ is a digital antidote to the classical idea of the vanished library,³⁰ a vision of universal access that powered early notions of the library of the future as a digital library without paywalls. Free access is also central to Jerome McGann’s work, from the *Rossetti Archive* and NINES to visions of a digital republic of letters; while in ‘The Eventuality of the Digital’ Dino Franco Felluga reflects on the BRANCH collective and imagines the Central Online Victorian Educator (COVE). By contrast, Gale Vice-President and Publisher Ray Abruzzi advocates the role of commercial investment in technological innovation, digital preservation, and sustainability, and reconceives democratizing access in terms of the wider accessibility to young scholars of rare books and manuscripts otherwise shut away to all but a handful of specialists.

The structure and social logic of labour — be it in terms of disciplinary and skill set crossings, the forms of work enabled through distributed

³⁰ For the vanished Library of Alexandria, Kahle’s ‘Archiving the Internet’ refers to Luciano Canfora’s *La biblioteca scomparsa* (Palermo: Sellerio, 1986), available in English as *The Vanished Library*, trans. by Martin H. Ryle (Berkeley: University of California Press, 1990). For a recent discussion of the *Internet Archive*, see Jill Lepore, ‘The Cobweb: Can the Internet be Archived?’, *New Yorker*, 26 January 2015 <<http://www.newyorker.com/magazine/2015/01/26/cobweb>> [accessed 20 November 2015].

networks, or the controversial recourse to crowdsourcing — is a recurring theme of this issue. Felluga offers a polemical genealogy, from the model's origin in late-capitalist outsourcing to an alternative model of collaboration inspired by social editing, which he calls 'insourcing'. Digital agency is empowered by the notion of 'Citizen Science' and 'Citizen Humanities', rather than 'end users', in the participatory model explored by Sally Shuttleworth, Gowan Dawson, Geoff Belknap, and Alison Moulds in *Constructing Scientific Communities: Citizen Science in the Nineteenth and Twenty-First Centuries*. The project brings the twenty-first century social tagging embodied in the [Zooniverse](#) phenomenon to reflect on scientific forms of sociability and the centrality of amateur scientists in nineteenth-century scientific networks. Both Dawson and Nicholson focus on the role of gaming in sustaining motivation in crowdsourcing projects. On the other hand, Abruzzi discusses *Gale Digital Collections*' 'matching the workflows' of 'particular sets of users'. Julia Thomas points out that the *Illustration Archive*'s crowdsourcing model 'needs to take account of two types of user: the tagger and the researcher'; it must meet 'the requirements of experts and specialists as well as the general user'. Laurel Brake and James Mussell discuss how intended users shape archival tools and thus define how newspaper archives differ: as they move from the library to the ebrary, some retain the object's material properties as bibliographic units of perception, others are disaggregated into a database format that suits those who pursue thematic searches.

'[Digital Transformations](#)', the title of an important funding strand of the Arts and Humanities Research Council, are central to these interviews. While the original aim of the *Blake Archive* was 'to reintegrate dispersed and disaggregated textual and pictorial fragments', and 'restore [...] the disaggregated fragments in which editors had systematically fractured Blake's original works',³¹ unifying the multiple print rooms and libraries under one virtual collection, the singularity of nineteenth-century artefacts is subsumed under big data regimes. Data mining and topic modelling might turn the material contours of the paper archive into the dynamic digital forms that Matthew L. Jockers maps in 'the 19th-century literary genome'.³² Yet if aggregating data might disintegrate the familiar forms in which nineteenth-century texts have come to us, how do big data approaches affect images? Julia Thomas has argued that illustration is a 'dark art', which nineteenth-century books, libraries, and bibliographic classifications make harder

³¹ Eaves, 'Crafting Editorial Settlements'.

³² Matthew L. Jockers, 'Computing and Visualizing the 19th-Century Literary Genome', paper presented at the Hamburg Digital Humanities 2012 meeting <<http://www.matthewjockers.net/2012/07/20/computing-and-visualizing-the-19th-century-literary-genome/>> [accessed 20 November 2015].

to see.³³ While many nineteenth-century collectors bound their works on paper in books, trusting them as physical repositories, the lack of historical metadata can make them disappear. Semiotics and word and image studies have explored the ways in which words and books limit the proliferation of meaning, and the different ways in which ‘the difference of the visual is mediated through the medium of language’, Thomas argues. The Lost Visions project and database shows what happens to images when they move out of the world of books and the ‘fantasia of the library’ and enter the ‘fantasia of the database’. Hayles argues that ‘changing the navigational apparatus of a work changes the work’.³⁴ The tendency to simulate the format, perceptual qualities, and operations of the book obscures the logic of images and cybernetic difference. Attention to the work’s original bibliographic codes downplays digital codes. What do nineteenth-century images look like when works on paper shift from scroll, mount, book, and print room to platform, screen, and database? As images enter a ‘digital museum without walls’, they articulate a new poetics of illustration, and indeed exhibit the poetics of the digital archive. Thanks to digital tools such as Collex, an open source exhibits-builder that functions as ‘central clearing house’ and ‘interpretive hub’ of NINES, digital humanists can generate their own data sets and curate exhibitions.³⁵ While the archive team is working, for instance, on geotagging locations, grass-roots classifications identify new keywords, categories, and ‘digital desire lines’. Tracking these bottom-up trends, folksonomies capture the dynamics of collections in use, and open up digital archives to alternative possibilities.³⁶ Critical and creative practice go hand in hand in the ‘remixable’ Web as images are unmoored from their bookish abodes, from their hangings on

³³ Julia Thomas, ‘Lost Visions: Retrieving the Visual Element of Printed Books’, Digital History Seminar, Institute of Historical Research, podcast, YouTube, 19 March 2015, <<https://www.youtube.com/watch?v=LqDYsCsomnU>> [accessed 20 November 2015].

³⁴ Hayles, *My Mother was a Computer*, pp. 90–91.

³⁵ The curatorial possibilities of databases are evident in the Collex tool developed by NINES. See Bethany Nowviskie, ‘Collex: Semantic Collections & Exhibits for the Remixable Web’ <<http://www.nines.org/about/wp-content/uploads/2011/12/Nowviskie-Collex.pdf>> [accessed 20 November 2015].

³⁶ ‘A folksonomy is a user-generated classification, emerging through bottom-up consensus. A fusion of the words *folks* and *taxonomy*, the first use of the term folksonomy has been attributed to Thomas Vander Wal. [...] In a bottom-up distributed and collaborative grassroots approach, tagging or folksonomy is a manifestation of people moving away from hierarchical authoritative schemes.’ See Emanuele Quintarelli, ‘Folksonomies: Power to the People’, (June 2005) <<http://www.iskoi.org/doc/folksonomies.htm>> [accessed 20 November 2015]; Adam Mathes, ‘Folksonomies — Cooperative Classification and Communication through Shared Metadata’, (December 2004) <<http://www.adammathes.com/academic/computer-mediated-communication/folksonomies.html>> [accessed 20 November 2015].

the walls of museums and galleries, and made available for repurposing, as the 'Experiments' section suggests.

In 'Digital Nineteenth-Century Serials for the Twenty-First Century: A Conversation', Laurel Brake and James Mussell discuss nineteenth-century periodicals, print archives, and the physical constraints and possibilities of digital editing. Bound issues in paper archives are a record of practice; they point to the multiple states and manifestations of periodical publishing, as well as indicating how their material structures were understood and modified in early archiving practices that discarded what was seen as ephemera, such as the advertisements. Digitization is caught up between remediation, the desire to simulate the codex in the electronic environment and to supplement imperfect specimens by aggregating materials gleaned from different paper archives, and the disaggregating agency of keyword searching, which disrupts the paratext and dissolves the structure of the paper archive. The interview concludes with a discussion of *19* as a born-digital journal, and a vision for twenty-first century journals in the ecology of digital media, and the new genres of scholarly publishing in the age of social media.

This anniversary issue concludes with an interview with Hilary Fraser and Jerome McGann discussing the possibilities and challenges of nineteenth-century digital worlds in the last ten years. From NINES to *19*, training in digital humanities and its institutional forms is key to their conversation. Tracing our journal's digital past and future visions involves capturing the role of *19* and its internship programme in generating and preparing a new generation of nineteenth-century scholars. Our introduction ends by paying tribute to every one of those interns who from 2005 to 2015 have worked on the journal: Holly Furneaux, Robert Maidens, Greta Depledge, Chrissie Bradstreet, Heather Tilley, Ben Winyard, Mark Blacklock, James Arnold, Daniel Wilson, Louise Hide, David Gillott, James Emmott, Melissa Score, Emma Curry, Beatrice Bazell, James Machin, Alexis Wolf, Kit Yee Wong, and Flore Janssen. They have made *19* digitally possible.

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Issue 1 (Autumn 2005): Interdisciplinarity



Welcome to the first number of the first online journal of nineteenth-century studies!

Launched at Birkbeck, University of London on 1 October 2005, **19** is a new electronic publishing initiative designed to achieve two main aims: to publicise and disseminate the research activities carried out under the auspices of Birkbeck's interdisciplinary Centre for Nineteenth-Century Studies; and to provide practical research and professional development opportunities for the large and active body of postgraduate students currently undertaking research degrees in nineteenth-century studies at the College. [read more...](#)

Fig. 1: 19, Issue 1: Interdisciplinarity, (2005) <<http://193.61.20.140/issue1/index.htm>> [accessed 20 November 2015].

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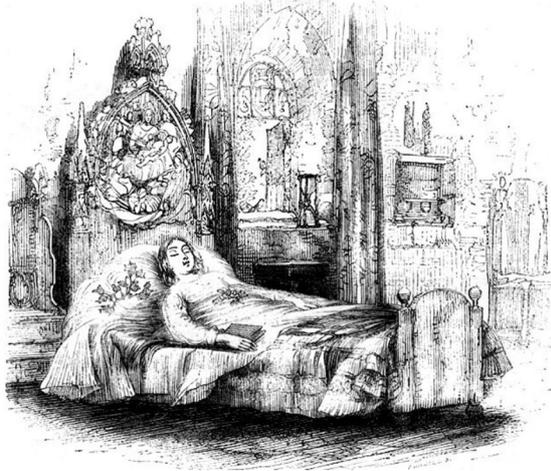
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Issue 4 - April 2007

Rethinking Victorian Sentimentality



George Cattermole, *At Rest (Little's Nell's Deathbed)*, 9.53 x 11.43 cm, wood-engraving,
The Old Curiosity Shop, ch. 71, 30 January 1841, plate 73 in serial publication.

Fig. 2: 19, Issue 4: Rethinking Victorian Sentimentality, (2007)
<<http://193.61.20.140/issue4/index.htm>> [accessed 20 November 2015].

Issue 4 (April 2007)
Rethinking Victorian Sentimentality



Spencer Roddam Spencer Stanhope, *Robins of Modern Times*, Oil on Canvas, Private Collection, c.1860.

Guest edited by Nicola Bown

Contributors: Emma Mason, Kirstie Blair, Sally Ledger, Heather Tilley, Sonia Solicari and Marie Banfield

This issue of 19 explores:

	<p>Introduction Nicola Bown read more...</p>		<p>Feeling Dickensian feeling Emma Mason read more...</p>
	<p>'Thousands of throbbing hearts' Sentimentality and community in popular Victorian poetry: Longfellow's <i>Evangeline</i> and Tennyson's <i>Enoch Arden</i>. Kirstie Blair read more...</p>		<p>"Don't be so melodramatic!" Dickens and the affective mode Sally Ledger read more...</p>
	<p>Sentiment and Vision in Charles Dickens's <i>A Christmas Carol</i> and <i>The Cricket on the Hearth</i> Heather Tilley read more...</p>		<p>Selling Sentiment: The Commodification of Emotion in Victorian Visual Culture Sonia Solicari read more...</p>
	<p>From Sentiment to Sentimentality: A Nineteenth Century Lexicographical Search Marie Banfield read more...</p>		

Fig. 3: 19, Issue 4: Rethinking Victorian Sentimentality, (2007), through the Wayback Machine <<http://web.archive.org/web/20070626153134/http://www.19.bbk.ac.uk>> [accessed 20 November 2015].



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in the Long Nineteenth Century

Rethinking Victorian Sentimentality - Issue 4 - 2007

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This issue, guest edited by Nicola Bown, looks again at Victorian sentimentality, aiming to consider it critically yet sympathetically.

Articles

	<p>Introduction: Crying Over Little Nell Nicola Bown</p>	  01 Apr 2007 0 (4)
	<p>Feeling Dickensian Feeling Emma Mason</p>	  01 Apr 2007 0 (4)
	<p>'Thousands of throbbing hearts' - Sentimentality and community in popular Victorian poetry: Longfellow's Evangeline and Tennyson's Enoch Arden Kirstie Blair</p>	  01 Apr 2007 0 (4)
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Fig. 4: 19, Issue 4: Rethinking Victorian Sentimentality, (2007), on the Open Library of Humanities <<http://www.19.bbk.ac.uk/67/volume/o/issue/4>> [accessed 20 November 2015].

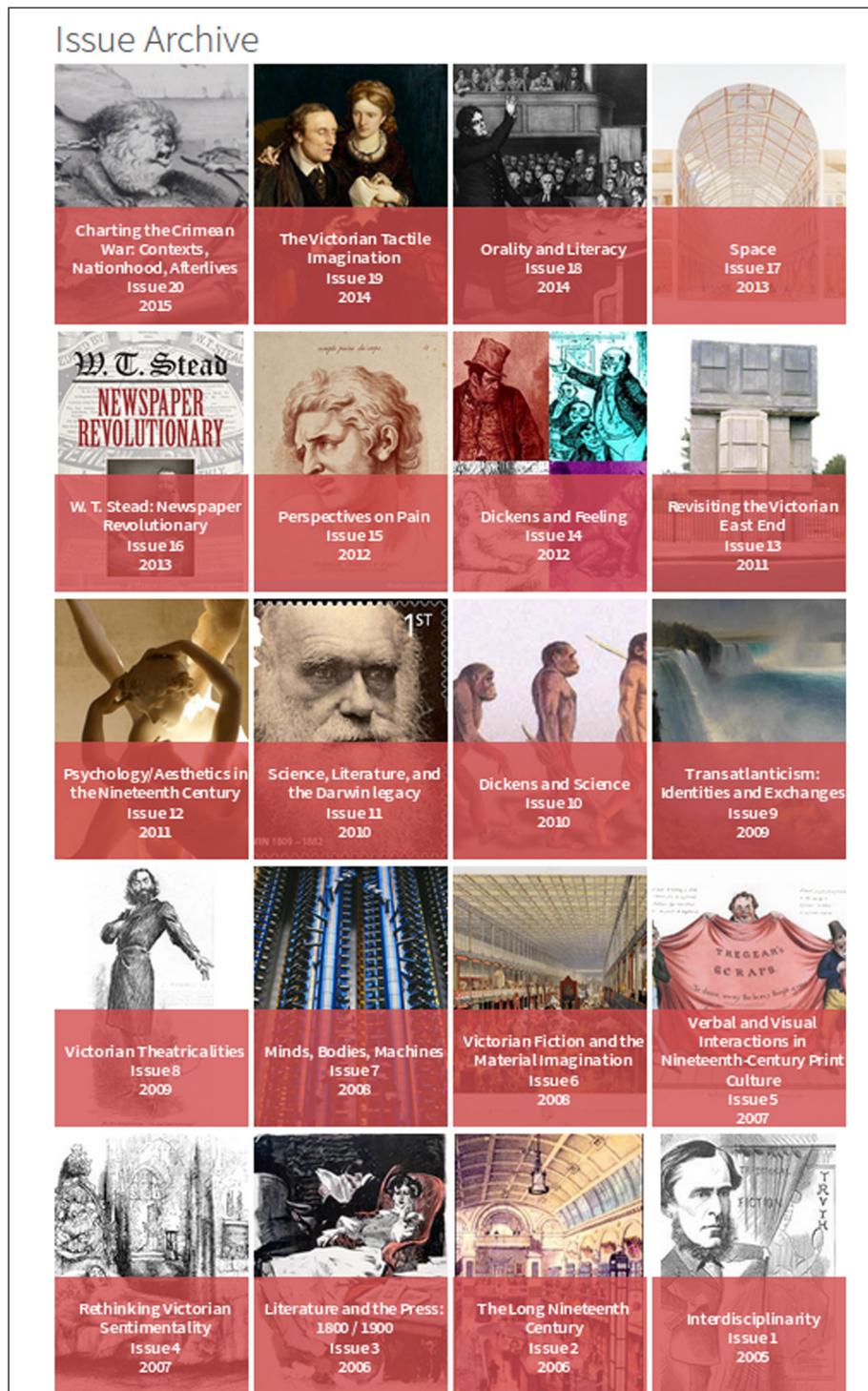


Fig. 5: 19, Issue Archive on the Open Library of Humanities <<http://www.19.bbk.ac.uk/issue/archive/>> [accessed 20 November 2015].



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19: Interdisciplinary Studies in the Long Nineteenth Century

"A few scholarly ventures have defined the early history of peer-reviewed online research and publication in the humanities. 19 is one of them."
 --Jerome McGann, founder of the [Rossetti Archive](#) and author of *Radiant Textuality: Literary Studies After the World Wide Web* (Palgrave/St. Martin's Press, 2001)

No 11 (2010): Science, Literature, and the Darwin legacy



This issue, guest edited by Carolyn Burdett, Ana Parejo Vadillo, and Paul White, takes the Darwin anniversary year as an occasion to reflect on the role that Darwin's work has played in focusing the field of literature and science on the interplay of biology and the novel.

Opening new avenues in poetry, serial fiction, life writing, and the visual arts, in physics, geology, paleontology, sociology, and genomics, it explores ways in which Darwin, notwithstanding the polemics and lionizing that surround his legacy, may still be a force of cultural creation and critique.

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Fig. 6: 19, Issue 11: Science, Literature, and the Darwin Legacy, (2010), found on the Wayback Machine by Martin Eve on 6 October 2015 <<https://www.martineve.com/19/websites/2012/index.php/19/index/index.html>> [accessed 20 November 2015].