**More than a resource? Extending the ncse agenda**

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The primary agenda for AHRC-funded e-projects, such as ncse, is to serve established and new researchers. Both the creators and the audiences of such projects are typically rooted in print culture, in so far as Humanities disciplines tend strongly to select for and reward skills in book- and paper-centred activities. However, a secondary aim – since academia does not exist in a social vacuum – is presumably to foster a wider recognition of the values of scholarship and to enlarge participation in the processes and fruits of research. Thus the ncse team has identified schoolchildren, undergraduates and family historians among their potential users. These audiences are not necessarily so rooted in print culture and will probably be less in love with printed texts and less skilled in using them. Also, their major experiences and expectations of digital media may centre on highly visual or interactive forms, such as videogames, MTV, or Flash animations on commercial websites, rather than academic, text-centred applications. Educational technologists have recognised this technological and cultural shift towards interactive multimedia and more intensely visual culture, indicated by the term 'edutainment.' Thus e-learning now often takes the form of animations and games.

Scholarly e-resources, such as the digital archive, generally haven't yet found a way to exploit these new forms of interactivity. Most obviously, this is because Flash, games and so on are relatively new and difficult to integrate successfully with the established needs and methods of scholarship. Any e-project is a complex, expensive undertaking, and scholarly projects are especially cautious. The hypermedia archive, exemplified by the Rossetti archive, is a hard-won model of Humanities scholarship for the digital age. Jay Bolter might describe this as a 'remediation of print' that is fundamentally respectful and conservative towards our scholarly heritage. It makes sense to direct our energies into rolling-out this model, which is relatively tried and tested, rather than playing a perpetual game of catch-up with the latest, potentially short-lived trend in digital media.

However, perhaps academics' caution can also be explained in terms of their rooting in print culture – arguably, their lesser familiarity with new media, their

territorial defensiveness, and their suspicion of new media as a form of dumbing-down.

What is potentially at stake here? As I've mentioned, this is first of all a question of how to engage a new generation of scholars and researchers, including current students who may have been marginalized by the educational system and who are not bookish in a traditional sense. (In the future, some of our best Humanities scholars may regard print as a minority means for studying print.) Secondly, how can we open up new critical and scholarly understandings of print culture through the process of attempting adaptations for new media? We learn a lot about our subject and our methods through the process of redesigning from page to screen, as anyone who has become involved in such work will testify.

None of this is clear-cut. It's possible that some aspects of new media, such as Flash games, simply won't turn out to be of any use, whether transitional or enduring, in the design of scholarly e-resources in the Humanities. Many new students in Humanities subjects actively dislike computers and use them as little as possible. Making our e-resources more edutaining is unlikely to turn these students on; you can't please all of the people all of the time. Arguably it is the role of teachers to interest students in e-resources, such as digital archives, and the role of educational technologists to design resources specifically to engage students with new media in the first place. Perhaps neither of these tasks is the concern of scholarly projects, such as ncse.

Limiting ncse's agenda is necessary to help it to fulfil its commitment to the research funding council – let other projects worry about broader questions, you might say. I argue that we have a responsibility to take this wider agenda into account, and that in the longer term there are advantages for us in doing so.

As my paper's title implies, I'm not keen on the term 'resource.' To me the dominant paradigm of digital resources implies the production of static, ready-to-hand tools for use by already skilled researchers (or independent learners). By ready-to-hand I'm thinking of Heidegger's critique of technology as *bestand*. This is the process whereby modern societies turn the natural world into standing stock, or assets, thereby displacing the authenticity and riskiness of Being with a totalising system of control and domination. Without going too far into the Heideggerian maze, we can ask whether 'the production of e-resources' is a sufficiently rich and open paradigm

for what Humanities scholars need to be and are actually doing with the new media. The resource paradigm encourages the idea that we're primarily serving up knowledge-commodities for established forms of academic consumption, rather than exploring new ways to think and communicate, creating new identities and social relations, venturing into the unknown.

### *The Complete Work of Charles Darwin Online*[1]

I picked this archive more at less at random to illustrate my point. This is an AHRC-funded project, edited by John van Wyhe and based at the Centre for Research in the Arts, Social Sciences and Humanities, University of Cambridge. The project's stated goal is to provide all of Darwin's writings free online. 'It will be the most complete, accessible and authoritative scholarly resource on Darwin ever created.' Its aim is to include all Darwin's published work and manuscripts (except the letters, which are already addressed by the Darwin Correspondence Project[2]) together with integrated, searchable catalogues of Darwin's writings and specimen collections, plus new editorial notes and key secondary works. The project will include digital facsimiles of original printed texts and manuscripts plus a gallery of sample specimens.

This seems an admirable scholarly project – a worthy aim undertaken by a well-qualified team. The so-called Creationist Science movement in the southern states of America has raised the stakes in the work of representing Darwin's ideas, and made it even more important to increase the availability and persuasiveness of his work (as well as that of other key figures in the development of evolutionary biology) to as wide an audience as possible.

Currently the project is at a pilot stage: *The Writings of Charles Darwin on the Web*[3]. This claims to be already the largest Darwin resource currently available online. As far as I can gather, its limitations relative to the *Complete Work* lie only in the range of texts it contains (second-best, non-standard and late editions) rather than in the ways the texts are presented to users. What most concerns me about this resource is that, apparently, there are no plans for the project to include more interactive content or hooks for learners. In particular I'm thinking about the visual content.

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[1] http://darwin-online.org.uk/
[2] http://www.lib.cam.ac.uk/Departments/Darwin/
[3] http://pages.britishlibrary.net/charles.darwin/

Scans of the illustrations to Darwin's books appear at the relevant point within particular texts, and thumbnails are also grouped by work under the 'Images' section linked on the homepage. If this presentation of visual content is merely a crude first provision, it's not clear what more sophisticated use of images is planned to follow. Perhaps there are no plans. In that case, it seems to me the editors are missing a trick. Why neglect an opportunity to engage with and persuade potential audiences through presenting Darwin's writings and ideas in a more dynamic, visual way? Of course what's most important in this project are Darwin's words, but we can assume that a proportion of the project's potential audience need to be coaxed into engaging with these words, for example through images, animations and interactivity. We know that different students have different styles of learning and visual aids are thus for many the primary means of connecting with new knowledge.

As a specific example, we can consider the diagram, from chapter four of *The Origin of Species*, designed to illustrate the process known as speciation[4]. Along the bottom of the diagram, A-L represent species of one genus in a particular location, such as an island. Any one of these gives rise to variations (shown as dotted lines rising vertically and diagonally) which develop over the course of thousands of generations (marked by solid horizontal lines). Some variations are dead-ends (extinctions) while others continue to develop over time. Depending on the extent of change, what emerges may be sub-species or altogether new species. Thus after ten thousand generations species A has become $a^{10}$, $f^{10}$ and $m^{10}$.

This is the only diagram in the book and is therefore crucial as an entry point for new readers. In the first edition this illustration was printed as a fold-out spread. At the time, illustrations were a key selling-point for popular natural-history books, so it was unusual to have a single illustration. Moreover it's a conceptual graphic rather a lavish plate showing a particular specimen. It replaces the previous 'stairway' model of evolution, in which humans are positioned at the top of the rising 'scale' of nature, with a family-tree model emphasising descent. All in all, this diagram visualises a pivotal change in the course of biology. Arguably it is the single most important item in the archive.

Doesn't its current obscure mode of display in the archive then actively misrepresent how this diagram originally functioned in the book? And of course

[4] http://pages.britishlibrary.net/charles.darwin2/diagram.jpg

within a digital resource it has the potential to be attention-grabbing and persuasive through using the interactive power of computer animations and multimedia … as in, for example, the Galapagos Finches animation in the American National Science Foundation's Visionlearning website[5]. This animation, which follows from a short pedagogical essay[6], is aimed at schoolchildren and typifies the current use of Flash in creating interactive e-learning resources. As the student hovers over various points on Darwin's diagram, it responds by showing examples of different-but-related finches to illustrate the process of speciation. The animation also includes a brief quiz.

The gap between these two resources is defined by the differences in their primary aims and audiences. What I'm suggesting is that the Darwin archive to some extent turns its back unnecessarily on some of its potential audience by sticking closely to scholarly models of the digital archive that are rooted in print culture. It expects its audience to come to it, pre-equipped with academic knowledge, skills and attitudes, rather than reaching out proactively to persuade and entice.

There'd be no point in the *Complete Work*'s simply mimicking the Visionlearning animation. Instead, it needs to find a way to bring forward, re-present, and exploit the diagram for its *own* purposes – as a means to engage new readers and in order to brand the archive as a distinctive site.

One corner of the banner at the top of the *Complete Work*'s homepage shows an ancestor of the family-tree diagram from Darwin's notebook, placed alongside the great man's signature in recognition of its iconic value. Why not use this doodle, or the diagram that developed from it, more proactively? This is the website's home page, after all. Like any other it needs to welcome new users, capture their attention, and lure them inside. This needn't be done in a way that is intrusive for researchers who want to go straight to searching the text sources. The site could serve this audience while also opening out the project to become more inclusive towards other potential audiences. Whether intentionally or not, the banner could be read as a tokenistic gesture towards visual culture, negated by other aspects of the title page's design. The various institutional logos and links and the long paragraphs of text, laid out in default font with no thought to line-length, arguably function tacitly as a semiotic fence to deter non-academic users. If the archive really wants to extend

[5] http://web.visionlearning.com/custom/biology/animations/darwin_finches_working.shtml
[6] http://www.visionlearning.com/library/module_viewer.php?mid=112&l=9

Darwin's appeal beyond researchers, then it needs to address potential users more convincingly in non-scholarly terms.

**E-resources for Henry James studies**

As a second illustration, I'll briefly discuss the development of e-resources for my own research specialism.

James studies *have* responded to the growth of digital culture and tools. Virtually all James's fictional writings are freely available online as e-texts – this is the main provision. Also there are links pages, a variety of online essays and personal pages, an electronic journal, a discussion list, et cetera – in other words much of the usual paraphernalia of academic activity in electronic form. The major scholarly effort in this field at present centres on James's copious letters. A catalogue and calendar of these is already available online, and the editors of the *Complete Letters* project plan to make their outputs available online, at least in part, as well as in multi-volume book form.

On the other hand, James attracts quite ardent bibliophiles. For many readers his work resists the pressures of modernity, including media culture and new technologies, and continues to be a site of such resistance today. Put crudely, conventional images of James are of a deeply humanistic, even spiritual Master of the novel form, whose work provides moral teaching and stylistic perfection. Against this image of James as an aloof aesthete, recent critics have pushed to reposition him as a cultural critic thoroughly engaged with modernity. He gets his hands dirty, as it were, especially in relation to gender and sexuality, but also topics such as race and nation, journalism and publicity culture, and to a lesser extent new communication technologies.

I see this reappraisal as an attempt to remodernise James's branding. On the whole I don't think it's worked, in so far as his novels are still found on the classics shelf in bookshops; film adaptations of his work are solidly middle-brow; teaching of James (in Britain at least) remains confined to a handful of his most populist texts; and none of his cultural-critical writings has achieved wider recognition. James hasn't shed his elitist image and reputation for difficulty.

All this makes James an interesting case for imagining potential e-resources for studying his figure and work.

When I began thinking about this a few years ago, my main practical focus, inspired by McGann's work on Rossetti, was the idea of the hypermedia archive. This would contain searchable plain-text and facsimile versions of his writings, chronological, bibliographic and biographical information, concept maps, editorial commentaries, selected secondary writings, and so on. Some elements of such an archive are beginning to emerge. For example, much of James's work first appeared within periodicals, and these are now becoming available online. I can now look up his stories at the *Atlantic Monthly* website, whereas I remember struggling to access these via the microfiche machines in Senate House Library (good for the soul, no doubt, but a real inconvenience for a part-time student).

I don't see James scholars leading this work of building on such resources and linking them up. Jamesians consistute a relativity small community, which necessarily prioritises how it expends its limited energies. Even so, I wonder whether what actually explains this lack of initiative is reluctance and antipathy towards digital tools and culture.

While I think it would be worthwhile to develop joined-up hypermedia archives of James-related material, my own interest has refocused on what I see as a more fundamental problem. How might we bridge some of the gap between James as a bastion, icon and rallying-point of high-cultural bibliophilia and an audience of potential readers who are not yet at home with the printed book, let alone the Victorian or modernist novel? How could we animate James's presence within a post-literate, digital culture?

Hence I'm currently working on the idea of an educational computer/video game based on 'The Turn of the Screw.' As James's most populist work, by which he is most commonly introduced to students in schools and universities, this famous ghost story seems an obvious choice for attempting to remodernise James's figure by means of the new media. It has been repeatedly adapted for stage and screen, and effectively I'm proposing another, more radical adaptation. I'd hope a game based on 'The Turn of the Screw' would both engage new readers (potential future scholars) and open up new understandings for Jamesians (for example into the mechanisms of the uncanny) through undertaking the difficult process of digital media design.

**Conclusions**

I realise there are limits to how far the ncse team can extend their agenda at this point in the project. As indicated by the popularity of faux-Victorian novels, steampunk science fiction and amateur genealogy, there is widespread interest in reinhabiting the nineteenth-century, not just in the mode of costume drama and nostalgia, but also as a site of emerging modern selves and futurity. In their time each of the six serials you've chosen were dynamic and innovative in addressing their audience. As well as explaining this, I wonder if ncse can demonstrate, simulate, or recreate this dynamism to some extent by using the capabilities of computer technology. For example, how might you selectively exploit the visual content of the archive so as to provide hooks for learners? How might a single issue of *Tomahawk*, say, make full use of the web if its editors and writers were alive today? As experts on these periodicals, you more than anyone know what makes them exciting, each in their own (not necessarily visual) way. How can you represent this excitement in a persuasive, enticing way to the schoolchildren, undergraduates and family historians you've identified as potential users of ncse? This work might benefit from the input of artists and enthusiasts, rather than scholars. Often innovations with the new media come from hackers, fans and consumers. One measure of success for the ncse project could even be how far it attracts the creative attentions of non-academics, taking your code and putting it to unexpected uses.

In more general terms, my concern is with the relationship between research, teaching and society. Alongside the urgent preservation function of digital archives and the opportunity to increase access to a geographically dispersed audience, we need to consider social redistribution. One form of the digital divide is located in the emerging digital academy: as institutions such as universities and libraries make use of the new media, will existing structures of domination, of power and exclusion, be reinscribed? To help prevent this, scholarly and research e-projects need to engage at some level with pedagogical and social justice agendas. This could happen at a policy level, via the funding councils, and through individual projects, such as ncse. I'm not sure these are issues we can assume will automatically resolve in time – say, as a new generation of computer-savvy academics takes up the burden of designing digital resources. Equally possible is that the dominant bibliophilia of Humanities disciplines will continue to filter membership of the academy so as to preserve a divide from

emerging technologies and their role in popular culture. Historically the Humanities have constituted a site of resistance to rampant technophilia and other aspects of modernity. This critical stance is important. However in practice it can sometimes take the form of a reluctance to ‘going digital’ that is based on fear and misunderstanding rather than reasoned argument or actual experience of the new media.