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**Editions and archives: textual editing and the Nineteenth-Century
Serials Edition (ncse)**

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Introduction: Editing Periodicals in the Digital Domain

Critical editions of periodicals are extremely rare in paper form: not only are runs often lengthy and so necessitate large, expensive editions, but their diverse contents, predominantly written with an eye to the passing moment and their position within the market, sit uneasily alongside the well-structured, single-authored works that are by convention deemed worthy of republication and preservation. One of the few to be published is the recent edition of *Blackwood's Magazine* published by Pickering and Chatto.ⁱ With 163 years worth of issues to choose from, the editors opted to make selections from the journal's first eight years of publication. This is the period in which the magazine lampooned the 'Cockney School' of poetry and, by dividing the contents into volumes dedicated to verse, prose, the 'Noctes Ambrosianae', and criticism, the editors stress Blackwood's role as a vehicle for literature in this early period.ⁱⁱ By including rare material such as the 'Chaldee Manuscript', excised from the second printing of the journal, the edition anthologizes the periodical to make persuasive arguments for *Blackwood's* as an active participant in early nineteenth-century literary culture.ⁱⁱⁱ

Periodicals, through their associations with the ephemeral print of journalism, are often considered vehicles for texts before their memorialization in more stable form elsewhere. Consequently, those editors today who publish digests of journalism, or who harvest the archive for the choice works of a single writer, are often following in the footsteps of those periodical authors who preceded them.^{iv} However, this preference for the more stable form of the book over that of the periodical risks severely misrepresenting the culture of the past. As recent work in nineteenth-century studies has revealed, not only was the periodical press the predominant source of print in the period, but studies of the press provide a much more nuanced understanding of the market for print and the diversity of writing that sustained it.^v Although the periodical press has been used as a source for background to the nineteenth century, it is increasingly evident that it was the medium through which the nineteenth-century made sense of both itself and the world.

The marginalization of the nineteenth-century periodical has been enforced by its inaccessibility. As multi-authored texts, often pitched at certain configurations of readers at certain moments, periodicals demand twenty-first century readers who are knowledgeable in a variety of disciplines and the minutiae of nineteenth-century life. Perhaps a more significant barrier, however, is the condition of the archive. The fragile and decomposing remains of the nineteenth-century periodical press are scattered across institutions around the world. Even those runs archived in leading libraries are marked by their conservation and use, whether this is through the choices made by the original archivists of what material to keep, or the state of the surviving pages after years of handling. Digitization directly addresses these difficulties. Not only is it possible to digitize large tracts of

material – reconstituting runs from disparate sources and making available durable copies – but the latitude permitted in the digital environment allows us to create alternative models of the critical edition that are not derived from our encounters with books. Indeed, there are already a wide variety of digital projects underway that attempt to address the limitations of scholarship derived solely from books.^{vi} While such activity underscores the necessity for models of editing capable of managing such disparate projects, it also reminds us that the current model – derived from the archetype of the book – is at best a limited, institutionally-ratified starting point, and at worst an unnecessary discursive constraint.

The intellectual interest and cultural importance of the nineteenth-century archive, coupled with its amenable copyright status and demonstrable commercial potential, has prompted a number of large-scale digitization projects focusing on periodicals.^{vii} These have largely been facilitated by the existence of large tracts of microfilm – a result of previous attempts to address preservation issues and distribute surviving runs of important titles – that can be digitized with a minimum of editorial intervention. However, most of these projects employ an unreflexive organizational structure that does not respond to the seriality of their contents. Rather than produce critical editions of nineteenth-century periodicals, these projects tend to provide archives of nineteenth-century content.

Although such projects are likely to transform the way in which scholars view the period simply by rendering their contents searchable, we suggest that there is another way to present this type of material. All acts of republishing involve some degree of editing. Whereas many archives present themselves as simply providing user-friendly access to types of content, they do so by eliding the labour necessary to create and order digital objects. In the case of periodicals, such

archival strategies are doubly inappropriate as much of their historical importance lies in their form. In this essay we outline the generic features of the periodical press and demonstrate their constitutive role in structuring content and conveying it to readers. Drawing on the *Nineteenth-Century Serials Edition* (ncse) as a case study, we argue that it is possible to design and implement digital tools that can translate the form of the genre into the digital domain.^{viii} ncse is a scholarly edition of six nineteenth-century periodicals: the *Monthly Repository* (1806-1838); *Northern Star* (1837-1852); *Leader* (1850-1860); *English Woman's Journal* (1858-1864); *Tomahawk* (1867-1870); and *Publishers' Circular* (1880-1890). While they are significant journals in their own right, together they demonstrate the remarkable diversity of the nineteenth-century periodical press. By publishing them as an edition, we explore this diversity through recognizing what it is that connects them. It is only by paying close attention to periodical form, we suggest, that we can prevent the marginalization of genre once again in the production and reproduction of content.

The Periodical as Genre

Periodicals are habitually considered as books that happen to have been published serially. The very practice of binding periodicals into volumes emulates this latent desire, embodied in the book, for permanence and coherence. However such an approach misrepresents the open-ended nature of periodical publication, and the relationship that a single number has to a specific moment. Serial novels have a coherence predicated by their genre and warranted by a single author. Whereas a serial novel has a definite end-point, even if unknown by the author at the time of writing, a periodical, on the whole, attempts to exist for as long as possible. This, of

course, can result in runs far longer than the average book and the sheer number of pages alone often prevents republication in paper. The contents of periodicals are necessarily contextual: different combinations of content are arranged in each number in order to appeal to certain configurations of readers at specific moments. In other words, the meaning of a particular article cannot be separated from either the other articles on the page and in the number, or the historical moment in which it was conceived and published.

Very few periodicals are authored by a single individual. Even the well-known quarterly reviews such as the *Edinburgh* and the *Quarterly Review* were recognized as having a team of contributors despite concealing their activities behind the editorial 'we'. Indeed, the editorial persona is often used as a substitute authorial figure, providing a focal point for the title as a whole. However, the assumption that the editor is the most important person risks relegating the input of individual authors, and elides the complex negotiations necessary to bring each number to publication. For instance, the editor is not necessarily the proprietor of a specific title, and what appears on the page is likely to be the result of collaboration between printers, artists, engravers, and authors. Depending on the editorial priorities of a specific project, it is feasible to use any of these people as an organizing principle through which to edit the periodical.

The existence of a title over time produces complex bibliographical histories. As proprietors sell titles and editors move on, fall out with contributors, or reconceive of their audience and the appearance and identity of the periodical, so the text accordingly changes. Figure one represents a period in the life of the *Monthly Repository* between 1805 and 1835. Over this period the journal was known by a range of names, and even produced a supplement that eventually became a title in its

own right. Indeed, it is difficult to define precisely what the *Monthly Repository* actually is. Although the title ‘Monthly Repository’ is first used when the *Unitarian Theological Magazine* was renamed the *Monthly Repository of Theology and General Literature*, the earlier journal still constitutes part of the history of the title. Equally, the various qualifications and subtitles that are added to ‘Monthly Repository’ over its run posit both a continuity (they are versions of the *Monthly Repository*) and a discontinuity (it is, for instance, the *Monthly Repository and Review* in 1828). The *Unitarian Chronicle* might appear to be a separate publication but it was initially published in February 1832 as the *Unitarian Chronicle and Companion to the Monthly Repository* and formatted so that readers could bind it up with the *Monthly Repository*.^{ix} By April 1833, however, it had become simply *Unitarian Chronicle* and officially divested itself of its ties to the older journal. The now independent *Unitarian Chronicle* continued on under this title until January 1834 when it became *Unitarian Magazine and Chronicle*, lasting a further two years until it was merged and became the *Christian Teacher and Chronicle* in January 1836. The *Unitarian Chronicle* is clearly part of the *Monthly Repository* until at least April 1833, when its ties were dissolved. However, according to its title, the post-April 1833 *Unitarian Chronicle* is part of the same publication as the pre-April 1833 *Unitarian Chronicle*: if one was to include the *Unitarian Chronicle* as part of an edition of the *Monthly Repository*, dividing it at April 1833 would involve separating two halves of a single title.

As the examples from the *Monthly Repository* and *Unitarian Chronicle* demonstrate, beginnings and endings in periodical culture are always provisional. Often new periodicals will appear under the title of periodicals thought extinct, positing a continuity with their predecessor even if they bear no other relationship

than their shared name. It is also common for periodicals to change their name in line with changes in personnel, ownership, or contents. This makes it difficult to identify when a journal becomes something else, and makes it impossible to consider any particular title completely ‘finished.’ Although it is easy to imagine periodicals being archived as rows of volumes, all with the same name, on library shelves, their shifting identities and unresolved endpoints require substantial decision-making before this order can be imposed.

Seriality seems to imply linear publishing models, but the actual state of the periodical press more closely resembles family trees, in which new branches (and indeed offspring – sometimes illegitimate) are constantly being discovered. Whereas it is difficult to build such an architecture for paper editions of periodicals, in digital form not only are such structures relatively easy to design and implement, but they can also be repurposed according to user needs. It is this flexibility that is important in conceiving of the periodical press. By contrast, the shape of the surviving archive is largely the result of interventions that did not consider the periodical as periodical. A well-known example of this is the lack of surviving advertising and supplementary materials. Although such components were integral features of the press – providing income streams, enticing subscribers, and differentiating titles from one another – traditionally they have not been considered worth preserving. A less familiar example is the lack of multiple editions of single numbers. Many periodicals – especially those weeklies that are closer to the model of the newspaper – published more than one edition on any particular date. For instance the *Leader* published an edition on the advertised date, a Saturday, for readers in the town, but preceded this with an edition published on a Friday for its country readers. As there were last-minute additions to the town edition, country

readers were in effect a week behind, even though their edition was published a day earlier. The *Northern Star*, a radical weekly connected with the Chartist movement, published editions according to current events. In the run held at the British Library there are usually three editions, but sometimes this increases to nine. It was officially published on a Saturday: however, in 1842 printing began on Wednesday and was completed on Thursday to make the first edition published on Friday; while printing began on Friday to make the second edition published on Saturday morning; and a third edition was published on Saturday afternoon. Rather than thinking of the *Northern Star* as a Saturday weekly, it is also possible to consider it a Wednesday, Thursday or Friday weekly, depending on which edition you are reading.

Unlike a paper edition, which forces numbers into linear groupings of sequential numbers, a digital edition offers the potential for a more dynamic organization of the material. For instance, it is possible to present all the various editions of a number, or let the user decide which edition (for instance all the town editions, or all the third editions) he or she wants to read. The periodical archive contains material that has been produced over a period of time, and then been subjected to the archival strategies of a particular institution. Runs of journals therefore both represent their precise moments of publication, while also bearing marks of their transformation into stable retrievable forms. These two transformations – publishing and preservation – produce sets of categories that correspond to specific moments in the bibliographical history of the journal. For instance, whereas some users might be interested in specific numbers of a title, others might want to read it according to a specific year; equally, some might be interested in certain articles or types of articles, and others might wish to read whole volumes. It is quite feasible to imagine user interfaces that delimit content

according to such criteria: however, without the structural relationships that underpin different levels of content, the history of the periodical itself is overlooked.

The location of an article within a number structures what it means. For instance, each number of the *Leader* is divided into two broad sections, the first dealing with contemporary events, and the second with the arts. There are some articles that could feasibly appear in either section, but the actual location might reveal whether it was the newsworthiness of the event or its contents that were deemed relevant by the editor. Similar inferences can be drawn from the location of numbers within bound volumes. For instance, many journals were bound in volumes that correspond to calendar years: the *Publishers Circular*, a fortnightly trade journal for the book trade, not only published a special Christmas number, full of illustrations from contemporary magazines, but its advertising columns trace the changes in the publishing market according to the season. Even the fact that a number belongs to a specific volume is important: the allocation of volume numbers to individual issues identifies them as part of a set, a relationship that is enacted materially if they are then bound together.

There are also generic and thematic relationships running across the archive. For instance, correspondence is a recurring feature across the press. In the *Nineteenth-Century Serials Edition* alone, printed correspondence is a feature of four of its six titles, and two of those include correspondence in a department called 'Open Council'. Different types of content appear in different types of journals – letters are rare in quarterlies or literary monthlies; reflective essays are rare in weeklies – and are often geared towards certain types of reader. While it is important to recognize the recurrence of such generic forms across titles, it is also possible to find types of content that fall outside of them. For instance, even though

correspondence columns are common, letters can also appear in other parts of a number: as part of a department of news, as part of a broader essay, or – in the case of the *Monthly Repository* – as the main form of contribution in all sections.

Although they are still letters, their significance is connected to where they function in the text.

The signals that indicate structure on the page are visual. Such features are often unique to specific titles, allowing them to compete in the crowded marketplace, but they also share certain generic features. Mastheads, for instance, combine text and images to provide a logo that both says what a journal is called, but often also indicates something about it. Figure two shows how the *Northern Star* substituted a relatively unadorned masthead in 1839 for a much more elaborate one with the words clustered around a symbolic printing press, radiating light into the world.

However, the identity of a periodical is bound up in much more than its masthead. Not only do the types of articles that appear determine its character, but so does the way in which they look, whether this is through the interposition of images, or the type in which they are set. The layout of articles on the page and the order in which they come are further ways in which a periodical posits an identity over numbers, despite necessarily changing its contents. Typographical marks, such as different text sizes or fonts, distinguish between the headings of departments and the articles they contain. Equally, the size of type and the width of columns bear important cultural meanings: not only are text-rich pages difficult to read, but in the nineteenth-century (as today) they signal a serious, often masculine, readership. Consequently, editors have to reconcile the practical demands of both contributors and readers with the wider semiotic codes of presentation associated with certain

types of periodical. Careful editorial attention must be paid to these non-textual marks: not only are they essential to the genre (demarcating levels of structure and, through components such as mastheads and date / volume information, allowing titles to appear as serials), but they also distinguish titles from one another while at the same time linking them with certain periodical sub-genres.

The formal features of the periodical press are not only essential components of its meaning, they also contain information that is not in its textual content. For instance, paper size bears important social connotations but decisions to change the size of a page are rarely discussed in print by the editors of journals.^x The *Northern Star* and the *Leader* were both weeklies, but the *Northern Star* was printed on eight large pages whereas the *Leader* had 24 smaller pages. The *Leader* was primarily aimed at a middle-class, metropolitan, intellectual elite, whereas the *Northern Star* imagined its readers as working class and mainly from the north of England. The *Northern Star* was explicitly a newspaper, numbering its pages one to eight in each number, and not including paratextual material such as indices and volume titlepages. The *Leader*, however, presented a more book-like form, and provided readers with the materials to bind numbers into volumes. However, despite its initial differences, the *Northern Star* was gradually modified over its run until it resembled the form of the *Leader* (figure three). By August 1852 both titles shared the same size, number of columns, and the practice of publishing a town and country edition each week. Readers were forewarned about this change by the editor and proprietor of the *Northern Star*, George Julian Harney, in the number for the 7 August 1852. He announced that the title would increase from eight to 16 pages, but maintained this would provide more columns despite a reduction in page size. He writes:

Among other advantages this change will admit of each department having its appropriate page or pages. And as it is designed to make the paper of more than passing interest, its more compact form will with many be an additional inducement to preserve each consecutive number for binding in half-yearly volumes.^{xi}

By promoting the journal's smaller size and recommending readers preserve the numbers as they are published, Harney severs the title's link with the ephemerality of the newspaper and aligns it with review-type periodicals such as the *Leader*. Although we have commentary from the *Northern Star* about its formal changes, their significance can only be drawn through comparison with other titles. In addition, not all periodicals print self-reflexive material – there is little, for instance, in the *Leader* – and so it is only through such comparisons that conclusions as to the cultural significance of form can be drawn. Representing the formal features of periodicals provides crucial evidence as to intended readerships, evidence that, in turn, reflexively guides us in interpreting the content they contain.

Although these important contextual features are often overlooked when reading the periodical press, whether in print or digital form, the prosopographical relationships that inform the personnel who produce the periodical have been given substantial attention. Established projects such as the well-known *Wellesley Index* and *Waterloo Directory* have produced major reference tools that list the people associated with the nineteenth-century periodical press.^{xii} This research has been supplemented by a growing secondary literature that considers how various figures from the period contributed to the press, and includes key reference works such as the *Dictionary of Nineteenth-Century Journalism*.^{xiii} The common practice of anonymity in the journalism of the period meant that it was possible to combine a number of roles simultaneously, often contributing to journals or editing them without the knowledge of either colleagues or peers. As a result, these relationships

were often predicated on personal grounds as much as professional ones and any attempt to trace the activities of those involved must take into account aspects of their lives beyond their careers in journalism.

Formal features, in particular, cause problems for reproduction as they tend to be the very things that differentiate periodicals from books. Although typography is important in both genres, the preference for abstract text over its actual appearance as print warrants e-texts such as Project Gutenberg that produce transcripts of books rather than facsimile pages. It is, of course, equally possible to abstract the text from periodicals. However, their multi-faceted pages are structured on the basis of the contextual links between components, and extracting individual articles or altering their appearance elides this fundamental principle underpinning content. Equally, the misattribution of the author as sole creative agent in the production of literature permits the elision of the other people who play a role in producing literary works. But it is difficult to reify the author in the multi-authored periodical press: rather, authors become contributors, part of a network of actors who work under the direction of an editor. Critical editions of periodicals that either imagine them as series of books or as repositories of single-authored articles impose order by transforming periodical content into something more book-like. However, freed from the practical constraints of paper, we argue that now is the time to start designing critical editions of periodicals that enact discursive structures that are derived from periodicals rather than other print genres. To do this, we must foreground form.

Conserving Periodical Form in the Digital Domain

Conservation is particularly pressing for the periodical press as the archive is rapidly deteriorating. The ephemerality of periodicals – both in terms of their original projected life and their actual material condition – means that digitization is allied to preservation for the periodical press in a way that it is not for, say, classic literary works. The difficulties of preserving such material in paper (there are many of them; they are often printed on poor-quality paper; they take up a great deal of space) requires preservation of not just what periodicals say, but also of what they look like. Unlike the previous move to shift paper archives into microfilm, digital preservation provides a versatile medium in which we can minimize the loss of information that results from such radical transformations of material form.

Recent digitizations of periodicals tend to adopt an archive model that attempts to retain formal features through the use of facsimile pages. Although this foregrounds the visual components of the page, such strategies are clearly limited if they do not incorporate the other relational structures into their edition architecture. For instance, the British Library's *Penny Illustrated Paper*, part of their Collect Britain suite of projects, provides easy access to the whole run of the journal from a single search screen (see figure four). By giving users a simple keyword search option, with date and article-type qualifying criteria, access to the newspaper resembles familiar interfaces such as Google. Search results are displayed in a list, with a small image taken from the page displaying the hit (see figure five). This avoids problems with displaying potentially inaccurate text generated by Optical Character Recognition (OCR), while also foregrounding the visual aspect of print. Clicking on a hit takes you directly to the full article, extracted from the page (see figure six). From this screen users can repurpose the image by saving it into their own collections or emailing it to themselves. There is also an option to view the

whole page that allows users to view the extract in the context of the articles that surround it. As the example below shows (figure seven), it also compensates for the occasional errors that can occur as a result of the segmentation process.

The British Library's *Penny Illustrated Paper* provides ready access to articles, but in doing so it privileges users who know what they are looking for. As the only way to access the newspaper is through a search term, it is almost impossible to browse the newspaper. Equally, the decision to take users straight to the article, rather than to the page the article is on, suggests that articles are self-contained units of information that exist free from their surroundings. This is further reiterated by the disparity between the page numbers attributed to each page in the system, and those numbers that can be seen printed on the pages of the hard copy. This imposes a new sequence onto the pages and makes browsing difficult between numbers. The project was funded as part of Collect Britain by the British Government's New Opportunities Fund, with the purpose of making some of the cultural resources of the British Library accessible to life-long learners.^{xiv} Even though the articles within the *Penny Illustrated Newspaper* can be searched separately, the user interface presents them as discrete objects so that they can be returned in global searches across the whole of Collect Britain. In light of its wider strategic aims, the British Library's *Penny Illustrated Newspaper* not only successfully provides users with easy access to the millions of articles within its 40,000 pages within two clicks of a mouse, but also presents these articles in a way that is interoperable with the other, diverse contents within Collect Britain. However, as we have argued, in the periodical the meaning of an article is lost when it is separated from its context, whether on the page or within the number, volume, or run of which it is a part. The attractive simplicity of the British Library's *Penny*

Illustrated Newspaper comes at the cost of representing the structural integrity of the genre.

The British Library's *Penny Illustrated Newspaper* is based within a long tradition of indexing periodicals for content retrieval. Well-known nineteenth-century paper indexes such *Palmer's Index to the Times Newspaper*, *Poole's Index to Periodical Literature*, and the various incarnations of W.T. Stead's *Index to the Periodical Literature of the World*, not to mention archives of scholarly journals such as JSTOR and Project Muse, all seek to organize the contents of periodicals according to the content of the articles within them.^{xv} However, there are alternative traditions of periodical indexing. Catalogues such as the *British Union Catalogue of Periodicals* list journals by title and the same is true of the nineteenth-century Press Directories such as *Mitchell's Newspaper Press Directory* or *Sell's Dictionary of the World's Press*, which often combine simple alphabetical lists of titles with divisions according to the genre of the periodical.^{xvi} The most recent attempt to list every nineteenth-century periodical by title is the *Waterloo Directory*. This ongoing project currently contains over 50,000 entries, arranged alphabetically in its paper incarnation. In its online version, however, access can be by journal title, or through fields such as 'Issuing Body', 'County / Country', or 'People'.^{xvii} The presence of these other traditions of indexing and archiving periodicals makes explicit the type of editorial decisions that are often elided when looking at finished archives and indexes. Whereas these decisions are embodied in the paper editions, the flexibility of the online version of the *Waterloo Directory* demonstrates that in the digital domain they can remain dynamic. Searchable databases, metadata schema (whether user-defined or contributed by editors), and well-structured Extensible Markup

Language (XML) with appropriate style sheets, all offer the potential to reorder large corpora on the fly.^{xviii}

The recent attention to print forms that have been marginalized in the past – whether as part of scholarly projects such as those encouraged by the *Wellesley Index* or those aimed at a broader audience such as the British Library’s Collect Britain – provides a timely reminder that the material culture of print is as worthy of editorial attention as the writing it contains. When considering the creation and publication of digital resources, which involve such extensive transformations of material form, such timely reminders become pressing. Form – whether conceived in terms of paper, typography, spatial layout, size, or genre – not only provides the mechanism for a text to travel through time, but it also records the interactions between a text and its historical contexts. Inseparable from content, form bears not only the marks of a text’s production – whether this is the contributions of those responsible, the materials in which it is constituted, or the way it imagines it will be used – but also the marks of its cultural life, from those designed by its producers, to those perhaps more accidental marks left by their readers.

Editing form, editing ncse

The very title of the *Nineteenth-Century Serials Edition* incorporates our awareness of the necessary editorial role in republishing periodicals: part of the project’s remit is to investigate strategies and tools for scholarly editions of periodicals. As such, the formal diversity of the six titles in the edition is as important as their individual historical significance. Indeed, their historical importance necessitates that we preserve the formal components that make up their respective identities and not simply treat them as repositories of articles. Although there is a bias towards

nineteenth-century reform journals, each is quite distinct: the *Monthly Repository* was an influential Unitarian monthly magazine that developed over its run into a pioneering literary and philosophical journal; the *Northern Star* was the weekly newspaper of the Chartist movement; the *Leader* was an intellectual weekly review of news, politics, and the arts that was edited by members of the mid-century intellectual *avant garde*; the *English Woman's Journal* was a pioneering feminist monthly; *Tomahawk* was a more progressive satirical alternative to illustrated journals such as *Punch*; and the *Publishers' Circular* was a long-running trade publication for the print trade.

As you can see from figure eight, this diversity is captured by the front pages of each title. Not only do they look different, but all contain different ratios of text and image, genres of content, and all are situated differently with regard to other print genres such as books and newspapers. However, these differences are located within certain identifiable generic categories. For instance, despite their variations, the mastheads are still identifiable as types of masthead. Although it is the diversity of such features that distinguishes one title from another, the differences are structured relationally and so it is incumbent upon editors to facilitate the necessary comparisons. This task is complicated as most formal clues to genre are visual or structural: whereas facsimile pages can display some presentational features, and OCR-generated text can provide a useful index to bring out connections between types of content, most formal aspects of the press require more intensive editorial scrutiny and intervention. Visual components, whether pictures or fancy typography, are rarely legible in OCR transcripts, and structural relationships remain invisible. Rather than simply apply digital tools to text and image, editing this material requires the application of tools to the periodical as an object – including all

its components in all their structural complexity – in order to bring out their constitutive relationships.

Olive software specializes in producing seamless digital editions of diverse content that can be accessed via web browsers. An important feature of this – effectively utilized in the *Penny Illustrated Newspaper* – is the division of page elements into segments, displayed in Hypertext Markup Language (HTML) but structured within XML repositories. By connecting text and image, and then structuring this relationship in larger hierarchies, it is possible to design projects using Olive applications that can implement abstract maps of periodical form. However, when we began to design ncse, we found that the form of the periodical did not neatly fit into Olive’s existing applications. We initially used two applications, Active Paper Archive and File Cabinet: Active Paper Archive is used primarily to digitize newspapers, and Olive have extensive experience in digitizing historical newspapers including the British Library’s *Penny Illustrated Newspaper*; File Cabinet is used to structure large libraries of material right down to the level of the page, and is well-suited for the publication of books.^{xix} Although periodicals are not strictly mixtures of books and newspapers, we found aspects of each of these existing applications essential to represent periodical form, and we are now working with a new Olive product, Viewpoint, that combines aspects of both.

We also found periodical form difficult to conceptualize theoretically. Our initial attempts to map all the generic aspects of the periodical produced a set of relationships so unwieldy as to challenge visual representation..^{xx} We tested parts of our schema with Olive and, after much work, achieved some positive results. Figure nine shows a screenshot from an early pilot that identifies, without human markup, four levels of hierarchy on the page. The first of these levels – which is itself

located in specific number, volume and title – is the department ‘Portfolio.’ Next is the first component within the department, a serial novel entitled ‘The Apprenticeship of Life.’ The subsequent level is a heading that states which instalment of the novel we are reading, ‘First Episode.’ Lastly, comes the chapter itself, ‘Chapter One. The Young Skeptic.’ This hierarchy is represented schematically in the Table of Components on the left of the image, and the lowest-order segment ‘First Episode’ is highlighted on the page on the right.

Working to develop a system that could identify formal categories and locate them in a hierarchy encouraged us to ask questions of the periodicals. For instance, although the hierarchy described above seems intuitive and is apparent to the eye, the level that denotes the instalment ‘First Episode’ largely repeats information contained in the title of the chapter itself, ‘Chapter One. The Young Skeptic.’ Such redundancies, and the problems with connecting generic categories that appear differently across titles (and indeed, moments within runs of single titles), encouraged us to develop a more stripped down structural model:

ncse > title > volume > number > department > item

The first four levels are represented in a folder tree. The highest is the edition of six titles (plus nineteenth-century supplementary material and our own discursive essays); next are the titles themselves; then the bound volume; and finally the individual number that might be one of a number of editions. The final two levels are located on the page and the departments displayed in a Table of Components similar to the one on the left in figure nine. The item remains the basic unit in ncse, but, as it also identifies components such as mastheads, handwriting, images and newspaper stamps, it is not synonymous with the article. Rather, the

item describes any component on the page, and we use metadata to ensure that non-textual items can be returned in searches. As we generate thematic and formal metadata for each item, so users can compare types of item from across the edition.

Conclusion

In editing nineteenth-century periodicals today, we, like our nineteenth-century predecessors, are simultaneously editors, publishers and hawkers. When considering the periodical as genre, figures such as the author do not offer a suitable organizing principle; rather, the complex relationships that underpin periodical publication force editors to attend to the object as a whole. Whereas authors are conventionally responsible for their words, editors – both of nineteenth-century periodicals and twenty-first century digital editions – must make those words into an object. This involves identifying content, organizing it, developing presentational tools, identifying users, and then making it available to them. As always, this must be achieved under the constraints of time and money. Editing is always located at this intersection between an existing object and a new object: negotiating the relationship between them is not simply about reproduction, but also about transformation. What is important is to remember that such transformations entail losses as well as gains, and a fundamental part of the editorial process is identifying where these losses occur. In the digital domain, the transformation between media means we not only edit the source material, but also the means of making it into something new.

- ⁱ *Blackwood's Magazine 1817-1825: Selections from Maga's Infancy*, ed. by Nicholas Mason and others, 6 vols (London: Pickering and Chatto 2006).
- ⁱⁱ The 'Cockney School' was a derisory term aimed at a group of poets and intellectuals who gathered in London in the early nineteenth century. For a recent overview see Jeffrey N. Cox, *Poetry and Politics in the Cockney School: Keats, Shelley, Hunt and their Circle* (Cambridge: Cambridge University Press, 1998).
- ⁱⁱⁱ For the 'Chaldee Manuscript' see Alan Lang Strout, 'James Hogg's "Chaldee Manuscript"', *PMLA*, 65 (1950), 695-718; Philip Flynn, 'Beginning *Blackwood's*: the Right Mix of Dulce and Utilité', *Victorian Periodicals Review*, 39 (2006), 136-157.
- ^{iv} For one of the few digests of nineteenth-century periodicals, see Andrew King and John Plunkett (eds), *Victorian Print Media: A Reader* (Oxford: Oxford University Press, 2005).
- ^v John North, the editor of the *Waterloo Directory of English Newspapers and Periodicals, 1800-1900* has estimated that there were up to 125,000 individual titles published in the period. The history of the periodical in the nineteenth century is well documented. John S. North, ed., *Waterloo Directory of English Newspapers and Periodicals: 1800-1900*, 2nd series (20 vols), ed. by John S. North (Waterloo, Ontario: North Waterloo Academic Press, 2003) and <www.victorianperiodicals.com>. For some of the key recent works on the nineteenth-century press, see Margaret Beetham, *A Magazine of Her Own? Domesticity and Desire in the Woman's Magazine, 1800-1914* (London: Routledge, 1996); Laurel Brake, *Subjugated Knowledges: Journalism, Gender and Literature 1837-1907* (New York: Macmillan, 1994), *Print in Transition, 1850-1910: Studies in Media and Book History* (London: Palgrave, 2001); Laurel Brake Aled Jones, and Lionel Madden (eds), *Investigating Victorian Journalism* (London: Macmillan, 1990); Joanne Shattock and Michael Wolff (eds), *The Victorian Periodical Press: Samplings and Soundings* (Leicester: Leicester University Press, 1982); Mark Turner, *Trollope and the Magazines: Gendered Issues in Mid-Victorian Britain* (Basingstoke: Macmillan, 2000).
- ^{vi} Jerome McGann, *Radiant Textuality: Literature after the World Wide Web* (New York: Palgrave, 2001), pp. 18-19. For some examples of projects that are resolutely un-booklike, see the Blake Archive <<http://www.blakearchive.org>>; Corpus Vitrearum Medii Aevi <<http://www.cvma.ac.uk/>>; the explorer at the Monticello site <<http://www.monticello.org/>>.
- ^{vii} See for instance Proquest's *C19: The Nineteenth-Century Index* <<http://c19index.chadwyck.co.uk/>>; Thomson Gale's *19th Century UK Periodicals Online*; and the British Library's *British Newspapers, 1800-1900*.
- ^{viii} The *Nineteenth-Century Serials Edition* (ncse) is an AHRC-funded research project based at Birkbeck College in collaboration with the British Library, the Centre for Computing in the Humanities, King's College, London, and Olive Software. See <www.ncse.kcl.ac.uk>
- ^{ix} Anonymous, 'Address', *Unitarian Chronicle and Companion to the Monthly Repository* (1832), p. 2, pp. 1-2.
- ^x For a recent exception to this, see the voluminous self-reflexive material that accompanied the *Guardian's* transformation into Berliner format in 2005. For instance, see Jane Martinson, 'Berliner Launch Hits Profits at Guardian', *Guardian*, 5 August 2005 <<http://business.guardian.co.uk/story/0,,1542977,00.html>>.
- ^{xi} [George Julian Harney], 'To the Readers and Friends of the "Star of Freedom"', *The Start of Freedom*, 1, 7 August 1852 (1852), p. 1. pp. 1
- ^{xii} North (ed), *Waterloo Directory; Wellesley Index to Victorian Periodicals, 1824-1900*, ed. Walter E. Houghton, 5 vols (Toronto: University of Toronto Press, 1966-79).
- ^{xiii} See for instance Turner, *Trollope and the Magazines*; Kate Jackson, *George Newnes and the New Journalism in Britain, 1880-1910* (Aldershot: Ashgate, 2001); Valerie Grey, *Charles Knight: Educator, Publisher, Writer* (Aldershot: Ashgate 2006); *Dictionary of Nineteenth-Century Journalism*, ed. Laurel Brake and Marysa Demoor (London and Ghent, forthcoming).
- ^{xiv} Neil Smith, 'Digitising Documents for Public Access', in *Digital Heritage: Applying Digital Imaging to Cultural Heritage*, ed. Lindsay MacDonald (Oxford: Elsevier Butterworth-Heinemann 2006), 3-31.
- ^{xv} *Palmer's Index to the Times Newspaper* (London: Samuel Palmer, 1790-1941); William Frederick Poole et al., *Poole's Index to Periodical Literature*, 7 vols (Boston: Osgood, 1882-1908); W.T. Stead and Eliza Hetherington, eds., *Index to the Periodical Literature of the World*, 11 vols (London: Review of Reviews 1891-1900).
- ^{xvi} Stewart, James D., et al., *British Union-Catalogue of Periodicals: a Record of the Periodicals of the World, from the Seventeenth Century to the Present Day, in British Libraries*, 5 vols plus supplements (London: Butterworths Scientific Publications 1955).

^{xvii} North, *Waterloo Directory*. The digital version is at < www.victorianperiodicals.com>.

^{xviii} Jerome McGann, 'The Rationale of Hypertext' at
<<http://www.iath.virginia.edu/public/jjm2f/rationale.html>>

Recent developments in social networking associated with web 2.0 applications have demonstrated that editors need not make such decisions at all. For a functional example of a user-defined archival model for nineteenth-century studies see NINES <www.nines.org>.

^{xix} For an overview of Olive applications see <http://www.olivesoftware.com/products/>

^{xx} See www.ncse.kcl.ac.uk/redist/pdf/data_map.pdf