Introduction

History in the digital age

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History, as a field of enquiry, is standing on the edge of a conceptual precipice. Since the popular advent of the World Wide Web in the mid-1990s, scholars have been drawing attention to the potentials and pitfalls of electronic resources in historical study. Seamus Ross has recognized that ‘the growing dependence of society upon digital information will change the fabric of source material available to historians’.¹ For Terry Kuny, ‘we are moving into an era where much of what we know today, much of what is coded and written electronically, will be lost forever. We are, to my mind, living in the midst of digital Dark Ages’.² William J. Turkel has argued that ‘the use of digital sources ... completely changes the landscape of information and transaction costs that historians have traditionally faced’.³ And yet others still have suggested that historians are facing a fundamental ‘paradigm shift’ in our understanding and practice of traditional history.⁴ This book argues that whilst the digital age is affecting all who practice and study history professionally, historians do not need to learn new technologies or computer codes; they do not need to become computer scientists. Indeed, I would argue that part of the problem thus far has been too much emphasis on historians becoming something they are not; to the detriment of the fundamental skills and expertise that is the craft of the historian. This misplaced emphasis has had the consequence that the majority of historians, whilst aware of some of the challenges the digital age is creating, are not actively engaging with these very fundamental issues. Instead the challenge of the digital age is ‘relegated to more marginal professional spaces - to casual lunchtime conversations or brief articles in association newsletters’ in the words of Roy Rosenzweig.⁵

For the most part this discourse has been disparate, and between information professionals, archivists or ‘digital historians’, those historians directly interested in technological innovation and practice in their scholarship, rather than the vast majority of traditional historians. Students studying history at university are now themselves digital born, and take for granted that resources and communication not only are, but should be, available online. There is, to a certain degree, a generational divide between students and teachers, although this is not as simplistic as it sounds since established scholars have a much deeper tradition of historical rigour from which to draw. We find ourselves then in an odd
paradox: for the most part, current historical scholars do not really engage with the conceptual impact of the digital age despite using digital resources in their work, and consequently current students of history are often not taught to think about these conceptual issues or to apply traditional historical methodologies to their everyday digital and online experiences.

This book attempts to fill the gap between those historians who are actively engaging with the issues of history in the digital age — or, digital historians — and the majority of traditional historians and students of history. It is an attempt to throw a conceptual spotlight on some of these issues which have remained for too long on the corner of mainstream historical discourse. Much of my own research and teaching has been on the origins of the information age and links between the nineteenth century and the modern information society. In the course of discussions with colleagues, students and interested amateurs alike, it became increasingly clear that there was a strong distinction between those historians who were professionally engaged in digital tools and technologies in their work, self-styled ‘digital historians’, and those who really did not consider the subject within their remit at all, despite regularly using email, distribution lists, digitized newspapers or images and many other online resources. It was also evident that students, particularly undergraduate students, do not think of Wikipedia or a source found on Google or via a database in the same way they think of a hard copy paper source. Digital material is not enough removed from their own everyday experiences to seem to warrant different consideration. More to the point, whether you are a historian of the late twenty-first century or of the Middle Ages, there is now source material available digitally but few history departments at universities are teaching information provenance in the digital age as part of historiography. Conversely, in my experience of also teaching and researching in information departments, information provenance forms a central role in any course. Historians themselves are not teaching digital provenance because they, too, tend to overlook it; living in the digital age means we take it for granted.

With these experiences in mind, it also became clear that there was no existing book, aimed at traditional historians, rather than digital historians per se, which tried to grapple with some of the more conceptual questions and issues that were impacting upon historical study caused by the digital age itself. This, then, is the concern of this volume, both in terms of reconsidering the way in which we use and apply original material that has been digitized, but also reconsidering the way in which future historians will have to engage with the contemporary historical record.

Ways of studying and researching history have changed exponentially in the last two decades but these changes need to be more fully considered and absorbed into the mainstream of historical discourse. The chapters in this book are grounded in the practice and experience of pedagogic practice and historical research of the authors since ‘it is through practice that history ... is constructed, mediated, communicated and responded to’. However, while there is discussion of technological developments and digital projects, the heart of each chapter, and the book as a whole, is rather more holistic. Much of what follows in this
collection is unchartered territory in mainstream historical discourse, although to a digital historian this may be familiar ground, albeit a good introduction for students. The chapters almost inevitably raise more questions than they answer but this is an essential starting point in order to reconsider our relationship with the historical record in the digital age.

Digital history

It is worth making a clear distinction at this point between digital history (or digital historians), and historians more generally in the digital age (the remit of this book). Most historians are not digital Luddites. Scholars now use at least some form of digital resources, from email and the internet to scholarly databases or discussion lists, alongside more traditional sources and methodologies. But for most historians, the challenges of the digital age are not ones that are seen to directly concern their research or teaching. Andersen’s suggestion that ‘learning to use a database, scan materials, and query that database all consume time that could be used to write’ is probably a reasonably accurate reflection of the way the majority of historians perceive digital scholarship. To some extent this is a rather naive and blinkered attitude. History in the Digital Age aims to engage traditional historians with some of the issues that are irrevocably changing the ways in which we do (and will) interact with the past. However, there is a school of historical thought which has embraced the digital age wholeheartedly and, whilst not the main audience of this book, must be acknowledged for their significant contribution to developing our understanding of history in the digital age.

What has come to be termed ‘digital history’ is a recognized sub-field of the discipline which has gained increasing validity over recent years. In an online ‘interchange’ discussion hosted by the Journal of American History, William G. Thomas III posed the following definition of digital history:

Digital history is an approach to examining and representing the past that works with the new communication technologies of the computer, the Internet network, and software systems. On one level, digital history is an open arena of scholarly production and communication, encompassing the development of new course materials and scholarly data collections. On another, it is a methodological approach framed by the hypertextual power of these technologies to make, define, query, and annotate associations in the human record of the past. To do digital history, then, is to create a framework, an ontology, through the technology for people to experience, read, and follow an argument about a historical problem.

In other words, digital history is directly engaged with the role new digital technologies can play in presenting and representing the past, both in terms of the utilization of such technologies in scholarship and teaching, but also in considering new methodologies resulting from them. Implicit in this definition is that digital history can frame new types of research question thanks to the
unprecedented connectivity and interactivity of the digital age. This is a stimulating prospect and one with which several of the chapters of this volume engage.

Dan Cohen has contended that ‘it is now quite clear that historians will have to grapple with abundance, not scarcity’ in terms of the digital historical record. There are indeed millions upon millions of digital pages available to view – digitized historical documents and images as well as newly created web pages and databases, not to mention personal emails, texts and digital photographs. Such saturation can have the effect of slowing down research, requiring time and energy to sift through the superficial to find something pertinent. In some ways one could argue that the historian has always had to sift through material to find the relevant sources but the explosion of digital, and public, publication has certainly exacerbated this issue. There is also no getting around the fact that much of this digital born material is lost, deleted or on outdated media before it is preserved for future use, and that even if it is currently used by historians or students of history, the same rigorous historical methodologies are not always applied to digital and online material as they are to more traditional analogue sources. There remains a degree of condescension and suspicion towards digital resources from many mainstream historians, which can be counterproductive.

Whilst digital history is an exciting and forward-thinking field of enquiry, its very concentration on technology and digital tools means that it can be alienating to more traditional historians. The vast majority of historians have not yet begun to confront such changes, nor, for the most part, have they begun to really engage with what the digital age might mean in terms of the future of the historical record. This book does not aim to pose itself as a digital history textbook, nor is it necessarily for self-proclaimed digital historians; it does not wish to preach to the converted. Rather it offers an accessible overview of some of the key issues for traditional historians, and for students of history, who engage with online and digital resources in their research and teaching but whose primary concern is not technological development in the field. Its focus is not technological but conceptual, whilst recognizing that digital history and history in the digital age are not mutually exclusive concepts.

There is of course an irony that any printed book or article discussing such dynamic concepts as this one runs the risk of dating before it even makes it to print. As many others have noted, the traditional forms of publication in history are not suited to the fast-changing discourses of the digital age – demonstrated by the fact that most pure digital history texts tend to be in the form of websites, blogs and online articles and journals rather than the traditional historical outlet of the monograph. This is particularly evident in the publications that first responded to the internet and the digital age back in the 1990s and early 2000s where the focus was largely on new forms of technology and how to apply it to historical research. These volumes suffered both from the technology they described becoming dated within just a few years and also, and significantly for the historian, an over-emphasis on technical description and explanation which alienated those without an understanding of computing, and used language that was lacklustre and dry to scholars more comfortable with prose.
I am not unaware therefore of the irony and potential pitfalls of a published hard copy book discussing history in the digital age. However, it has been a conscious choice to produce a hard copy book rather than online tools and there are three main reasons behind this choice. First, in terms of dynamic contemporary responses to the digital age, digital historians are doing it better and faster online. This book does not aim to compete with them in this respect. Second, this book’s audience is the more traditional historian or student of history who is less familiar with the key issues than the specialist digital historian. Traditional historians, by and large, remain more comfortable with the printed book. Third, the central remit of this book is not to describe new technologies or prescribe how to ‘do’ research online with new tools. Such approaches do date quickly. Its concern is to explore and introduce some of the more conceptual issues that are changing history as a discipline, both now, and for the historian of the future. Such conceptual issues date much less quickly than technological overviews, and since most traditional historians are not as familiar with them as digital historians, there is room for discussion and consideration. This book is, fundamentally, an introduction to the other much more dynamic and reactive debate that is out there, but produced in such a way that is accessible rather than alienating to the majority of historians and students of history.

History in the digital age

Since digital technologies abound, surrounding us in every aspect of life, it can be easy and obvious to focus on these new technologies themselves rather than the bigger questions they pose for historical thought. Much digital history discusses, quite rightly, the profound implications of preservation and access but there are also some fundamental issues which are often overlooked with regard to the interaction between historians and the historical record itself. As Rosenzweig has argued in a highly succinct and articulate summary of the issues, ‘the problems are much more than technical and involve difficult social, political, and organizational questions of authenticity, ownership, and responsibility’, but, as this book argues, they are also about interpretation, analysis and engagement – those fundamental tools of the historian.

New technologies have long suggested new and different ways of exploring the past. The print revolution of the nineteenth century saw newly affordable publications claiming they would preserve ‘the life of the times’ where its contents would serve the future scholar in order to ‘teach him the truth about those that have gone before him’. In the 1880s, the railways, telegraph and telephone had introduced such revolutionary changes to the speed in which communication took place that ‘relations of time and distance’ had been so affected as to predict ‘a degree of ambiguity which ... will lead to complications in social and commercial affairs, to errors in chronology ... and prove an increasing hindrance to human intercourse’. Even the Wellsian ‘World Brain’ of the 1930s suggested profound implications for the way people of the future might communicate and record knowledge for posterity. This collection of essays does not suggest a
Whiggish progression or uniqueness to the digital age. However, there are some unique challenges faced by historians of today and tomorrow. Historians ‘need to be thinking simultaneously about how to research, write, and teach in a world of unheard-of historical abundance and how to avoid a future of record scarcity’. Such a paradox creates conceptual challenges that were unthought-of only a few decades ago.

For clarity, let us list some of these challenges (and the following two lists are by no means exhaustive):

- The preservation of original hard copy material by digitizing it (scanning, microfilm, photograph, etc., and storing in a database or other digital format).
- The preservation of digital born material (capturing a webpage with all its hyperlinks and interactions, a text message, an email, a photograph, a word-processed document or database, the interactions on a social networking website).
- Issues of migration to new formats, including the rapid obsoletion of hardware and software.
- The costs of access and dissemination, and migration and preservation – can individual scholars afford to do this (can they afford not to?), should universities be paying for access, how much should be government funded? Are such projects sustainable long term?
- Stability of technologies (on a very basic level, it is all very well digitizing your notes or using an electronic referencing tool, but what use is it if it becomes outdated or obsolete within a few years?).
- How to preserve the original experience when a source is digitized or preserved in a different format? Does the historical interpretation change when the original is altered?
- The potential transience of the contemporary historical record.
- Public history and public involvement (will the future role of the professional historian be increasingly public as well as scholarly? Do wikis and blogs and YouTube forms of dissemination help or hinder historical understanding?).
- Divisions between archives and material in public repositories and those in privately funded hands with commercial interests.
- Issues of ownership and copyright (if something is available digitally, is it protected? Can it be copied and pasted? Is it still being referenced properly, and how can we accurately reference when digital links and hyperlinks regularly change or break?).
- Information provenance (where has this source originally come from? Why and when was it digitized? What was not digitized?, i.e. digital collections are not necessarily the complete collections).
- What constitutes an original document when digital material can be edited so easily and so invisibly?
- The intangibility of digital material (historians of the future will increasingly be unable to physically touch a handwritten diary or letter since many will
be preserved digitally or have been originally created in a word processor, email package or mobile phone application).

- Teaching history students about engaging with all of these digital experiences (this requires a degree of application from historians themselves to value teaching such issues and, in some cases, retraining an older generation of historians and educating them about the issues).

The first list is of more practical concern and whilst historians should be involved in such debates and decisions, the majority would probably not engage with such topics in their own research. The second list though is the one which has profound conceptual and methodological implications for every historian, and for the way in which we understand and study history. Arguably, 'professional historians need to shift at least some of their attention from the past to the present and future and reclaim the broad professional vision that was more prevalent a century ago'. This means engaging more directly with some of these issues, and ensuring that our students are doing so as well.

The changing historical record

Preservation of an item – whether digitally born or digitized hard copies – presents many challenges, but for the historian there is another issue to consider: preserving the original experience. In 1964, Marshall McLuhan argued that 'the medium is the message'. By this he suggested that the medium and the information content within it had a symbiotic relationship, that the medium influences how the message is perceived. The classic example used by McLuhan is that of a lightbulb – although a lightbulb does not have information content per se, it is a medium that manifests social affect by creating light where there was dark. For him, 'a light bulb creates an environment by its mere presence'. In terms of a television news report, it may be less about the content of the news story and more about what is deemed socially acceptable to broadcast into one's home. For the historian then, this can be taken one step further: the medium does not only change the message but it can also change the interpretation. In the digital age when information content and source material is regularly moved from one type of medium to another – paper to digitized form, upgraded from a cassette disk to a USB device, or even printed from screen to paper – historians must remember to note the original experience, the original medium, as much as note the actual content of the source itself.

Whilst searching for news articles on a particular subject in a digital database is undoubtedly quick and easy, it is completely removed from the original reader experience of physically holding and searching the original tangible object. As any historian knows, context is everything – where a particular article is situated on a page or within an issue gives us clues about the value and importance placed upon it by the editor, helps us understand how a contemporary reader would have first seen the item, and can give us intangible but very significant contextual information which may be lost in a digitized collection. Even
the scent of a letter can give us clues about the paper on which it was written. One such example from a Portuguese archive is worth noting. One historian using the archive ‘read barely a word, instead, he picked out bundles of letters and … ran each letter beneath his nose and took a deep breath …’. When asked what he was doing it was discovered that he was a medical historian documenting outbreaks of cholera:

When that disease occurred in a town in the eighteenth century, all letters from that town were disinfected with vinegar to prevent the disease from spreading. By sniffing the faint traces of vinegar that survived 250 years and noting the date and source of the letters, he was able to chart the progress of the cholera outbreak.19

Whilst the text of the letters could have been reproduced digitally, the scent of the paper would have been lost. Potentially such details could have been included as metadata, but that would necessitate an appreciation that it was important enough to note, and the research interests, needs and methods of the future are never predictable. As William J. Turkel has highlighted, technology is changing fast enough that it is now possible to capture original smells through chemical markers,20 but realistically not many historians would have the inclination or resources to use such technology.

Similar points may be made about the way in which digital born material may be used as part of the historical record in the future. A digitally created document may not be embedded with the scent of vinegar but each one will be time and date stamped allowing a new form of temporaneous comparison and analysis. Web pages might be preserved or emails saved or printed out for posterity, but as soon as the format is altered, the original experience is changed. Preserving a web page might allow a historian to see the content and imagery originally present, but would it also archive the pop-out ads or tailored links to the individual user which form such a large part of the digital ephemera? These may not be deemed worthwhile sources now, but they are part of social history in the twenty-first century.

In his essay on museums and public history Graham Black argued that

In selecting what to collect, they [museums] define what is or is not history. In preserving their collections in perpetuity, they act as a permanent memory store. In the way they display and interpret that material evidence, they construct and transmit meanings.21

Georg Hegel and Quatremere de Quincy, the first critics of museums, complained during the early years of the nineteenth century that the museum would end up destroying history rather than preserving it because it would take objects out of their historical context.22 Similar fears have been voiced over digital collections:

Unlike conservation practices where an item can often be treated, stored and essentially forgotten for some period of time, digital objects will require
frequent refreshing and recopying to new storage media. Keeping the ‘original’ digital artifact [sic] is not important. Further, refreshing or ‘copying’ of digital information will not be confined to merely moving from one storage medium to another but will also entail translation into new formats or structures.23

The very act of choosing material to include is a subjective and selective act. Likewise, in digital terms, ‘scholars who structure historical documents with markup languages such as XML make choices – often quite good choices, but choices none the less – about which elements of a document are most important. But future readers of those documents may have other interests or concerns, or may have other ways of scanning them’.24 This applies equally to any archive of hard copy documents which has to be periodically ‘weeded’ for its perceived value to researchers or society, most usually due to restrictions of physical space or resources. The same issue is evident in the selection of what contemporary digital born material to preserve. It is not possible to preserve every single photograph or newspaper in printed form has been preserved (as historians know only too well); there will inevitably be gaps in the historical record. The question is how much digital born material we should be making a conscious effort to preserve and who is the arbiter of such decisions. The potential black hole of source material for the future historian is every bit as compelling as the traditional discourses of the lost voices in history – the illiterate, women, the poor or other minority groups. As Rosenzweig, among others, has shown:

the absolute nature of digital corrosion is sobering. Print books and records decline slowly and unevenly – faded ink or a broken-off corner of a page. But digital records fail completely – a single damaged bit can render an entire document unreadable. Here is the key difference from the paper era: we need to take action now because digital items very quickly become unreadable, or recoverable only at great expense.25

Traditionally, preservation of records has been the remit of archivists or curators rather than historians. Thus far, information professionals, librarians and archivists, rather than historians, have had more sustained engagement with the issue of preservation of the historic record in an age of transience,26 but the digital age is altering the way in which we interact with the historical record. At the very least, historians need to be thinking about their methodologies, and those that they are teaching their students, to ensure they remain valid. Alexander Maxwell makes the very valid argument that historians, more than any other field of scholars, use highly eclectic source material, where ‘anything can be a source of historical insight: even old phone books have their uses’.27 Maxwell’s article, while focusing on the practical requirements of digital material, also forcefully demonstrates the attitude of historians that the original printed material is paramount. This is undoubtedly true when you are studying something from decades or centuries
ago, but becomes a blurrier issue altogether when you start to think about preserving the current historical record.

Preserving the current historical record has its own complications. Traditionally historical collections have been largely the preserve of public or state institutions—libraries, museums and archives. Indeed, most traditional funding for such institutions has come directly from the state or public donation. The digital age is changing this balance. Resources such as The Internet Archive, a semi-private organization that began archiving the web in 1996, are very valuable entities, but are considerably fragile and dependent upon one or two individuals for content and funding. The Internet Archive also has a commercial side since the actual technical ‘crawling’ of the web is done by the company Alexa Internet and used to monitor patterns of behaviour online. Alexa Internet was bought by Amazon in 1999 for $300 million, a sum of money of which most national libraries can only dream of attracting. It also does not get around the issue of preserving the originality of experience, although this may be almost impossible to do for the internet since preserving one page requires every page connected to it by hyperlinks to be preserved also, potentially _ad infinitum_. While the internet might be free to search (once you have internet access), private companies are fast realizing that there is money to be made in online collections. Traditional scholarly journals now have to offer online archives of articles as well as (or in some cases, instead of) print copy. Scholars and students expect online access to at the very least the catalogues of large collections. Digitization and preservation is not a cheap business to be in, so some private investment will be increasingly necessary, but this creates other questions for the historian.

Most significantly, it begs the question again of who is responsible for preserving the historical record in the digital age. Should it be the remit of private organizations? Do organizations, public and private, have their own agendas in terms of what they choose to preserve? Indeed, such questions are not new ones—what has been preserved as part of the historical record has always been the consequence of what was deemed fashionable, influential or political of the day. However, are traditional historians applying such basic historical methodology to digital resources or practice? Are we teaching it in our schools and universities? There seems to be a sense of pervading blinkeredness; because digital experiences and sources abound in our everyday lives, they are not deemed to require such fundamental historical questioning. In 2009 I gave a paper at a JISC (Joint Information Systems Committee) sponsored conference panel in Ireland in which I explored the mutability of the past and present in the digital age. My two panel members gave fascinating accounts of their usage of digital newspaper databases in order to facilitate their research but both admitted that it had never occurred to them that they were searching for articles out of context and that they had not considered the role of original experience in the way in which they were using the results. Undoubtedly, they had been able to use the databases to facilitate their research in new ways, but they had forgotten to apply basic historical methodology whilst doing so. I would venture that there are traditional historians guilty of doing the same thing when using digital resources, and that students of history
are particularly guilty of doing so, in part, no doubt, because digital information provenance does not tend to feature in historiography discussions.

There are two issues here then. One is of current scholars using digitization to explore, access, preserve and disseminate materials where the original may be decades or centuries old. The other is the question of historians of the future who wish to study the period from the mid-1990s onwards where much ‘original’ material was digital born. The potential transience of digital born resources is a pertinent one for the historian. The delete key has a dangerous potency when it comes to historical evidence. This is true not just of web pages and URLs (Uniform Resource Locators) but also emails, text messages, voicemails – all types of evidence which for previous generations would have been committed to paper, possibly in multiple hard copies. The ‘fragility of evidence in the digital era’ is significant. At the same time, historians of the future may suffer from there being too much material of which to make sense. The Clinton Administration produced close to 40 million emails during their eight years in office (1993–2001), a figure which no single historian would ever be able to access and consider in their lifetime. Turning it on its head, one does not really know how many of those automatically archived email messages are directly related to presidential business and how many were discussing office gossip or arranging personal social affairs. Of course, to the historian, the latter can be just as valuable when considering social history of the period, where ‘anything can be a source of historical insight’. And arguably of course, the historian has always grappled with the reality that they may never be able to examine every single relevant source for their topic; the digital age has just introduced this on a whole new scale. Even if one subscribes to this latter thought, it still has profound implications for the ways in which historians of the future will be able to conduct their research and what questions they choose to ask of the historical record.

The Arts and Humanities Data Service (AHDS) in the UK had the aim, in part at least, of preserving the original technology (rather than the information content, per se) in order that the original experience can be maintained when software and hardware became obsolete. As well as just migrating information content from floppy disk, to CD, to USB, to whatever comes next, the original experience is as preserved as possible by being able to view material on the original hardware. This is a good aim in theory but since all hardware breaks or wears down eventually, making it increasingly difficult to fix or replace, this strategy is what Rosenzweig has termed ‘backward-looking’. In addition, as digital technologies become more advanced, preserving the original experience becomes increasingly difficult since the content and the hardware become increasingly removed from one another: you can now check your email or browse the web on any computer screen in the world that has an internet connection as well as on your mobile phone handset. Viewing on a small touch screen is a different, more intimate experience than viewing on a computer screen at a desk. We cannot possibly preserve all original experience but we should, as historians, be aware of the implications such differences make. A response to an email via your mobile phone while you are out shopping will most likely be shorter and less considered than a response to the
same email made at your desk from the leisure of your own home. As historians we are taught from first principles to ask the basic questions 'who, what, when, where and why?' of any source, but are we really applying the same rigour to digital sources that form part of our everyday experiences? More to the point, are we teaching such things to students of history who will be the historians of the future? In my experience the answer to both seems to be largely 'no'.

Despite efforts by The Internet Archive and other national institutions to build up a picture of web content, some websites, famous on their inception, but now defunct, have been permanently lost. Although most historians would not use the content of Wikipedia for research purposes, it is one of the few websites which maintains a complete log of all changes and edits. However, this is not the same as seeing the older page in its original form. The architecture of the internet means that 'at any moment in time you can only get to the current representation of a resource ... The old representations – the one from yesterday, the day before, from a year ago – they are gone forever.' This means that historians of the future wanting to utilize digital born content will have to develop new research and provenance skills.

Historians of the future may also find themselves in a challenging position over their very role. The digital age has allowed the interested amateur or independent scholar to express themselves alongside professional historians through the mediums of personal websites or, increasingly, blogs. This can be hugely democratizing in terms of putting people (and their knowledge and resources) in touch with one another but also needs to be treated with some caution. One does not know for sure the authority or provenance of something found on the internet and blogs should be investigated the same way as any other source. Recognition from academic institutions certainly helps to sort the wheat from the chaff. The Cliopatria Awards, for example, based at the History News Network at George Mason University in America, have been running since 2005 and recognize the best history blogs. Wikipedia, although generally not recognized as a scholarly work, is a good example of the democratization of history created by the digital age. In the words of Roswenzweig, 'a historical work without owners and with multiple, anonymous authors is thus almost unimaginable in our professional culture', and yet, he concludes, the types of buried historical metadata on such open source websites as Wikipedia offer significant and insightful contextual details that affect interpretation. For example, the 'History' page on each Wikipedia entry records the IP addresses of anyone who made an edit on that entry, when they did it and exactly what they did there. Such details provide clues as to how popular a particular topic is over another one, whether it is largely the work of a small few or many hundreds, how topical it is, the quality of the entry, and so forth. It is the digital equivalent of marginalia. Even more significantly, Roswenzweig argues, historians should take note of websites such as Wikipedia, blogs and suchlike, because our students do. We must give consideration to sources used by the next generation of historians, discuss the advantages and limitations of all sources, and essentially not forget to teach basic historical methodology and critical analysis in digital research.
At the George Mason University in Virginia, USA, a pioneer in digital history, there have been some innovative examples of how to teach students about the provenance of the digital materials they use everyday, whilst also getting them to think about traditional historical methodologies. In 2008, a course entitled ‘Lying About History’ set up a hoax Wikipedia entry for a turn-of-the-century pirate, Edward Owens. In addition, YouTube clips, blogs and genuine historiographical research into the period and context added authenticity to the Owens character.37 Arguably, the project also demonstrated the potential ease with which people could debunk inaccuracy in the digital era (as T. Mills Kelly, the historian behind the idea, suggested, it was much harder for anyone to check the validity of the Victorian Fiji Mermaid).38 Yet, I have certainly had experiences with students in my classes who assume Wikipedia is absolute truth (or simply do not check), or that an image they have found via Google is authentic and unedited. What was most interesting were the issues the hoax seemed to raise about historical ethics. One commentator argued that in deliberately planting a hoax in Wikipedia, the historian in question had also deliberately introduced a credibility question mark over Wikipedia as a whole: if one article is fake then how many others may be fake?39

Text is not the only thing that can be manipulated or faked – images can also be misused or altered, something long recognized by scholars.40 When the periodical press first began introducing illustrations and engravings during the mid-nineteenth century in Britain, many of the images were drawn by artists who were not even present at the events on which they were supposedly reporting first hand.41 Even the co-creator of the Illustrated London News (ILN), Henry Vizetelly, acknowledged the misleading nature of published images, observing that as far as the ILN went, there was ‘not even a single authentic engraving in the opening number derived from an authentic source!’42 Roger Fenton’s powerful photographs of the Crimean War are still debated as to whether or not they were deliberately staged for dramatic effect.43 The Cottingley Fairy Photographs from 1917 were convincing enough to fool Arthur Conan Doyle as well as stimulate great public debate about their authenticity.44 In one undergraduate seminar class I ran on Fascism, I asked students to watch several propaganda clips supposedly from the 1940s that were freely available via YouTube and then to discuss them in class. I deliberately gave the students no other information about them. One of these clips was of an animated black and white Winnie-the-Pooh cartoon which had been dubbed with rousing German music and German subtitles redolent of Nazi propaganda. Not one student queried whether it might have been a fake; it was assumed that the Nazis had chosen an English cartoon (produced by an American company) deliberately for maximum effect. It was only after some directed class discussion that the issue of authenticity, provenance and basic chronology arose, as well as querying who might have uploaded it in the first place and why.45 The seminar was vital in trying to challenge some of the predisposed assumptions that if it is online, it is true.

Historical controversies like those above, or such as the Hitler Diaries or Holocaust deniers, should be a staple part of any history course on historiography and methodology. Hoaxes and frauds in historical study are not new to the
digital age, but the very ubiquity of online information and communication can mean that students, but also some academics, sometimes do not see the woods for the trees. These are exactly the sorts of questions, debates and discourses that we should be having in the digital age - not just with ourselves as professional scholars, but with our students as well.

**Contributing chapters**

Whilst each chapter can be read in isolation, holistically they offer a thought-provoking collection. As a discipline, History is constantly renewing itself and re-exploring the dynamic relationship between the past, the present and the future. Historians perhaps need to reconsider some of the things we have previously taken for granted. This collection encourages both the established and the emerging scholar, as well as the student of history in the digital age, to really question how the field of history is changing all around us and what the impact of this might be for the discipline. It includes international contributors from a variety of disciplines - History, English, Information and Archival Studies - and many of the chapters allow for a cross-national perspective (with focus on UK, American and Canadian practice) as well as a cross-disciplinary one to ensure that the discussion is as inclusive as possible. The digital age is one which requires a multi-disciplined approach. The book does not seek to either applaud or condemn digital technologies, but rather to take a more holistic view of how the field of history is changing in the digital age. Nor does it attempt to make distinctions between different types of electronic records or artefacts. Such ‘semantic debates’ are, as Kuny has argued, ‘of questionable utility’ in an age when ‘digital’ is so ubiquitous.46

This introduction has offered an overview of the changes and challenges the field is facing, exploring some of the literature and situating the chapters that follow. The book is divided into four interconnecting sections, each of which focuses on a particular aspect of history in the digital age: re-conceptualizing history, studying history, teaching history and the future of history in the digital age. Each chapter offers its own references and notes for further reading.

In the first section, *Re-conceptualizing history in the digital age*, the three chapters explore how the practice of history itself is changing thanks to the impact of digitization and digital technologies. David J. Bodenhamer (1) argues that the spatial humanities, specifically spatial history, are allowing new and innovative scholarship in the field to raise new questions about how space has influenced human behaviour and social, economic, political, and cultural development. This is followed by Luke Tredinnick’s (2) chapter on remediating historicized experience. He suggests that one consequence of our everyday use of media digital technologies is the tendency for history to become a cultural artefact that is self-consciously manufactured through individual and collective participation. In so doing, they have collapsed the distinction between the present and the truly historical. This has, argues Tredinnick, profound consequences not only for how we think about the nature of history, but also for the ethical contexts within
which historians and history pedagogues work. The third chapter in this section by William J. Turkel, Kevin Kee and Spencer Roberts (3), explores the ways in which historians, and students of history, need to reconsider traditional research methods whilst also making the vital point that the digital age is an age in flux. They make an argument which is fundamental to the purpose of this book as a whole; the onus should not be on prescribing which technologies or databases to use, but rather that scholars themselves should become ‘more mindful about their method ... not as something that one acquires once and forgets about, but rather as something that one practices every day, making continuous small improvements over the course of a lifetime’.

The second section, *Studying history in the digital age*, develops some of these themes by considering history in practice. These chapters are not focused on digital technology *per se*, but rather use the authors’ experience of digital technologies in order to pose important questions about how such resources can challenge our understanding of source material, historical practice and methodology. Jim Mussell (4) engages with the poignant thought that we are now so used to engaging with digital versions of printed objects, we no longer reflect seriously on the transformations necessary to get them from the archive to the monitor. He also notes, as do many of the contributors to this book, that material in digital form is not constant; it can be altered, amended, compressed and republished in ways that traditional sources cannot be, and most significantly, this can be done behind the scenes without a user necessarily registering that changes have taken place. Rosalind Crone and Katie Halsey (5) continue this argument in their exploration of the history of reading. Using the *Reading Experience Database*, or RED, as an example, they demonstrate the behind-the-scenes issues involved in creating a historical database – how source material is collected, edited and its provenance assured. Their argument shows that not only is serious historical consideration with the material vital, but new methodological questions and practices are created in the process. Historians are able to engage with traditional source material in totally new ways and, in so doing, create entirely new possibilities – and problems. They also ask the question of to what extent the actual process of online cataloguing and searching might inhibit initiative in historical scholarship and remove the serendipitous elements of research. In the final chapter in this section, Brian Maidment (6) takes a look at a less discussed aspect of digitization in history – that of the digital image. Scholarly digital repositories alongside the publicly accessible internet offer a vast opportunity for scholars to engage with visual material. However, as Maidment argues, the temptation to use images drawn from the web to ‘illustrate’ or confirm arguments derived from manuscript, printed or even oral sources without any consideration of the complex discourses through which prints are constructed, disseminated, ‘read’ and assimilated into cultural meaning remains omnipresent. The ‘mis’-interpretation of images by print historians is a long-standing issue within historical discourse, but it takes on another dimension in the digital world. The appearance of a mass of graphic images in digital form adds yet other layers of mediation to an already highly mediated form of historical evidence.
The third section of the book focuses on *Teaching history in the digital age*, and offers chapters by first an experienced scholar and then, in contrast, a historian who is herself part of the ‘digital born’ generation. These two perspectives are interesting and important. Mark Sandle’s (7) chapter discusses the extent to which digital technologies are fundamentally reconceptualizing the way history is encountered by students, of how technology mediates the past and of the benefits and pitfalls there are for lecturers in deploying these new approaches. Charlotte Lydia Riley (8) then explores this from the perspective of the student and the early career academics who have little or no experience of a world without digital technologies which offers some interesting comparisons to the preceding chapters.

The final section focuses on *The future of history* with regard to the impact of digital technologies and the increasing awareness of new conceptual and methodological questions within the historical community. David Thomas and Valerie Johnson (9) use their experience in the National Archives in London to suggest how the process of preserving the past and the ways in which historians interact with the past are presenting vital challenges not only to the field but also to the ways in which historians will ultimately be able to study the past. Digitization offers great opportunities in terms of preservation of traditional printed documents but there are entirely different questions to be asked about contemporary sources which are originally created in digital formats and which are vulnerable to deletion and permanent loss.

Finally, my conclusion (10) takes a holistic look back over the book and attempts to draw together some of the key themes which have emerged from the chapters. Although the contributors’ disciplines, geographic locations and academic focus are different, there remains some significant parity between their arguments which offer some powerful ideas. No one can predict the future of historical research or the future of technological development, nor does this book attempt to do so. Instead, as noted in this introduction, it suggests that historians need to start thinking a little more conceptually and holistically about their own individual practice of research, teaching and methodology, and recognize that the field is, and continues to, change. We need to see past the everyday use of email, internet, Google, and the like and focus on what such interaction actually means for history. How we think of the past is changing. How we preserve historical documents is changing. How historical documents are created is changing. How students of history learn, research and think is becoming totally different to that of even one generation ago. This does not mean at all that traditional historical skills, resources or methodologies become any less important, but change should be recognized. This significance is easily overlooked or played down because such changes are so ubiquitous, so obvious almost, that they become invisible.

Historians must engage more fully with the conceptual questions and issues raised in this book if we are to fully acknowledge the changes, challenges and opportunities to the historical field in the digital age. It is not just about the practicalities of how, when and where material is to be stored, disseminated or
preserved, or the technicalities of computer code or web browsers; there are also some quite fundamental questions about our conceptual relationship with the past in the twenty-first century, which apply to every historian and every student of history, no matter what their research interest or historical period of enquiry. This book hopes to offer some pause for thought for those students and scholars who do not consider themselves to be digital historians. As one historian has argued, ‘the most important – yet difficult – skill is simply thinking: thinking in bold and creative ways’. The past may be an undiscovered country, but the digital age demands its own bold historical exploration.

Notes

This chapter benefited greatly from the thoughts and comments of colleagues. To that end I would especially like to thank Chris Eldridge and Helen Yallop for their generous and insightful remarks.

This book cites more websites and online resources than your average history book. This is partly because much of what is being written and discussed on the subject is being done so in new digital formats, online articles, blogs and websites, rather than through traditional articles in journals or books which are much slower to publish. Much of the relevant literature is only available online. Of course, as this volume recognizes, URLs (Universal Resource Locators) may change over time and can be broken. The authors have tried therefore to ground their references as much as possible with full bibliographic information for any digitally referenced sources.

5 Rosenzweig, ‘Scarcity or abundance?’.
10 See, for example, the Roy Rosenzweig Center for History and New Media hosted at the George Mason University in Virginia, http://chnm.gmu.edu/essays-on-history-new-media/essays/ [accessed: 25 March 2012]. This is an excellent resource for contemporary online articles on digital history. Also the History News Network which lists historical blogs considered to be of particular note, http://hnn.us/blogs/entries/9665.html [accessed: 25 March 2012].
11 Rosenzweig, ‘Scarcity or abundance?’.
15 Rosenzweig, ‘Scarcity or abundance?’.
16 Rosenzweig, ‘Scarcity or abundance?’.
18 McLuhan, Understanding Media, p. 8.
23 Kuny, ‘A digital dark age?’.
25 Rosenzweig, ‘Scarcity or abundance?’.
26 E. Hampshire and V. Johnson, ‘The digital world and the future of historical research’, Twentieth Century British History, 20: 3 (2009), 396–414; Rosenzweig, ‘Scarcity or abundance?’.
29 Rosenzweig, ‘Scarcity or abundance?’.
30 To give a sense of how quickly digital sources are growing, Pingdom estimated that there were nearly 40 million tweets a day in January 2010, http://www.pingdom.com [accessed: 25 March 2012].
32 Rosenzweig, ‘Scarcity or abundance?’.
34 Edwards, ‘File not found’.
45 The clip can be viewed on YouTube at http://www.youtube.com/watch?v=fwYyFzhVtzE&NR=1&skipcontrinter=1 [accessed: 25 March 2012]. The clip was claimed to be a Nazi propaganda film from 1943. In fact, the first Winnie-the-Pooh animation was not made until the 1960s and was in colour, unlike the black and white of this clip.
46 Kuny, ‘A digital dark age?’.