The humanities unbound
Knowledge and culture reinvented outside the book
Les humanités délivrées. Savoir et culture réinventés hors du livre
Las humanidades liberadas. Conocimiento y cultura reinventados por fuera del libro

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Introduction

1. The humanities are often regarded as erudite or scholarly traditions, linked to writings, books and their institutions (universities, libraries, archives, churches, etc.). In the West, oral and visual cultures have been overshadowed by the mass schooling systems introduced in the 19th century and which lead to the domination of printed material. However, with the increasing use of digital information and communication technologies, these cultures and their associated sciences seem to be undergoing a series of overhauls; they are being reinvented outside the book and outside the institutions that used to exercise a certain control over them. This has transformed the scientific and editorial practices of the human sciences (e.g. the creation of databases and their algorithmic processing, the computerised encoding of texts and their equipping with tags, and the online publication of archive documents and analytical annotations), but it has also led to the dissemination of their corpus and to its use by unexpected actors. Consequently, the humanities appear to be escaping the institutions traditionally linked to the book (i.e. universities and libraries). They are being used and reconfigured by a multitude of improbable actors, including multinational corporations, especially Google, social or grassroots movements, learned lay persons, and sometimes ephemeral clusters of web users.

2. The purpose of this collection is to try to understand what is happening to cultures whose western modernity had channelled the main form of expression through writing and books. This theme ties in with more general questions about the relationship
between content and its material and institutional media. Our aim is moreover to explore not only what is happening to the humanities with digitisation but also to focus on the book and on the time before the book existed, especially with respect to the relationship between the humanities and the concrete forms of sociomaterial practices fashioning knowledge and culture. To what extent were knowledge and culture linked to books in the past? How do they relate to the material and social mediations represented by books and libraries? Are they being reinvented today outside the book, becoming “unbound” so to speak, with the rise of information technology? What can be said about other sociomaterial arrangements underpinning knowledge and culture?

3 This collection shares thinking about the usual categories of “books” and of cultures having developed “outside the book”. It scrutinises how these were addressed in the past, how they have made a comeback and been reinvented, especially the spoken or visual cultures long-forgotten by western humanities. It questions what is happening to the humanities now and the phenomenon of their deliverance or “unbinding”. The use of this expression “unbinding” is not meant to be a value judgement about the meaning of the current evolution. The collection mainly strives to understand what is being produced by the restructuring of this culture whose legacy and fashioning are book-bound. The book in this sense can be seen as a technical object that at once complements and rivals with other cultural forms. The collection also explores the invention of new forms linked to so-called digital media, yet to be qualified.

4 Digital technology is today seen as a given which, on top of everything else, is modifying our cultural practices. We might ask what is specific and original in the cultural forms stemming from this technology. Indeed, it supports modes of production, aggregation and circulation of cultural forms whose specific characteristics have not yet been fathomed. It seems to make books more porous and texts and images more fluid as it throws up new identities ready to displace, overtake and spill out of the binding of any “book”. These different developments are encouraging human and social science researchers to compare and contrast their research concerns and to dialogue with the computer sciences in order to question the transformations underway. “The Humanities Unbound” invites us to do just that.

5 This collection follows on from the thinking presented at the symposium “Reading Tomorrow. From Ancient Manuscripts to the Digital Era” (Lausanne, August 2011)¹ and further promoted at the symposium on “The Humanities Unbound” held in Lausanne on 1st and 2nd of October 2013. It offers itself as a modest contribution to the examination of concrete knowledge production and use practices. It aims to provide the reader with analyses focusing on the sociomaterial mediations operating around books and their transformation. This edition of the Revue d'Anthropologie des Connaissances will be published alongside another theme-based collection stemming from the same symposium and published by Les Cahiers du Numérique. This second collection strives to understand this “deliverance from the book” made possible by digital technology, a deliverance that is transforming western cultures and their former belief that writing, books and their associated institutions were all part of their modernity.
The printed book has existed for almost six centuries. Gutenberg printed the Bible in 1454-1455. This event left a lasting mark on the history of the humanities by linking culture to the printed book. It thus represents both a natural evolution and a breakthrough (Eisenstein, 1991) in the long process of putting knowledge into books. This process itself dates back to the birth of writing, which, according to Jack Goody (1979), led to the development of logical, abstract and objective thinking.

This hitching of culture to books does not simply reflect the coming together of ideas and a medium, whose form might be changed without modifying the content. On the contrary, if we follow the analyses of Roger Chartier (1996, 2009, 2012a and b), the meaning of literary works is closely tied to their composition and material forms. This author questions the “modern dichotomy between ideas and the medium used to express ideas” (Clivaz, 2012), which came about with printed culture and pervaded western academic research up until the eve of the 20th century. The emergence of the Digital Humanities encourages us to move away from this dichotomy. The relations between knowledge (ideas, works) and their texts, between their materiality and their textuality, are unstable. The history of these relations needs to be probed to understand how the humanities have been fashioned and refashioned in relation to their modes of existence. Notably, the different interventions contributing to knowledge production need to be identified. This involves understanding the gestures and operations (Jacob, 2011), the bodily techniques (Mauss, 1950) and the “practical sense” (Bourdieu, 1980) underlying the behaviour of the agents of a given social field or, on the contrary, the reappropriations and diversions (de Certeau, 1980) in the scholarly practices of knowledge formalisation, argumentation and discussion. By analysing the multiple interventions and concrete activities of the actors involved in the production, circulation and use of knowledge, we can understand how the material and formal modes of existence (including the corporal modes, as highlighted in this edition’s article by David Bouvier about Homer’s Odyssey) produce effects, through the choice of material mediations (Hennion, 1993; Denis and Pontille, 2012), formats, script, page layout and assemblage. Thus produced, these artefacts are marked by the operations leading to their development while at the same time they influence thinking, the transmission of humanities and knowledge and the way in which works have been addressed by the scholars and readers from different periods of history. It is thus a question of examining the historical, social and material practices of providing knowledge, both inside and outside of books, and their role in the formalisation of thinking (invention of lists and alphabets) and in reading and writing practices (the direction of writing leading to the use of rolls of papyrus, the posture of the scribe or reader as they held the roll between both hands, the requirements of writing in relation to reading, etc.). What are the interdependencies that have linked ritual practices to reading aloud, for example (Cavallo and Chartier, 1997), or to the use of writing on rolls in order to preserve knowledge (liturgical or literary texts, chronicles and genealogies, the enrolment of soldiers in the Middle Ages) rather than to support the learned work of scholars?

When the material medium changes so too do the writing and reading methods and direction. Parchment (sheep, calf or goat skin treated to make it suitable for writing on) opens up the possibility of folding text without breaking the fibres, unlike plant-based
papyrus. It can also be assembled into sheets and books to form a volume (Codex) that can be easily put away and transported. Because parchment could be written on both sides, scribes were able to store more text on it and thus reduce the amount of space taken up in libraries. The first Christians adopted this medium for copying biblical texts and grouping together the four canonic gospels and the epistles into a single codex, hence greatly reducing their use of rolls. This also led to the birth of the book. In what followed it became difficult to say whether the term referred to the text or the material artefact. The codex also allowed for a different text organisation with the introduction of pagination, division into chapters, the creation of an index and a table of contents. Being a collective work, the book was only complete once the copyists and illuminators had made their contribution. The book also introduced changes for readers: as it could be put down, it became possible to flick through the pages, take notes and make comments while reading, cite passages precisely and relocate them easily, move back and forth throughout the work and form an overall idea of the text (Blanchard, 1989; Chartier, 2012b).

In the 12th century, Italian merchants imported a new kind of parchment from Arabia. It was slimmer, more fragile and tore easily, which raised concern about its durability. That parchment was paper. Its use was forbidden for the drafting of public deeds but it was allowed for letters, rough copies and notary’s registers. As it was less costly, its use soon became widespread as the paper industry developed, bringing down production costs (recycling of rags) and improving quality (resistance, satin finish, watermark, etc.). In the 13th century, it was distributed and then manufactured across all of Europe (Febvre and Martin, 1958), with the creation of universities bringing with it the need for more and more manuscripts. In turn, this led to the adoption of abbreviations and the pecia system (whereby the copyist worked on one booklet at a time rather than on an entire codex). At the same time, abstracts and anthologies also became very popular as they were able to contain more arguments in summarised form. The revolution initiated by hand-printing (xylography used to produce religious pictures and booklets illustrating religious and moral themes for the working classes) brought together three elements facilitating reproduction: mobile characters made of melted metal, a technique mastered by goldsmiths and metal engravers, greasy ink and the lever press. In the space of a few years, works were reproduced and many copies disseminated, hence modifying intellectual working conditions (Eisenstein, 1991). From then on, knowledge and culture were bound to the books.

As he analyses these new forms of knowledge inscription, Chartier (2012a) questions what the switch from a hand-written copy to the press, with its mobile characters and typographic composition, actually modified. The printed book inherited its form from the codex made up of booklets, separate sheets and pages, and a cover. There is a clear morphological continuity here while the form does not actually change for several centuries. On the other hand, a series of subtle innovations facilitated the invention of new modes of existence for the humanities, gradually drawing them away from their oral tradition and associated forms of socialisation (public and ceremonial reading) and placing the emphasis on a more private and useful form of reading. This transformation supported the development of personal thinking thanks to the circulation within and between texts, in collections and “gardoires” (a specific kind of method for collecting citations and extracts recommended by Erasmus in the 15th century) (Chatelain, 2011). Furthermore, with the grouping together of a set of texts making up a work, which the codex had already helped to introduce, the dissemination
of printed books reinforced the association and confusion surrounding the book in
general—the book as an object and the book as a text or work (Chartier, 2012b)—
followed by its attribution to a single author.

11 The use of specific material forms to inscribe these works thus involved many more
people than the author-reader pair alone. A close examination of text organisation
protocols and the relations between those working on the “book production line”
publishers, printers, booksellers, etc.), brings to light power struggles (Febvre and
Martin, 1958). These have a significant impact on the fashioning of knowledge and
reading (Martin, 2000).

12 Chartier (2012a) reports on punctuation. The fashioning of a punctuated text was the
result of complex and changing relations between different stakeholders who
attempted to define the associated norms. In the 16th century, spelling reformers
recommended a close relationship between what was said and what was inscribed,
stating that things should be written as they were pronounced. According to them,
writing should be governed by pronunciation. The aim of their reform was to do away
with useless letters, and set the length of pauses (fullstops and commas) or the tone of
voice (exclamation or question marks). Printers and authors alike did not necessarily
follow these recommendations.

13 In the printer’s workshop, the fashioning of what was to become a book involved
several people (proofreaders, composers/typographists, printers) (Chartier, 2012a).
They worked on the layout of the manuscript, the grammar, the collocation of accents
and the punctuation. The proofreader translated the author’s intentions, modified his
text and introduced punctuation to help with understanding. As somebody who was
literate, for example a clerk or a school master, the proofreader was employed by the
printer to draw up the copy to be printed. The composer then set the text so that it was
spread across the different sheets, adding or deleting lines where necessary and in
place of the author. Humanist literature owes much to their work, including during the
printing process itself when last minute corrections could be added. This meant that
the various copies of the same edition were not identical. Between the author’s
autograph copy, the copy transcribed by professional scribes (the clean copy), the
manuscript prepared by the proofreader and the composition made by the
typographer, the text underwent a series of transformations that contributed to the
fashioning of the book.

14 Once printed and sent to a bookseller-publisher, the book was still not stabalised. As
Claire Clivaz (2012) points out when referring to the Polyglot bible by Elias Hutter
(translation of the New Testament in 12 languages, printed in Nuremberg in 1599),
what was considered as a single book was in fact several books. In the 17th century,
after picking up their packet of printed booklets from the bookseller, readers then had
to go to the bookbinder’s where they could decide to include all or only some of the
booklets inside the same binding. Thus, copies of printed books were not necessarily
identical.

15 With the mechanisation of the press, a large amount of identical copies of the same
book could be produced, hence partly transforming the collective fashioning of the
humanities. This event led readers to generally consider that a copy of a book was
always the same. Wherever picked up, it was considered stable and attributed to a
single author. As underlined Clivaz (2012, 26) and highlighted in this edition’s article by
Enrico Natale, this permanent quality is nevertheless recent, dating back to the 19th
century only. It is above all linked to an anti-plagiar law drawn up in 1791 and to the legal status of authors and their printed texts, promoted by booksellers-publishers in around 1850 (Chartier, 1996).

Today, this chaining of the humanities to the book and to its apparent permanent quality has been shaken with the Internet with all its regularly updated pages. There is now doubt as to the continuity and identity of texts. This is why the debate about humanities’ attachment to books and their durability has emerged. The web has introduced a period of transition towards a new cultural era (Clivaz, 2012). The book as a complete object and unit of meaning is being threatened with extinction, at least as a consistent and finished entity attributed to a single author (Chartier, 2008). The disjointed and endless proliferation of publications on the Internet is a reminder that books, or rather their materiality and finiteness, used to convey a specific conception of knowledge and authorship. The debate is nevertheless upon us:

The book has proven its worth and it is difficult to see how we could make anything better than it for the same use. Perhaps the book’s components will change or maybe its pages will no longer be made of paper. But it will still be a book. (Carrière and Eco, 2010:17)

Yet the book does not appear to be dead. The electronic book might be viewed simply as an avatar and extension of the paper version: the book still exists while the page is still a unit of meaning (Carrière and Eco, 2010). Furthermore, as digital books are taking off the supply of printed books is still experiencing considerable growth (Vallotton, 2014).

**Digital technology is putting books and the humanities to the test**

The book, such as we have known it for several centuries, is made by squeezing content on to a limited volume of paper, then binding it and keeping it all in place with a cover. Format standardisation makes it possible to line up books and create libraries. Furthermore, printing costs and requirements have led publishers to oblige authors to follow certain rules in terms of number of characters, illustrations, footnotes, tables, bibliographic references, index entries, as well as the correcting of proofs and new editions. The book is a device that requires completion (finding a title, drafting an introduction and a conclusion, capturing interest and coming up with an ending, deciding when to stop revising and improving the text, etc.), and content compartmentalisation (in spite of the intertextuality stemming from citations and bibliographic references).

Digital technology is questioning the traditional formatting of books by freeing them of paper, printing formats and requirements, linearity and the complete indicators of printed text. The question is what is being disconnected because of the digitisation of knowledge? What are the challenges of unravelling the relationship of knowledge to its material formatting?

Digital technology has freed the book of its shroud. Intertextuality has become a dominant feature. It has opened up extensive possibilities in terms of setting up links between documents, databases and videos. On top of these links are others, unbeknown to the author and the reader, connecting the metadata built up alongside digital documents and generated by the machines and algorithms through which they pass.
The digital book, therefore, is no longer something to be easily grasped given the extent to which its deployment in networks of relations is difficult to fathom. Textual glosses can be found all over blogs (replacing the reading reports signed and published in reviews and pointed out by Claire Gantet in this collection).

The book now exists in electronic forms whose possible extension we still have difficulty measuring: it can be read on devices (computers, reading devices, smartphones, braille touch pads, etc.); its form can be modified (page format, typeface, etc.) or remain the same (portable files -pdf); it can be specific to certain devices and publishers or fitted with Digital Rights Management (DRM) systems or digital tattoos, which impose requirements on readers in terms of book circulation and sharing. Some electronic books are made up of images of pages from printed books while others can be converted using Optical Character Recognition (OCR) software or edited using alphanumerical characters fitted with tags authorising editing work.

Let us examine the transformations generated with the invention of digital books and what this means in terms of testing, unbinding, reconfiguring or relinking the traditional book.

**Project Gutenberg against illiteracy**

The electronic book adventure started in the 1970s with Project Gutenberg whose aim was to digitise paper books. The idea was to build up an electronic library and disseminate works having fallen in the public domain free of charge. This was in an effort to develop a culture based on books and a taste for literary heritage as well as to fight against illiteracy and ignorance. The project depended on work carried out by volunteers (52 000 in 2008) in charge of digitising, OCR processing, correcting and then formatting and publishing electronic books (Lebert, 2009).

The re-release of books in electronic form had to be carried out in line with a series of requirements and opportunities linked to machines, text choices, readerships and law. Initially, for the text to be legible on a variety of machines and software, it was encoded in ASCII as a single file per work. The content of this file could then be scrolled through, but not page by page as with printed books. As computers at that time did not support lower case letters, the first texts were encoded in uppercase letters. Storage and dissemination of these digital files also had to cope with the capacities of diskettes, CD’s, DVD's, USB sticks and hard disks, the bandwidth of telephone lines, protocols (TCP/IP or peer-to-peer –P2P), the introduction of hyperlinks (idea launched by Bush in 1945), followed by the emergence of the web, browsers, text search and file compression-decompression tools, different formats (HTML, XML, RTF), the creation of mirror sites (40 in the world), the use of speech synthesis or machine translation software, etc. The provision of a digital version also had to take into account the changing copyright requirements protecting the comments and notes of editors of works having entered the public domain. Digital re-release work also involved selecting books, checking their associated copyright and improving working methods in order to meet the requirements of an, at-times, discontent academic readership.

The works initially chosen were highly valued texts of a political (Declaration of Independence, Declaration of Rights, United States Constitution), religious (Bible) or
literary nature (complete works of Shakespeare). Then, twenty years later, works of entertainment were also chosen (*Alice in Wonderland, Peter Pan, The Adventures of Robin Hood*) alongside dictionaries and encyclopaedias. These were English language works but progressively other languages were included such as the Italian version of Dante’s *The Divine Comedy* in 1997 and the Spanish version of *Don Quijote* in 1999, and the French version of Marcel Proust’s *In the Shadow of Young Girls in Flowers* in 2000. In 2006, the corpus included works in 50 languages. It was nevertheless widely dominated by English.

Table 1. Number of works per language in the Project Gutenberg corpus

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of works 200611</th>
<th>Number of works 201112</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>17 377</td>
<td>30 768</td>
</tr>
<tr>
<td>French</td>
<td>966</td>
<td>1834</td>
</tr>
<tr>
<td>German</td>
<td>412</td>
<td>776</td>
</tr>
<tr>
<td>Finish</td>
<td>344</td>
<td>592</td>
</tr>
<tr>
<td>Dutch</td>
<td>244</td>
<td>536</td>
</tr>
<tr>
<td>Portuguese</td>
<td>68</td>
<td>516</td>
</tr>
<tr>
<td>Chinese</td>
<td>69</td>
<td>405</td>
</tr>
<tr>
<td>Spanish</td>
<td>140</td>
<td>308</td>
</tr>
<tr>
<td>Italian</td>
<td>102</td>
<td>291</td>
</tr>
<tr>
<td>Greek</td>
<td>n.</td>
<td>147</td>
</tr>
<tr>
<td>Tagalog (Philipinnes)</td>
<td>51</td>
<td>51</td>
</tr>
</tbody>
</table>


The appearance of the web and the provision of works of entertainment extended dissemination and attracted young and senior readers and not only academics. The web also made it possible to enrol a greater number of volunteers. Hence, the productivity of digitisation was greatly boosted: one text per month in 1991; 367 in 2010. In 1997, 1000 books were online; in 2014, there were 45 000. Rival projects, which were either academic and/or commercial, also emerged, spreading the number of electronic books and their versions. These books were disseminated via the web (3 million downloads a month in 2007), or CD’s (containing up to 600 works) and DVD’s (up to 17 000 works), were delivered free (15 million books sent out in 2007) and could be freely copied and distributed.
Books move to the web

27 With the creation of the TCP/IP (transmission control protocol/internet protocol) in 1974, computer-to-computer data exchange developed. In 1983, the Internet above all connected research centres but with the arrival of other protocols it became an infrastructure for the setting up of services, especially for data file exchange (file transfer protocol –FTP). In this way the search for and downloading of electronic books as well as the consultation of online texts (Gopher protocol) were greatly facilitated.

28 This period also marked the commencement of a book reconfiguration process. The electronic book, which was now online, was transformed with the invention and use of languages for describing documents and tagging logical structures (division into chapters, paragraphs, notes, illustrations and titles), and of formatting (style sheets), making it possible to distinguish and disconnect them from their content. One of the first challenges underlying this disconnection was how to facilitate the management of documents, their standardisation, and their printing regardless of the machines used (computers and printers notably).

29 A second challenge stemming from this disconnection was how to associate these documents using hypertextual links so that readers could browse from one to another. With these links, electronic books became even more accessible. This movement to interlink documents spread with the development of general public browsers making it possible to connect up screen pages and set up hypermedia links (between texts, graphics, images, sound and videos) as well as other forms making the web interactive (allowing the user to enter data). Alongside all of these activities, publishers began to provide some of their titles on the web in open access mode hoping notably to boost their sales. They sometimes provided limited access to part of the work and started selling chapters of original works separately.

30 This led to a series of controversies focusing on the nature and future of the book: the electronic book was seen as a threat to the printed book; there was concern that readers were losing interest in printed material and in-depth reading, preferring instead the possibility of immediate access to information which they could then simply pick through with the help of the hyperlinks to different works; free access was seen to threaten copyright requirements and undermine the worth of the publishing profession; there was discussion about revising copyright laws in order to increase the duration of a work’s protection, which in turn sparked objections from the open access movement, etc.

31 As for libraries, they began to provide digital versions of books on the web (bibliographic contents lists, digitised works available to the public in image or text mode, or precious documents they were in charge of preserving, in particular manuscripts, incunabula, and rare, ancient, regional or specialised works). The book heritage was so big that digitising in image mode was often the preferred method; this preserved part of the appearance of the original text edition but prevented a full text search from being performed. National, university and municipal libraries joined the movement; they experimented with new relations between readers and collections (browsing, data mining, massive or targeted data analyses, etc.).

32 In 2005, Google, which was founded in 1998 to create a search engine and claimed to organise information and worldwide access to it, entered the electronic book race with Google Print (online publication of excerpts from different works). In 2006, it came up
with Google Books (digitisation of large university libraries). This engine was associated with a robot (crawler), which indexed content, analysed the connections between works and calculated their relevance based on the number of citations received. Different features were added year after year, modifying web users’ relationship to books: the possibility of sharing snippets, the creation of personal libraries (My library), the search for books based on place names or places on Google Earth, print-outs of works on demand, the search for definitions, the translation of parts of texts, underlining, note-taking and the print-out of such notes. With over twenty million digitised books, Google became the biggest library in history, even though only a very small part of the works were made public and full access to texts was not provided. Google associated consulted content (notably the words used by web users in their requests) with commercial links and sold key words via an auction-based system. The book was used by the company to create a language-based capital. This meant that the disconnection of content in relation to the printed book resulted in new, especially commercial, attachments. The issue of copyright focused part of the controversy on the electronic book.

While the traditional book was challenged by the electronic book, the bookshop also underwent reconfiguration. In 1995, Amazon.com launched its online bookstore. As of 2000, its catalogue included over 28 million printed books and 1000 electronic books. As well as the enormous size of the catalogue and the online purchasing facilities, the virtual bookstore boosted the attractiveness of its pages by providing summaries of works, reading advice, interviews with authors, and commentaries from professional journalists or readers. It sometimes offered a full-text search function. Other entirely virtual or hybrid bookstores appeared (Barnes & Noble, Alapage, FNAC.com, Chapitre.com, etc.), and began to compete with traditional book shops according to the opportunities and requirements relating to book price regulations and the cost of transport.

These various developments together with the extension of telecommunication networks and the multiplied forms of connection and devices for mobile reading created the possibility (or illusion) for readers to access any book from anywhere in the world. Mobile electronic readers seemed to allow them to carry around with them a library the size of a paperback. “Libraries have emerged from their hushed universe and spilled into the real world” wrote Bruno Latour (2011); we can now “be in a library” everywhere.

The book reconfigured: arguments for multiple controversies

The electronic book has gradually become less and less of a digital version of a paper book; it is has reconfigured the book, along with its formatting, its completeness, and the way its content is joined up. Publishers and authors have adopted digital technologies and given a new lease of life to publications and works, especially as they tie these to online debates, staging new or unusual authors, and making printed versions on demand. Publishing work (receipt, assessment and selection of manuscripts, layout, proofreading, dispatch of files for printing, etc.) now relies on digital technologies, even for paper versions. Nevertheless, with the emergence of electronic publishing, some publishers have focused their innovations on writing that is hypertextual (links between texts at the click of a mouse) and interactive (involving several authors or even readers). They are publishing customised works, made up of
selected chapters or articles that have been republished and commented on. They are including other content in the electronic version (audio and video, graphic animation, clickable illustrations, etc.), and references to other texts and sites where additional information and source documents can be found. Although this interlinking of textual elements with other documents is in no way new (this was the role played by bibliographic references and footnotes), the difference stems from the transfer and automatic access to the referenced documents, which, more than ever, is changing text into hypertext (Bush, 1945; Landow, 1994; Nelson, 1987).  

Digitisation has changed the materiality and textuality of the book, with all the consequences that can be imagined in terms of politico-linguistic and identity challenges. When ancient books are digitised, the preferred mode is based on images to preserve the appearance of the text. But what exactly are we keeping or losing from the book? What about the binding, the smudges, or the thickness and grain of the paper? Charlotte Touati challenges the fact that the BnF (the French national library) only provides scanned black and white pictures of manuscripts in its corpus. This is problematic for her work on Ge’ez, the liturgical language of the Falashas, given that the colour of words actually changes their meaning. Text in image mode makes it possible to study the way letters and words are formed. However, with the OCR processing and transliteration of ancient manuscripts, this kind of information is lost. As for more recent texts, their digitisation in text mode for a long time did away with accented characters (as these do not exist in English), or letters specific to certain languages, notably Chinese ideograms.  

These “material details” have resulted in the electronic book being clearly more satisfactory for English than for other languages. The linguistic conventions inscribed in electronic protocols thus affect languages differentially; for some linguistic communities, digitisation comes with identity-building challenges. There is in fact an ongoing campaign to take this into account in the design of the future versions of IP protocols, HTML and other computer languages.  

Another change is the fact that the book no longer exists as such. It only takes on life when it is performed by a series of operations and software programmes. Its universal dissemination is a perfect example of this. On the Internet, it seems able to cross national borders but is blocked by linguistic frontiers and hegemonies. The question of the multilingualist on the Internet has therefore been added to the agenda of discussions and two solutions have been put forward: the introduction of a universal language and the widespread use of machine translation for translating between different languages. This has brought about a new mode of existence for the book, as something that is performed in the language of the reader consulting it and which only exists in these languages when it is read.  

Along the same lines, the electronic book has reopened the idea of evolving works that can be easily amended and updated, whereas a new edition of a printed book requires reprinting and redistribution. This new flexibility offered by the book also applies to knowledge itself. When set in print, it appeared to be stable while now that it can be updated, it has become more fluid. Dale Spender (1996), moreover, bases our old conceptions of the notions of truth and objectivity on the rigid design of the printed book.  

Publishers are also equipping books with devices designed to structure their dissemination and reading although these are regularly contended or questioned. As of the end of the 1990’s, the often proprietary formats of digital books grew in number to
match the reading devices available. The PDF (Portable Document Format), however, became a de facto standard, enabling the presentation of a work to be kept the same, whatever the platform used to read the document, but also limiting the reading conditions. To allow books to switch from one reading device to another, a working group defined a single format called the OeB (Open eBook). This standardised the structure and presentation of books and was followed by the ePub. Depending on the variants developed using this format, the reader can add personal notes to the work, choose a specific reading mode (portrait or landscape), virtually browse through the book, modify character size and page format, memorise key words for later searches, access other resources such as a dictionary, automatically retrieve content and even create other digital books.

These technologies have been explored and experimented with by publishers of books or as software, or by researchers and authors like François Bon and his LeTiersLivre experiment (http://www.tierslivre.net), or book historian Robert Darnton concerned about making his material available (Darnton, 2009).

**Authors are reinventing the book**

With the technologies available opening up new possibilities, authors and publishers are seizing the opportunity to explore and experiment with new horizons, such as working without publishers or changing the formal and material production of books. Authors have started to unearth and test whatever is possible and relevant in terms of articulating disperse and heterogeneous content and other browsing modes. This is how several literary forms have been invented or reinvented in literature: the hypertext novel or network novel; the multimedia novel; the e-mail novel incorporating readers’ responses and turning these into a new form of epistolary novel; the interactive novel; the nonlinear novel (offering several possible reading paths, something “to be read in no particular order” with each word possibly representing an event introducing several possible bifurcations); and the polysemic post-modern novel written in different registers and navigating between multiple accounts and media. Collaborative writing sites have also emerged (e.g. where authors challenge each other), alongside discussion forums associated with a work, or even with each page in a work. The book (dictionary, educational or research work) is no longer limited to what is bound beneath the cover page; it is preceded by excerpts published on the web, extended and enriched with videos and links to other sites, commented on and updated. Authors are describing how, as well as mastering language and narration, it is also necessary to be able to articulate units of meaning and ensure that future circulations in the text are fluid. They must also pay attention to interaction with readers and temporal dynamics, as well as other formats, media and literary genres. Using new media requires building up the skills to be able to work with the electronic formatting of words, texts, sounds and images. This means including other professionals in the writing and publishing network and not just writers and publishers (webmasters, photographists and retouchers, sound processing or 3D viewing experts). In turn, this has led to the emergence of a new figure, similar to that of a director but working with books instead of films. Writing a hypermedia “book” is quite a different matter from writing a printed book. It does not simply involve disconnecting content from the book’s materiality but requires learning to assemble and connect content differently, and link it to different things.
The relationship to knowledge: from one form of attachment to another

Now that the book as we knew it has been refashioned through the use of digital tools, the question of what is happening to content and knowledge can be raised. We have reported on the different ways in which knowledge has been attached to books, followed by the transformations operated on these books. We shall now pursue our exploration by focusing on what is being disconnected and rearranged through the digitisation of knowledge. Today, content is deformed and lives a life of its own in different sociotechnical universes from those with which authors, publishers or the institutions attempting to render content captive are familiar. We are witnessing the sprawl and dislocation of the written text, notably as it branches off in different directions on the Internet. These transformations are raising questions and fueling debates about the relationship between knowledge and books, and the forms of material existence of knowledge. They are also leading us to question the links between power and knowledge, and the freeing of cultures. There is thus a multitude of controversial aspects surrounding the digitisation of books. Let us take a look at reading and book-bound cultures.

Reading reinvented

Clicking, browsing, picking and weaving through the Internet is different from browsing or following the links fashioned by footnotes or bibliographic references. For readers, such reading modes require inventing and acquiring new skills. The arrival of digital technology has overhauled book-related practices with their constant transformations. It has led several authors to now refer to literacies in the plural (Clivaz, Meizoz, & Vallotton, 2012; Snyder, 1998).

The way we read and interpret works using electronic devices is also different from when we read a printed book because we leave behind traces (comments, citations). Such traces can be built up as information in databases and be converted into indicators or compiled, downloaded and viewed. The content of text, just like its reading and comments, can be reprocessed using other tools.

Reading devices have changed considerably compared to the days when people read standing up, out loud and as part of a group, with big books open on desks, or when they read sitting down and in silence, with paperback format books held in one hand while the other hand might be used to make notes or underline. The electronic reader actually imitates the gestures and affordances associated with the reading of a printed book (the sound of pages being turned, the folding of the sheet that is about to be turned, the skipping of several pages at once using several fingers, the browsing of a volume with the thumb used to track). It is thus the tangible version of an electronic book. Indeed, the electronic book follows on naturally from the printed book while at the same time marking a rupture (for example, the possibility of browsing through a volume from the left or from the right, as if the book were simply a pile of sheets without binding). What can be seen, here, is the importance of path-dependency and the appearance of tiny displacements. It is as if the electronic book was shyly trying to remove the binding from works in an attempt to empower their pages, free up their
dissemination or attach comments to them while at the same time rendering page viewing without annotations reversible.

With the new forms of hypertextuality, the book has become a terminal used by the reader to browse through landscapes of data (datascapes), or to request other views of the work and its links, including in the form of data tables or graphs (analytics): number of hits or likes, pictures of works bought by other readers, network of citations received by the work, etc.

Reinventions of reading are not new. Book reading was for many years the private reserve of monks and scholars under the control of institutions such as the Church. However, as printers and socio-religious movements clamoured for access to the book, reading was freed and became more widespread. This led to new practices being developed and stabilised, linked to new formats paving the way for the appearance of the paperback. Readers’ skills were also transformed with literacy in the singular becoming relatively stable in the 19th century as mass schooling was introduced (Barton, 2007). Reading was a solitary and silent activity, with the reader separating the words in the order in which they had been set by the author and following the author’s train of thought. This silent reading had been facilitated in the Middle Ages with the formal inventions of copyists and publishers, such as the separation of words (which before then depended on the quality of the speaker) and paragraphs (Saenger, 1997). It was nevertheless slow to emerge given that the ancient world felt it had to be economical with knowledge, as David Bouvier underlines so well in this collection with his article on Homer’s Odyssey. There was no thought of facilitating or accelerating reading, or even doing away with memory (which is what Aristotle reproached of the written word). With the development of universities, glosses and text discussions, students read in order to extract the meaning from books and comment on them. Having said this, in the 20th century, young pupils still learnt to read out loud in a group, which in turn conditioned silent reading, required of them as they approached adolescence; although silent it remained tied to the spoken language and slow (Furet & Ozouf, 1977). It was not until the second half of the 20th century that the need for a literacy targeting fast reading and designed to extract meaning from ordinary texts was felt; the reading of “great literature” was meant for the elite who pursued higher education. From then on reading was to be learnt with the eyes; the type faces and style sheets chosen by publishers took this into account. Readers developed reading skills according to several methods depending on the situations and the type of work.

The ecology and ergonomics of intellectual work were profoundly modified. Faced with heterogeneous documents, materials and traces (handwritten notes, photocopies, digital files in multiple formats), and a proliferation of stored information, researchers invented new knowledge in order to organise and preserve their inscriptions, browse through these and seek data or ideas. Their reading practices oscillated between disciplinary traditions and technological utopias. They experimented with different methods of categorisation, tagging and interlinking. Many used their own home-made inventions combining the use of the screen with paper. Sometimes, they dreamed of the right kind of computer tools that would allow them to switch from one medium to another, and ensure their work was transitive whatever the medium or place of work (office, train, library, etc.). This impelled a change in the way a document was commented on, or information retrieved in order to be used in analyses and writing projects.
Digital technology challenged the completeness and consistency of texts and, consequently, the authority of the author and publisher, which had focused on the assembly and shaping of content. When digital technology facilitated the fragmentation and creation of assemblages or personalised dissemination, the outlines and letters of texts were reconfigured according to the reader’s decisions.

The book culture in the digital age

Knowledge and culture are undergoing some deep-reaching transformations that are as yet difficult to qualify. Chartier (2008) underlines the risk of seeing digitisation develop a culture where the book as an object is associated with splitting and dispersion rather than continuity; the text appears on the screen in fragments making its reading discontinuous and attached to a fragment rather than to a whole (Chartier, 2007: 2). Consequently, the temporality of reading has been reconfigured in relation to the flows of information pushed, or to the searches performed by readers according to their needs or to what randomly pops up as they browse, or to the links proposed by algorithms. The reading of online books is completed by detours via a collaborative encyclopaedia, or a site containing images or video sequences. As online readers pursue their quest, they may or may not come back to the original text, start reading it again or exit the page to read a comment, the author’s biography or to follow another proposed link.

Furthermore, and often unbeknown to us, the tools available recompose the information made available. With the web, words and knowledge are interlinked, sometimes automatically by robots and algorithms designed to synthesise documents, create dictionaries or compose theme-based mixes. Search engines index and classify information sources, by drawing on online books and other accessible resources. These tools recompose knowledge.

Access to actual knowledge, instead of being freed of material constraints, is now configured by new attachments: internet availability (Darnton, 2009), the formatting and equipping of texts to restrict access (proprietary formats, DRM, territorial and time-related limits, cost, access via streaming only, etc.) to match commercial strategies and the limits imposed by copyright (Edelman, 2004).

We are seeing new, often hybrid, assemblages of devices where the electronic version is actually more expensive than the paper version and is deployed differentially hence reshaping the geography of access to knowledge.

All of this is opening up new doors and raising many questions about the fashioning of cultures. The challenge is to rethink the forms of attachment to knowledge and culture.

Collection preview

Spanning past and current practices, the articles making up this collection question the transformations taking place, introduced in the above review of relationships to books and knowledge.

Without the Book: David Bouvier takes us to ancient Greece as he revisits certain episodes from Homer’s Odyssey, a book that was not a book. Exploring places and forms of knowledge and therefore the way in which society manages its knowledge, he analyses...
the mechanisms developed to increase or, on the contrary, limit its production. With respect to the latter, he especially examines the song form and its knowledge-saving principles (for example, an aede might use the content of a poem without actually citing the poem). He underlines how these different mechanisms strengthen social cohesion. His analysis shows how Greece at the time of the aedes produced poetry that was conscious of its epistemological conditions and limits. Drawing on the history of a number of mythical metaphors and models, he produces a potential tool for assessing the models of societies with respect to their relationship to knowledge. Some societies, like ancient Greece, limit this relationship while others, such as ours, are engaged in a mad dash to constantly increase and preserve knowledge.

57 Towards the Book: Enrico Natale takes the case of the complete works of Jean-Jacques Rousseau and compares two phases of transition in editorial practices and book reading methods, that of experimentention with digital edition practices and that of the second half of the 18th century when Rousseau published his works. He analyses the economic dynamics, legal regimes, reading modes, editorial strategies and technical mediations contributing to the creation of a book, its forms of existence and knowledge regimes.

The debates and editorial practices of the 18th century, for example in relation to counterfeiting, and of our contemporary period, with its digital technologies, raise questions about the fluidity of texts. Deprived of a stable form and open to multiple processing possibilities (reading modes, copies, etc.), the digital text has recovered the fluidity that characterised books under the Old Regime. Examining the production of a digital edition of Rousseau’s works invites us to think about the transformations in knowledge regimes.

58 About the Book: Claire Gantet turns her attention to the reviews of works published in the German language scholarly periodicals of the 17th and 18th centuries. She shows that the German high culture of this period, although founded on printed works, had a very open relationship to the book. Via the discussions taking place before the reviews of works and the periodicals publishing them, the book was circulated among debating societies and fragmented through commentaries that had themselves been commented on, and which were sometimes drafted without the book in question even being consulted. Today, with the digitisation of these periodicals and the processing of the vast corpus they represent, we need to question the way in which knowledge was built and distributed and how it contributed to fashioning the high culture of the Enlightenment (Aufklärung). The author’s enquiry throws to light other ways of producing and using written information and other aptitudes (literacies) for understanding it compared with those attached to the book. She reports on different forms of knowledge establishment other than via the book and therefore extends the discussion on literacies outside the book. This debate had in fact already been opened by the contemporaries of the 1780s and 1790s. The literacy linked to journalistic communication, to the promotion of knowledge without the help of books and to the annihilation of any distinction between specialists and amateurs was controversial in relation to institutionalised disciplines and attempts to lock knowledge inside a scholarly communication language. Discussion circles were reserved for the educated who were supposed to provide laymen with knowledge only when it was complete.

59 After the Book: Claire Fauvergue invites us on an investigation into the way in which the authors of the Encyclopædia attempted to free human knowledge from the book. She shows that by introducing the concepts of viewpoints and references from one article
to another, Diderot and d’Alembert designed the Encyclopaedia of human knowledge that they published in such a way that it might develop outside the book. By providing several orders in which to read the same work, they started deconstructing the book, paving the way for an Encyclopaedia developed outside the book. Similarly, by inviting readers to take part in the sequencing of the sciences, by moving around within the Encyclopaedia, its publishers testified to the fact that the book was unsuitable for viewing the encyclopaedic order of human knowledge. This investigation thus further fuels our discussion by questioning the notions of representation and of viewing of the understanding attached to the material forms of knowledge.

With this collection, the Revue d’Anthropologie des Connaissances hopes to contribute to the substantive debate on the digital humanities and, further to this, thinking about the forms of connection and material attachment of knowledge to the book and its avatars. The aim is to examine the way in which content is deformed and takes on its own life elsewhere and using forms that are as yet unknown to us.

BIBLIOGRAPHY


NOTES

1. Proceedings published as a hard copy and an ebook (Clivaz et al., 2012) underlining the plurality of western literacies from Antiquity through to the 18th century.
3. In the 6th century, Pope Gregory the Great noted that six codices could contain a work that would have otherwise occupied thirty-three rolls.
4. The margins of these manuscripts were peppered with glosses allowing readers to trace an argument back to its founding texts (Grafton, 1997).
5. This private reading actually already existed at the turn of our era with miniature rolls of parchment and codices.
6. It is difficult here not to compare this with what on-demand printing has to offer where readers and teachers are allowed to pay for just a certain number of chapters, hence making up their own customised work.
7. Concerning this point, see the exemplary analysis made by Dominique Boullier and Maxime Crepel (2013) in the case of digital photography.
8. This format keeps the page layout so that it can be viewed or printed using a variety of computers and software.
9. The project was extended across Europe with Distributed Proofreaders Europe in 2003 and Project Gutenberg Europe in 2004. It also permeated other regions.
11. Since 1993, the Online Books Page lists electronic books with open access via the web: http://onlinebooks.library.upenn.edu/. In 2002, the works put online by Project Gutenberg represented a quarter of public domain works with open access. In 2009, the Project Gutenberg Consortia Center (PGCC) contained 75 000 books digitised by other institutions.
12. E-mails, instant messaging, telephony and videoconferencing, discussion forums, directory consultation, etc.
13. In 1969, IBM developed document management solutions for large companies and public authorities, notably using a document description language (GML – Generalized Markup Language), which did not take into account the technical possibilities of printers. The language was reformulated in 1986, becoming the SGML (Standard Generalized Markup Language). This new version distinguished between the logical structure of a document and its page layout. It was adopted by the hypertext community, public authorities (notably the Commission of the European Communities for managing its publications), and the CERN, who needed to harmonize the presentation of its numerous technical documents.

14. In 1990, Ted Nelson, a researcher at the CERN, revised the SGML language. His work led to the invention of HTML (Hypertext Markup Language), able to format data and link different types of documents, an HTTP (Hypertext Transfer Protocol) server and a first browser (index-based search).

15. General public browser (Mosaic in 1993) made available free of charge by the University of Illinois, then sold by Netscape and challenged by Microsoft’s Internet Explorer launched in 1995.

16. In Europe, the Europeana catalogue listed over 26 million digital documents – books, photos, videos, journals – belonging to over 1,500 libraries and archives within the European Union.


18. The National French Library (BnF) created Gallica in 1997 and made available over two million books, journals and maps accessible in image and text format.

19. In 2012, Google Books offered over 20 million digitised books (1 million of which were in the public domain) from 35,000 publishers, 40 libraries, 100 countries and in 400 languages. http://fr.wikipedia.org/wiki/Google_Livres, consulted last on 17th June 2014.

20. In 2006, a group of governmental organisations, public archives, cultural bodies, associations and companies (including Adobe, Hewlett Packard, Microsoft, Yahoo! and Xerox) reacted to Google Books by launching the Open Content Alliance (OCA). This was a multilingual repository of digital works. It required the prior approval of publishers for books under copyright, which could be consulted and downloaded from different search engines. In 2011, over five million books were already available on the web out of the 30 million existing in the public domain.


22. The electronic book or the Wikipedia encyclopaedia might be seen as linked-up knowledge unlike the printed book where information is isolated and self-sufficient.

23. Initially, ASCII did not include accented characters; it could therefore only be used for reading English and Latin. Extensions were defined for different European languages but this did not eliminate errors in electronic exchanges. ASCII was therefore replaced by Unicode, which accommodates up to 65,000 characters.

24. Although English is the native language of roughly only 10% of the world population, until 2000 it was the language used by over 50% of internet users. Its importance has since waned. In the case of the electronic book, the imbalance is even more considerable (see table 1).

25. In 1997, AltaVista set up machine translation for English and a number of other languages (German, Spanish, French, Italian and Portuguese).

26. Like the collaborative encyclopaedia Wikipedia or Citizendium (http://en.citizendium.org/) whose authors sign their articles, which are then edited by experts, just like any theme-based encyclopaedia (e.g. Encyclopédia of Life: http://eol.org/) or specialised dictionary (e.g. Anthropen in anthropology: https://www.anthropen.org/).

27. Also see the analysis performed by Nicolas Veyrat, Eric Blanco and Pascale Trompette (2007) on the transformation of types of pairing between readers and their equipment (from the reading stone as a book accessory to spectacles and contact lenses as reader accessories) and the modes of sociotechnical insertion of reading artefacts and their attachments.
28. See the demonstrations of new applications for electronic readers: https://www.youtube.com/watch?v=rVvBwz1-AiE.


30. American publishers limit online access to their works to North America alone.

ABSTRACTS

The special issue attempts to understand what happens to cultures whose expression was linked to the written word and the book by Western modernity. It looks at what is happening to the humanities with digitization and what is happening to the relationship between the humanities and the sociomaterial practices that shaped knowledge and culture. It proposes to reflect on the usual categories of "book" and "outside the book" cultures, how they have been taken into account in the past, their return and reinvention.

Le dossier tente de comprendre ce qui arrive aux cultures dont la modernité occidentale avait lié l’expression à l’écrit et au livre. Il se penche sur ce qui arrive aux humanités avec la numérisation et sur ce qu’il advient des rapports entre les humanités et les pratiques sociomatérielles qui façonnaient les savoirs et la culture. Il propose de réfléchir aux catégories usuelles de « livre » et de cultures « hors du livre », de la manière dont elles ont été prises en compte dans le passé, de leur retour et de leur réinvention.

El dossier intenta comprender lo que sucede con las culturas cuya expresión estuvo vinculada a la palabra escrita y al libro por la modernidad occidental. Se examina lo que está sucediendo con las humanidades con la digitalización y lo que está sucediendo con la relación entre las humanidades y las prácticas sociomateriales que dieron forma al conocimiento y a la cultura. Propone reflexionar sobre las categorías habituales de las culturas "del libro" y " fuera del libro", cómo se han tenido en cuenta en el pasado, su retorno y reinvenção.

INDEX

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Palabras claves: digital, cultura, escrito, libro, fuera del libro, humanidades digitales, práctica, materialidad

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