

# Book Studies and the Sociology of Text Technologies

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## Abstract

After speech, writing and printing, digital textuality is the next major influence on human mentality. Having the tools, the methods as well as the right – historical - perspective, book studies is better placed than most disciplines to study the current digital disruption in textual dissemination.

Almost for as long as they have been around, e-books have been criticized for being insufficiently digitally ‘native.’ The damning accusation is that they merely imitate (paper) books. That is to say, they are said to have been devised with a mentality shaped, and unduly constrained, by familiarity with the paper book. In this respect the ‘horseless carriage syndrome’ is often invoked, a phenomenon familiar to anyone studying technological innovations. It is, for example, often suggested that the earliest printed books were unnecessarily imitative of their manuscript predecessors, in the use of type that was virtually indistinguishable from handwriting, including abbreviations; in the space left for ornamental capitals; in the use of rubrication, and so on. In that view the print book is in need of a full digital overhaul: E-books need digital ‘enhancement’ to prevent them from remaining pale copies of print.<sup>1</sup> As Douglas Adams had it in his witty promotion for the Voyager ‘Expanded Book’ series in the late 1990s, it is a matter of ‘getting the book invented properly’ for the digital age.

Supposing for a moment that screen books *were* made less book-like and more ‘digital,’ what would the result look like? Would they remain recognizable as books, or would they cross an invisible dividing line, turning into, for example, a kind of text-centric games or web experiences? Or would an entirely new category need to be invented for them? Though such extended ‘books’ have not (yet) become a part of mainstream publishing, they remain a very topical, and much-debated subject – the debate being dominated inevitably by speculation.<sup>2</sup>

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- 1 It is often suggested, for example, that such enhanced ‘books’ should be developed especially for educational purposes, since they would appeal to students’ media-rich experience outside of school.
- 2 See, for example, David Streitfeld, “Out of Print, Maybe, But Not Out of Mind,” *New York Times* <<http://www.nytimes.com/2013/12/02/technology/e-books-hold-tight-to-features-of-their-print-predecessors.html>> 12 December 2013, accessed: 11 July 2014; Jacob L. Wright, “What Enhanced E-books Can Do for Scholarly Authors,” *The Chronicle of Higher Education* <<https://chronicle.com/article/What-Enhanced-E-Books-Can-Do/145969/>> 21 April 2014, accessed: 11 July 2014; Beth Bacon, “Some Differences Between Ebooks,

Enhanced or not, e-books are members of that new and ever-expanding phenomenon of digital textuality that has begun to overturn the relatively stable notions of text that have come to define the 'Order of the Book,' or 'print culture.' Whatever digital shape the printed book may take, the impact of digital text forms on reading and our 'Order of the Book'<sup>3</sup> is already huge, and likely to become even bigger. There has been, and continues to be, a rampant growth in digital textuality, notably on the World Wide Web with its myriad web pages in all shapes and forms, from news to blogs and from articles to databases. This is compounded and accelerated by the fact that more of our communication is mediated than ever before in history, and much of it in the form of text. Much face-to-face or telephone conversation is being diverted to text messaging and social media, and we are witnessing an explosion of email, IM, SMS, WhatsApp, Facebook, and other textual forms.<sup>4</sup>

Yet for all its massive impact, it is precisely the way digitality spills over the textual edges of our discipline that makes us so uncomfortable as book historians with the digital phenomenon. What avail us our text-based methods and tools in the face of the gamification and videofication of books? And they may be textual forms of communication, but should book scholars really study social media? Is it possible in this digital onslaught to carve out a niche that we can properly call our own? How would we even begin to delineate that niche?

However justified these critical questions may be, in this essay I would like to argue that book studies<sup>5</sup> should nevertheless study this digital disruption.<sup>6</sup> Yes, there are very good reasons to keep a healthy distance; to regard speculation about the future as idle; and to be weary of the grandiose claims of those who pronounce a revolution. Still I think that there are at least equally good reasons for getting our hands dirty beyond merely maintaining a polite interest.

The question of delineation of the discipline is of course not a new one. D. F. McKenzie was probably the first to speak out about the subject of including

Enhanced Ebooks, And Apps," *Digital Book World* <<http://www.digitalbookworld.com/2014/some-differences-between-ebooks-enhanced-ebooks-and-apps/>> 30 January 2014, accessed: 14 July 2014; Ryan James and Leon de Kock, "The Digital David and the Gutenberg Goliath: The Rise of the 'Enhanced' E-book," *English Academy Review*, 30.1 (2013), 107-123; David Wilk, "Why It's Too Early for Publishers to Give Up on Media-Rich Ebooks," *Digital Book World* <<http://www.digitalbookworld.com/2013/why-its-too-early-for-publishers-to-give-up-on-media-rich-ebooks/>> 24 October 2013, accessed: 11 July 2014.

3 For a description of what I mean by these concepts, see chapter 3 of Adriaan van der Weel, *Changing Our Textual Minds: Towards a Digital Order of Knowledge* (Manchester, 2011), 67-103.

4 In the midst of this digital textualization, enhanced e-books would, curiously, represent a reverse development, for one effect of their becoming multimodal or gamified would be that they would become less dependent on text for their informational content.

5 The most often encountered terms to refer to the subject today are bibliography, book history, book studies, *histoire du livre* and (sometimes) bibliology, but what exactly these labels identify remains unclear or, at the very least, widely open to interpretation. In this essay, I will chiefly use the term 'book studies.'

6 A plea I made first in "Bibliography for the New Media," *Quaerendo*, 35.1-2 (2005), 96-108.

digital text forms, in his classic *Bibliography and the Sociology of Texts*.<sup>7</sup> Indeed he firmly – and notoriously – advocated for book studies (or, as he still called the discipline, bibliography) to be fully comprehensive in terms of its object, notably including also non-textual records. There was little dissension about the definition of bibliography he proposed as “the discipline that studies texts as recorded forms, and the processes of their transmission, including their production and reception.”<sup>8</sup> McKenzie’s generous interpretation of the word ‘text,’ however, was a different matter. McKenzie explained that by texts he meant to include “verbal, visual, oral, and numeric data, in the form of maps, prints, and music, of archives of recorded sound, of films, videos, and any computer-stored information, everything in fact from epigraphy to the latest forms of discography,” casually adding that there was “no evading the challenge which those new forms have created.”<sup>9</sup> Of course he could not have known at the time just how challenging his inclusion of computer-stored information was to turn out, though he certainly did have an idea of the extent of the challenge posed by the inclusion of all those other ‘recorded forms’ of a non-textual nature.

There has been much discussion about McKenzie’s far-reaching proposal,<sup>10</sup> without, however, resulting in agreement. The unspoken consensus seems to be that yes, if we had but world enough and time we might perhaps indulge in such frivolity, but let us, please, be realistic and accept that such an extension is simply too ambitious. However, focusing on the desirable scope of book studies obscures the much more pertinent fact that McKenzie’s main concern was not the delineation issue but “to consider anew what bibliography is.”<sup>11</sup>

To break the stalemate about *what* it is exactly that should be studied by the discipline, I would like to suggest that we return to the question *why* it is that we study the history of books, reading and the book-trade in the first place. What is the discipline’s *raison d’être*: What is or should be its aim? McKenzie’s unequivocal answer to that question was that it should be “the study of the sociology of texts.”<sup>12</sup> Based on the sociologically inclined *histoire du livre* that had come out of the mid-twentieth-century *Annales* school of French social history, this was a notion new to the Anglo-American tradition of analytical bibliography. A sociology of texts “directs us to consider the human motives and interactions which texts involve at every stage of their production, transmission, and consumption. It alerts us to the roles of institutions, and their own complex

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7 Donald Francis McKenzie, *Bibliography and the Sociology of Texts*, The Panizzi Lectures 1985, 1986; Cambridge, 1999.

8 McKenzie, *Bibliography and the Sociology of Texts*, 12.

9 McKenzie, *Bibliography and the Sociology of Texts*, 13.

10 Many people have over time variously mooted pros and cons, such as recently Alan Galey, “The Enkindling Reciter: E-Books in the Bibliographical Imagination,” *Book History*, 15 (2012), 210-247.

11 McKenzie, *Bibliography and the Sociology of Texts*, 9.

12 McKenzie, *Bibliography and the Sociology of Texts*, 13.

structures, in affecting the forms of social discourse, past and present,”<sup>13</sup> and so acknowledges the social construction of the meaning of texts, and the social significance of texts, literacy, and reading at large.<sup>14</sup>

Browsing the output of book studies of the last half century or so in a hand library such as the rare books department of a good research library, would yield a picture of extraordinary diversity and richness. The range would stretch from the most straightforwardly practical concerns on a micro level, such as establishing the constitution of a particular literary text on the basis of the manuscript and printed evidence, to an analysis of the link between the evolution of the book and the history of education on a meso level, to such a major question as how textual communication contributed to making human mentality and society what it is today on a macro level. I suggest that this macro level is the level at which a sociology of texts comes into its own. There the micro and meso levels synthesize, and it is there that we need to look for what unites the discipline in its research practices.

In his 2009 essay “The History of the Book as a Field of Studies within the Humanities,” Ian Willison, for example, is very much concerned with that macro level. In his essay, which takes stock of the “recent development of the History of the Book” at a time when numerous national history of the book projects were under way, especially in the English speaking world, Willison proposes that

the characteristic of what one might call the ‘New History of the Book’ ... is its concern to demonstrate to the academy at large the role of books – and other, interlocking, media such as orality, manuscripts, newspapers and current electronic modes of communication – as the highly problematic carriers of texts from authors and editors to the generality of readers: a way of regarding them that makes them an integral, and conspicuous, component of total cultural–political history.<sup>15</sup>

Having identified Lucien Febvre and Henri-Jean Martin as the founders of this new history of the book, and *L'apparition du livre* of 1958 as its manifesto, Willison goes on to explain that

the concern of the New History is to present *le livre* as a cultural ‘ferment’ or, in the words of the subsequent *Histoire de l'édition française*, edited by Martin and Roger Chartier, to answer ‘les questions que l'histoire du livre, de l'édition et de la lecture, ainsi redéfinie, peut reformuler concernant les évolutions majeures qui transforment la civilisation européenne, ou plus largement la nouvelle histoire occidentale.’ In this respect *l'histoire du livre* can be seen as an integral part of *la Nouvelle Histoire* – the history of commonly-shared *mentalités*, of which the production and reading of texts

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<sup>13</sup> McKenzie, *Bibliography and the Sociology of Texts*, 15.

<sup>14</sup> In fact, McKenzie’s Panizzi lectures have been programmatic for the fruitful merger of the Anglo-American and French approaches. Incidentally, the broad inclusiveness displayed in his definition of ‘text’ accords well with the *histoire du livre* perspective.

<sup>15</sup> Ian R. Willison, “The History of the Book as a Field of Studies within the Humanities,” *Publishing History*, 66 (2009), 77-95, 77.

is an essential element – as opposed to the conventional *histoire événementielle*, the history of the events of high politics.<sup>16</sup>

Clearly as a sociology of texts, the history of the book has a pivotal contribution to make to such a history of mentalities. Willison's bolder claim is that book history of such a more encompassing and international scope already is – and to the extent that it is not, should be – central to the pursuits of humanities disciplines other than book studies itself. He cites wide-ranging examples from literary, political, cultural, art, intellectual and globalization history and the history of science to show how this works out in practice.

It seems to me that Willison is entirely right in posing book history to be central to the humanities, tasking it with drawing out the implications of the history of book production, publishing, reading and so on for the wider cultural history of any particular period. Books (and texts at large) can have such an impact, Willison has suggested, because they represent what Karl Popper calls 'World 3': repositories of statements about the physical world ('World 1') and our experience of it ('World 2').<sup>17</sup> From its creation by thinkers of all kinds, knowledge in printed form functions as external memory, trickling down to libraries and booksellers to be propagated, popularized and embedded socially in the educational curriculum and elsewhere. Implicitly or explicitly, it is the ultimate interest of all forms of book studies to contribute to an understanding of the social impact of textual communication: its impact on human culture as "a complex developing system with many independent but interacting agents, including authors and readers, into which the writing, publication, and subsequent reading of a printed text were interventions"<sup>18</sup> with notable consequences. What Willison describes here is not an ideal or manifesto – a programme yet to be pursued – but existing practice.

In a longer perspective, the history of textual communication has two aspects that can (or at least could until very recently) be separated in a relatively straightforward manner. To begin with, that history is a history of technology, with clearly observable technological change, taking place in the form of various 'punctuations' in the evolution of text technology. The invention and adoption (followed by the slower evolution) of a succession of "technologies of the intellect"<sup>19</sup> has led to the general recognition of several distinct periods in the

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<sup>16</sup> Willison, "The History of the Book as a Field of Studies within the Humanities," 77-78.

<sup>17</sup> Willison introduces Popper's three worlds (from Karl Popper, *Objective Knowledge: An Evolutionary Approach*, Oxford, 1972) in a revised version he is preparing for his collected essays.

<sup>18</sup> William St Clair, *The Reading Nation in the Romantic Period* (Cambridge, 2004), 6. Willison ("The History of the Book as a Field of Studies within the Humanities," 85-86) actually cites St Clair from the first edition of "The Political Economy of Reading" (The John Coffin Memorial Lecture in the History of the Book, 2005). The revised edition of October 2012, which can be found at <[http://www.ies.sas.ac.uk/sites/default/files/files/Publications/Coffin%20lectures/StClair\\_PolEcReading\\_2012.pdf](http://www.ies.sas.ac.uk/sites/default/files/files/Publications/Coffin%20lectures/StClair_PolEcReading_2012.pdf)> reads slightly differently (accessed: 11 July 2014).

<sup>19</sup> Jack Goody, *Myth, Ritual and the Oral* (Cambridge, 2010), 102.

history of textual transmission.<sup>20</sup> Each period of relative stability, initially long but ever shortening over time, was ended by technological innovations that brought not just new ways of writing and reproduction but also new possibilities to share the fruits of the human brain. New types of communication brought new types of knowledge and new genres. This meant that the history of technological innovation was followed at some remove by its shadow: a history of the – much more diffuse – social effects of evolving text technologies. It is the elusive connections between the adoption and social integration of text technologies and the consequences for our literate mindset and mentality that book history as a sociology of texts crucially attempts to identify and elucidate.

The history of textual communication then is a history, not only of technologies of writing and reproduction, but also of the wider spread of culture and knowledge: the creation and discovery of new audiences; the creation and discovery of new genres; and the adoption of new reading habits. Together these technological and social strands have moulded particular types of literate mentality that characterized distinct phases in the evolution of our cultural history.

However, McKenzie's plea for an inclusive definition of texts notwithstanding, this practice of book studies as a sociology of texts has so far been largely confined to the realm of print. If we take the notion of a sociology of texts seriously, we have to acknowledge that printed texts, as well as their digital counterparts, have now increasingly come to function in a social environment suffused by digitality. This latest, digital, 'technology of the intellect' inevitably comes with its own consequences for our literate mindset. In other words, if we wish to take the concept and aim of a sociology of texts seriously, we must study the digital developments precisely because we are so hesitant to do so. Or to be exact, we must study them *because of the very reasons why we are so hesitant to do so*: that books and reading as screen-based activities are now so inextricably mixed with other screen-based activities, such as watching video, listening to music, or shopping. The reason being that the implications of this convergence for our present book culture and literacy will naturally be massive.

However, that reading is getting inextricably mixed up with other screen-based activities is just one reason to study the digital developments. There are many other reasons. From the perspective of textual forms as crucial shapers of mentalities, there is, for example, a wide swathe of cognitive effects, of which I would like to name two salient ones. Research suggests that because of the embodied nature of our cognition, memory thrives better if it can rely on physical locations. The uniqueness of locations in paper books (where a phrase can be remembered as occurring, for example, at the top of a left-hand page about one-third through the paperback edition in which we read it) is missing

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20 The chief periods are of course those dominated by handwriting, print and digital text. Frederick Kilgour, *The Evolution of the Book* (New York, 1998), ch. 1 (3-10), proposes a more fine-grained division of seven such punctuations.

from digital text.<sup>21</sup> Screen devices strip texts of every potentially distinguishing feature that may help the reader to anchor the content physically: weight, smell, texture, as well as fixity of place. Secondly, it has been found that readers bring fewer metacognitive learning strategies to bear on their digital reading than they do in the case of paper.<sup>22</sup> This suggests that they take digital texts less seriously to begin with than texts on paper when it comes to monitoring their own understanding of the text. It is clear that such effects of digital versus screen reading will have far-reaching implications for literacy – and the definition of literacy – in the longer term.

Then just as new text technologies have always been accompanied by changes in the social function of text, they have also given rise to new genres. The almanac is a typical example of a genre ‘created’ by the printing press, just as the so-called ‘annuals’ (miscellanies of poetry, prose and illustrations, handsomely bound for the end-of-year gift market) were the logical ‘product’ of the rotary press in the nineteenth century.<sup>23</sup> In the same way, the digital element has spawned such genres as the blog and the scholarly e-preprint.

A last but certainly not the least important reason why it would be perverse if book historians refrained from studying the digital developments is that we find ourselves in the unique historical situation that we may observe a punctuation of the textual equilibrium unfolding at first hand. This is much more than the opportunity to undergo a historical frisson, for it is precisely the transitional periods that form the richest veins to mine when it comes to understanding the relationship between technology and mentality. As Harold Love’s *Scribal Publication in Seventeenth-Century England* (1993); Gerd Dicke and Klaus Grubmüller’s *Die Gleichzeitigkeit von Handschrift und Buchdruck* (2003); and David McKitterick’s *Print, Manuscript and the Search for Order, 1450-1830* (2005) and similar publications have shown, we can learn a great deal about the social significance of text technology from studying such pivotal points in its history.

The current turmoil in which print and digital texts are striving to attain a coexistence offers a similar opportunity to take a longer, macro, view of the role of books and reading in human culture. Starting with the early hypertext theoreticians, many observers of digital change have tried to explain the

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21 See Ferris Jabr, “The Reading Brain in the Digital Age: The Science of Paper versus Screens,” *Scientific American* <<http://www.scientificamerican.com/article/reading-paper-screens/>> 11 April 2013, accessed: 11 July 2014.

22 See R. Ackerman and M. Goldsmith, “Metacognitive Regulation of Text Learning: On Screen versus on Paper,” *Journal of Experimental Psychology: Applied*, 17.1 (2011), 18-32; see also Ziming Liu, “Reading Behavior in the Digital Environment: Changes in Reading Behavior over the Past Ten Years,” *Journal of Documentation*, 61.6 (2005), 700-712, and cf. Arthur N. Olsen, Birgitte Kleivset and Henry Langseth, “E-Book Readers in Higher Education: Student Reading Preferences and other Data from Surveys at the University of Agder,” *SAGE Open*, 3 (2013), 1-8.

23 See Lee Erickson, “The Poets’ Corner: The Impact of Technological Changes in Printing on English Poetry,” *The Economy of Literary Form: English Literature and the Industrialization of Publishing, 1800-1850* (Baltimore, 1996), 19-48.

landmark significance of digital text by drawing comparisons with print, retroactively redefining print freshly in the process. For example, that a lack of fixity was recognized as a distinctive property of digital text suddenly made print 'fixed' – even if perhaps more so than warranted by the historical facts. The potentially two-directional communication of hypertext, enabling all readers at least in principle to be authors as well, defined the author–reader relationship in print as one way and hierarchical. This diachronic comparison was important for theoreticians like Jay David Bolter, George Landow and Richard Lanham, also because an historical perspective could be enlisted to legitimize serious academic interest in what appeared to many initially as a mere toy.<sup>24</sup> In that sense, it was somewhat like manufacturing a print pedigree for digital text. Nevertheless, they were the first to draw attention to a number of fundamental properties and their social implications both of print and of digital text forms by comparing the one to the other. In fact, one of the fascinating side effects of the digital tumult has been the flood, more recently, of fresh perspectives on the significance of our typographic history precisely for the way we currently write and think. In their simplest forms, they have been no more than observations that a new form of textual production and dissemination is upon us – observations that are often accompanied by the prediction that the paper book will soon appear to have had its day. The more sensitive and sophisticated of such contrastive historical approaches have often generated genuinely new and unexpected insights.

Notwithstanding the practical objections – such as they are – that we have already encountered, it makes perfect sense, then, for the discipline to straddle the historical periods of various forms of handwriting and print as well as digital text. Seen from such a macro perspective, we can recognize our literate mentality as contingent: dependent on a particular combination of a complex set of literate habits and the means of textual reproduction that enable them. Thus the 'Order of the Book' as one instance of literate habits is also the product of one unique such constellation, which is inexorably coming to an end, to be replaced by a presumably more digitally inspired set of literate habits. Only if the discipline is prepared to cover the digital changes that confront us at present can it achieve the breadth of vision that is necessary to obtain an overview and recognize the connections between technological changes and longer-term changes in mentality. If, for example, in the twenty-first century writing should begin to lose some of its dominance as the multimodality of the new media asserts itself more prominently, this can only be noticed *in comparison*. Similarly, it is only possible to talk of the web as a 'democratic' medium, characterized by the fundamental equality of reader and author *in*

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24 See Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing*, Hillsdale, New Jersey, 1991; George Landow, *Hypertext: The Convergence of Contemporary Critical Theory and Technology*, Baltimore, 1992, and Richard Lanham, *The Electronic Word: Democracy, Technology and the Arts*, Chicago, 1993. All emphasize the revolutionary possibilities of hypertext, stressing the empowerment of the reader in devising his own way to navigate a text.



*comparison* with the hierarchical nature of the author-reader relationship in print.

If we regard our discipline in the light of the longer history of textual dissemination, including the history of writing, codicology, book studies in the narrow sense (history of 'print culture,' bibliology, bibliography), as well as the study of digital forms of textual transmission, such a broad discipline can do justice to the ultimate interest of book studies as a sociology of texts. As such it can contribute to an understanding of the impact of textual communication on human culture, including how digital textuality functions; what the constraints on its functioning are; what impact it is having on society; how it will undoubtedly change once again our literate mentality. Moreover, extending the book studies umbrella over the handwritten and digital textual mediums avoids making the discipline irrevocably historical as paper-based textual communication gives way to digital.

Book studies has always been a very diverse field. Until recently, codicology and book history were fully separate disciplines. If they have moved closer together in recent years (as a result especially of the interest in the transitional period between handwriting and printing), it is not a huge leap to embrace the study of the transition from paper to digital text forms, and thus digital text forms themselves, as a natural extension of the discipline. Individuals find niches for themselves in this newly merging field of manuscript and print studies now, and they can keep doing so in a field that also encompasses digital textual transmission. As for opening the floodgates, there will be no need for anyone to cover the field single-handedly in such an extended scenario any more than is the case now.

More salient perhaps is the question how a discipline studying such a diverse range of textual forms could practically cultivate a sense of unity. Though I do not think this needs to be a very difficult issue, and I do not intend to answer the question at all conclusively, I would like to suggest a couple of ways in which unity readily suggests itself. This is in the shape of, first, a unifying model and, second, research methods.

To model this unified, integrative field we need look no further than Robert Darnton's familiar communications circuit. Immensely useful as it is as a model for the history of the late eighteenth-century book-trade in particular, its usefulness can be extended even further by selecting it as a point of departure also for the study of other historic periods.<sup>25</sup> The advantage of using this familiar model is that it helps us on a metalevel to gauge the implications of such a reconceptualization of the field. The adjustments required for it to fulfil its conceptual function for other historic periods will immediately make it clear how it affects our thinking about both the object (text forms, regardless of technology) and the subject (a sociology of texts) of our discipline. If we do indeed accept that over time the ever-strengthening hold of the printed book on

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25 As I suggest in "Bibliography for the New Media," 96-108.

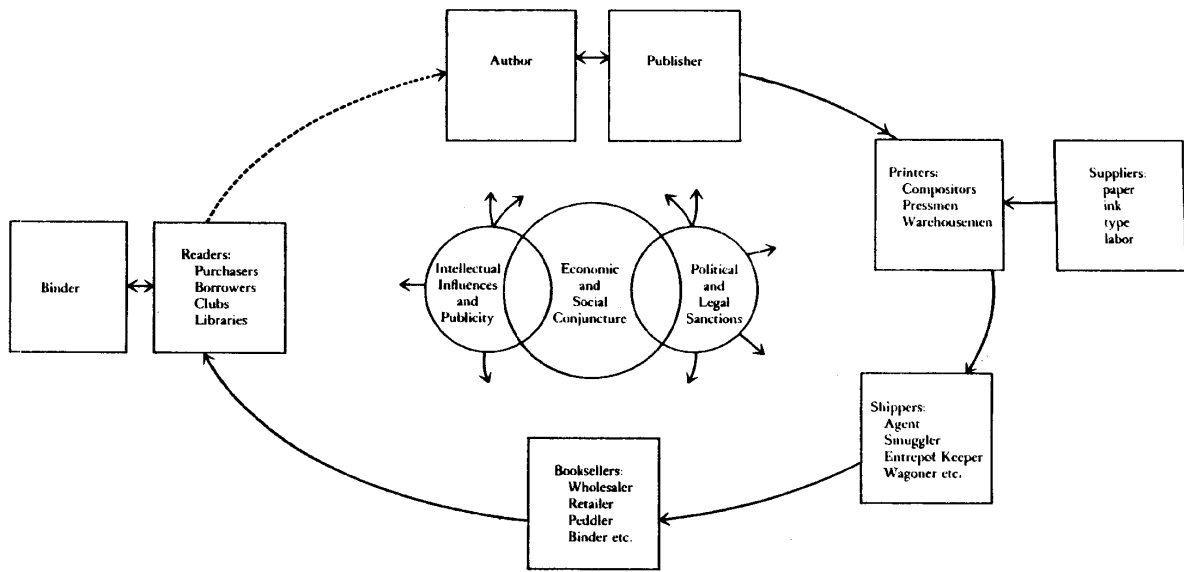


Figure 1: Robert Darnton's Communications Circuit (Robert Darnton, "What is the History of Books?" *Daedalus*, 111.3 [1982], 65–83, repr. in *The Kiss of Lamourette: Reflections in Cultural History* [New York, 1990], 107-135, 112)

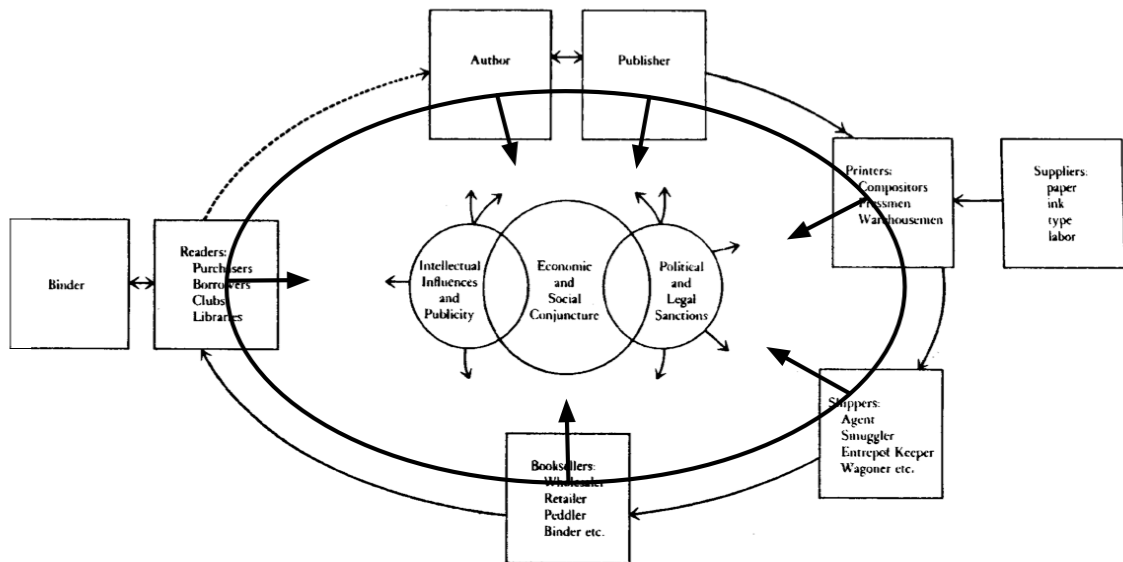


Figure 2: Darnton's Communications Circuit showing the influence of changing text technologies on society

society affected our cultural history, it will make sense to consider applying the outward pointing arrows in Robert Darnton's communications circuit also in the reverse direction. 'Intellectual influences,' the 'economic and social conjuncture,' and 'political and legal sanctions' absolutely exert strong forces on the world of the book. However, from a longitudinal perspective, the reverse can equally be observed: The particular technologies involved in the production and reproduction of text at any given time also have their impact on the intellectual, economic, social, political and legal conjuncture. This means that it is helpful to regard printing not as the fixed means of textual reproduction it is in the current model, but as a historically contingent stage in the sequence from various forms of manuscript to various forms of printed to digital textual communication. The prevailing conditions in the model's centre, both as conditions governing the activity in the circle and as conditions resulting from that activity, are similarly contingent. For example, moving from the late eighteenth century (for which Darnton originally devised his communications circuit) to the present, each new medium that is invented and subsequently adopted, from photography to television, becomes part of the ever-transforming 'social conjuncture' in the centre of the model. That is to say, along with every (major) change in text reproduction, the economic and social conjuncture, and the particular constellation of political and legal conditions change too. The sum total of these conditions makes up the intellectual climate that defines our literate mentality at any given moment in history.

In other words, recognizing the historical contingency of textual form requires a change of perspective. This is to shift the disciplinary emphasis from the – historically contingent – *form* of its object to its *function*: textual communication in the service of literate intellectual communication. If the changing *historical* relations in the model can be studied, both along the circle and between the circle and its centre, it is eminently possible and, I would suggest, singularly rewarding, to study similarly the relations obtaining under a regime of digital textuality and the impact of digitization as it is making itself felt today. With its unprecedented speed and radical implications the digitization process has only just begun, and it is a moving target. Nevertheless, to regard digital textuality diachronically as a sequel to paper-based, manuscript and print textuality satisfies a natural demand to regard textual communication as culturally continuous, regardless of its contingent form.

If the communications circuit offers a valuable model to be used across the three chief periods of textual transmission, ample continuity can also be found methodologically. Many digital text shapes may look distinctly unbook-like in form and content, and to study them may at first sight require unbook-like tools. However, there is a significant set of basic tools to serve us across multiple textual media. Regarded from a sufficient level of abstraction, many of the methods of book history (such as enumerative and analytical bibliography) can be straightforwardly applied to the production, dissemination and consumption of digital text. Much of the analytical bibliographer's toolbox is eminently transferable and can serve to perform 'close readings' of 'traces' of the

technologies and their products.<sup>26</sup> In analytical bibliography, the study of the individual products of the printing process stands in a two-way relationship with the study of print technology: they mutually inform each other. Similarly, by looking at the inherent properties of digital technologies,<sup>27</sup> one can learn much about individual digital texts.

The enlarged, unified perspective proposed here enables, and invites, the sort of enlightening two-way diachronic comparisons that I mentioned earlier. Such comparisons can give an insight into parts of 'bookness,' assumptions about 'books,' and habits with regard to 'books' that would otherwise remain unexamined – or at least underexamined.

Historically, the printed book was the first, and for centuries remained the only medium for the large-scale transmission of culture and knowledge. Despite the 'new media' of the nineteenth and early twentieth centuries such as photography, film, radio and television, it remained dominant in all formal education. At the time book studies grew up as a discipline, this dominant position persisted, but it is now being challenged by the digital developments. At first these latest 'new media' were a formative influence by and large external to the book. By the turn of the twenty-first century, however, the book increasingly functions within a larger media sphere in which the digital media appear to be becoming dominant. Many of the paper book's functions are taken over not only by digital text forms, but equally by other modalities, such as video and sound – which are now of course also digital. In these conditions, one may legitimately ask why we should study textual mediums (manuscript, print or digital) separately rather than in conjunction with these other modalities. The discipline's own mindset is that of the paper book: that of the 'Order of the Book' in which it grew up. It could be argued that in these converged – or converging – circumstances, this is a severely limiting mindset.

It could, indeed, well be argued that it makes sense to employ a media studies perspective because mediality is the defining characteristic of a particular subsystem of human communications. Media studies would then be the natural discipline to study that subsystem, which includes textual mediums as well as all the other mediums and modalities. As writing loses its privileged position in knowledge transmission, starting from the advent of the first wave of 'new media,' but especially in the converged twenty-first-century context, why hold on to a paper-based perspective? Also, pragmatically in the context of digitization, books are turning into access items, with universal access devices taking over from individual texts as products. Media studies has long been accustomed to regarding media from an access rather than possession perspective. The discipline already brings the right mindset and methods, so why not let it study digital text, and leave book studies to deal with the paper book?

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26 See, for example, Galey, "The Enkindling Reciter," 201-247, and Matthew Kirschenbaum, "Editing the Interface: Textual Studies and First Generation Electronic Objects," *TEXT*, 14 (2002), 15-51.

27 See Van der Weel, *Changing Our Textual Minds*, 67-103, 142-192.

However, I think that there are good reasons to regard textual mediums separately after all, and that we cannot do without book studies. The first reason is that book studies offers a *textual* perspective. Textuality stands apart from all other forms of mediation most conspicuously in that it requires a particular formal schooling in reading and writing.<sup>28</sup> Anyone who has gone through such schooling is initiated and socialized into a system of knowledge dissemination that is fundamentally and thoroughly based on text. Literacy is central for the transmission of knowledge in education, for scholarly communication, and for the transmission of culture and knowledge at large. Text remains to date the chief vehicle for all of these crucial pursuits.

The second reason is that book studies offers a *historical* perspective. As I have demonstrated, it is vital to study the sociology of texts from a historical vantage point. Media studies, by contrast, is not primarily – to the extent that it is at all – concerned with history, and less so with the history of reading and literacy.

Thirdly, book studies offers a *material* perspective. Media studies does not deal with objects as primary data: The emphasis and focus in media studies is preponderantly on content and purpose of communication rather than how content and purpose are shaped by changing technology over time. Media studies is focused on senders, messages, and receivers. To be fair, ownership, which has always been so important in the case of books, is irrelevant for most media, and thus holds little interest to media studies. Materiality is especially relevant because of the link with the embodied nature of human cognition that I mentioned earlier. We use text technologies to support our cognitive behaviour.<sup>29</sup> Also, we should not forget that, ultimately, digital media are also material, made up of silicon, plastic, and metal. Even the virtual nature of digital textuality has a firm material base.<sup>30</sup>

The special status of reading and literacy in cultural history makes it not a good idea then to regard book studies as a mere specialization of media studies. For that, media studies has insufficient historical depth, and it is insufficiently material. Again, this is not to say that the media studies perspective is not useful; just that it should not be allowed to dominate and obscure the typical book studies one. So, let us by all means borrow from media studies as much as we feel the need to borrow. We might even regard media studies as an overarching framework, a comparative discipline, within which each subdiscipline studies primarily, but not exclusively, its own medium with its own language and tools. This would enable book studies to make valuable ‘sideways’ comparisons (with other mediums) in addition to the usual historical ones across and between the three major textual epochs mentioned, and can offer insight into the significance of the wider medial context especially in the

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28 See also the definitions given in Van der Weel, *Changing Our Textual Minds*, 39-66.

29 See, for example, Lambros Malafouris, *How Things Shape the Mind: A Theory of Material Engagement*, Cambridge, Massachusetts, 2013.

30 As Matthew Kirschenbaum has phrased it: “Every contact leaves a trace” (see *Mechanisms: New Media and the Forensic Imagination*, Cambridge, Massachusetts, 2007).

last century and a bit. But we do continue to need the models, methods and perspectives of book studies. Book studies is (or at least ought to consider itself) a sufficiently dynamic discipline to take on an extension of its conventional object to include digital textuality.

The definition of the book is changing under the influence of the digital means of text transmission. Rather than avoiding the challenge by averring that digital text forms are insufficiently 'book like,' the subject of book studies needs to develop along with its object. Just as the changes in its object today (the move to digital textuality) also redefine its historical object (paper textuality), the discipline needs to change to enable it to continue to appraise its historical object in a way that speaks to our changed textual world.

For sound historical reasons, book studies has tended towards a print bias. It is one of the notable advantages of the proposed longer, unified perspective that it makes it easier to avoid privileging one textual medium (the paper book) and its means of reproduction (printing) over any other, instead recognizing their commonality as textual media. This is of course especially useful as we are witnessing the rapid replacement of many print functions by digital 'substitutes' (as well as new textual forms newly enabled by digital textuality). In fact, it enables challenging the whole notion that we are talking about digital 'substitutes' in the first place. It would be perverse not to avail ourselves of the historical opportunity to witness the current rearrangement of the media, and to observe the textual element finding a new, and possibly less dominant, place in the medial spectrum.

Sociological studies of new knowledge in science abound, as do studies of technological innovation, but thus far there has been little...  
In book: he Social Construction of Technological Systems. New Direction in the Sociology of Technology, Publisher: Cambridge, MA: MIT Press., Editors: W.E. Bijker, T.P. Highes, T. Pinch, pp.17-50. Cite this publication. Wiebe E. Bijker. This book offers a unifying concept of texts that seeks to acknowledge their variety and the complexity of their relationships. ...more. Get A Copy. Amazon. His first premise argued for bibliography as a synchronic survey of literary history - a "sociology of texts" - insofar as it investigates the factors of production, dissemination, reader reception, editorial license, etc. responsible for different iterations of one text. McKenzie perceives the text as inclusive and exclusive, open to hermeneutic activity and defensive of its autonomy, and calls on bibliograp  
McKenzie's twofold agenda was fairly accessible and (objectively, at least) compelling.