

Introduction: From the ‘Order of the Book’ to a digital order?

Western culture is a mediated culture. Mediums, more than direct personal experience, define people’s world picture. Starting with images in prehistory, mediation took off in earnest with the invention of writing. It accelerated as first print and then new medial forms such as photography, film, radio, and television were invented at ever shorter intervals. In such a mediated culture, medial change has an enormous social impact. Already the current digital developments are showing to be no less momentous than those of the epoch-making historical changes that preceded them.

Books, newspapers, periodicals and any number of old and new text formats are now finding digital forms at a rapid, even exponential, rate.¹ Paradoxically, text is both the first and the last of the medial modes that is to go digital. It was the first in the sense that text was the first modality after numbers to become computable in the 1950s. Since then digital texts have become available in vast quantities, both digitised analogue texts and texts that did not exist in an analogue form before, notably web pages. At the same time, and this is the paradox, paper books, newspapers, periodicals, and other products of the printing press continue to persist also in vast quantities. While digital photography, digital video, and digital music are now the norm, the entire analogue world of printing, bookshops, and libraries still largely continues as of old.

That it is the last of the medial modes that is to go digital is the result of that peculiar phenomenon in the dialectics of progress that an initial head start tends to turn into an eventual handicap.² The long-term importance of text and print to society, and especially the gradual perfection of the book into the reading machine it is today, have given it a ubiquitous and hardy presence. In Western culture printed text structured in the form of books has become a major social organising principle, which I will be referring to as the ‘Order of the Book’. The absence of the book as an organising principle and fixed point of reference is hard to imagine.

It is hard to imagine that the world of paper texts could go the way of analogue music, with the gradual disappearance of record shops and record companies. Yet there are many signs that this has already started to happen. The digitisation of textual transmission is proceeding so rapidly that already the consequences are huge and all-encompassing, indeed revolutionary. As reading practices move online, the once discrete products of the print world all become part of the digital textual ‘docuverse’, and that docuverse in turn becomes part of the all-digital array of mediums converged on the World Wide Web. In the online digital domain, reading—once an isolated, private activity—is but one of a panoply of medial activities on offer. Increasingly reading has come to share the same space with shopping, watching a

¹ The history of e-book sales in the US may serve as an example of such exponential growth: http://www.idpf.org/doc_library/industrystats.htm.

² A phenomenon the Dutch historian Jan Romein termed the ‘law of the diminishing lead’ in *The Watershed of Two Eras: Europe in 1900* (Middletown, Conn., 1978), p. 4.

film or television, listening to the radio or a podcast, emailing or writing a blog entry.

Moreover, as I have argued elsewhere,³ if the Order of the Book is gradually disintegrating, it is highly unlikely that it will be replaced by a similar but now digital order. The chief characteristic of the digital ‘order’ seems to be precisely that it evades a sense of order. It certainly evades the familiar one-way linear hierarchical order fostered by the print paradigm. This makes it all the more urgent to attempt to understand the implications of the digitisation process that is currently washing over us.

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The chief purpose of this book is to ‘make visible’ the digitisation of textual transmission and what it entails, and to assess its (potential) impact. The advent of a range of ‘new media’ in the last 150 years or so has been studied in meticulous detail. In fact the impact of photography, film, radio, and television continues to be scrutinised to this day. By contrast, the changes in textual transmission—though they are, as I shall argue, at least as pervasive and formative of our culture—have been comparatively neglected. Moreover, while the tremendous social change caused by an invention like the steam engine is rarely questioned, the notion that the printing press could be regarded as an ‘agent of change’ is anathema to most historians today. The transformativity of other technological inventions is readily accepted, but the notion of the transformativity of textual mediation seems for some reason unacceptable.

Among the more plausible explanations for this skepticism is the fact that text has been with us for such a long time. Text is old in the sense that its cultural transmission started a long time ago (if 5-6000 years may be called long in human history), but it is also always old in each individual lifetime. Learning to read and write tends to happen so early in formal education, if not before, that humans have little conscious experience of preliteracy, leaving text almost invisible as a technology. As a consequence our awareness and understanding of the formative role of *text* rather than ‘the media’ (usually confined to film, radio, television, and journalism) in human culture remains surprisingly rudimentary.

The need to redress this imbalance is one major reason why, despite the convergence of all modalities in the digital realm, in this book I will restrict myself to the modality of text. (Although I will naturally place text in the context of other modalities where relevant.) Despite the prominence of ‘the media’ in contemporary society, writing remains the most important medium for the transmission of knowledge ever devised. It has a long and continuous history of inscribing human culture. Text has given material shape to opinions, knowledge, creative ideas, and so on for centuries.

³ In ‘Explorations in the Libroverse’, forthcoming in the proceedings of the 147th Nobel Symposium, ‘Going Digital: Evolutionary and Revolutionary Aspects of Digitization’, Stockholm, Royal Academy of Science, 23-26 June 2009.

One advantage of this restriction in scope is, incidentally, that it allows the major—but by no means the sole—disciplinary perspective on this digital revolution to be that of book studies. Book studies used to be confined to the printed book and other products of the printing press. However, the recognition is now beginning to take hold that book studies should take a longer perspective, and deal with the history of textual transmission at large. Though an entire chapter will be devoted to a definition of terms later on, this distinction is worth stressing now. The material *book* is merely one particular, historical, form in which text is materialised. *Text*, on the other hand, is a system for the inscription of linguistic utterances by means of characters, that both predates the book and survives it. In other words, even if text as a *modality* remains constant, its materialisation as a *medium* has taken a variety of forms. A manuscript book, a printed book or digital text all use the same modality, but represent different mediums. In such a longer perspective the history of the book is merely a chapter in the history of textual transmission, which is the history of the production, distribution and consumption of text. The history of textual transmission is also the history of the interaction between textual form and textual content—in manuscript, printed and digital form—and of the social significance of that interaction. Though this longer perspective is relatively new, book studies is a long established discipline, which is itself of a multi-, if perhaps not quite postdisciplinary nature. In this book I intend to borrow insights from many other disciplines, including linguistics, philosophy, science and technology studies, brain and cognition studies.

The method I will use to assess the significance of the digitisation of textual transmission is twofold. Chiefly, I will give a descriptive historical account, along with an analysis of the importance of the major milestones: the inventions of writing, printing, and digital textual transmission. This historical account of the long and continuous history of inscribing human culture by means of text stresses the technological nature of textual mediation in order to make it more visible. The historical account also emphasises that the textuality that characterises Western society today is the outcome of a long and organic process. This began when the first forms of writing began to invade the oral mindset. Then printing changed not only the technological means by which texts were transmitted but equally the nature of their contents. Now the flood of digital texts is again affecting both the nature of the message and its social significance. The history of inscribing human culture has been, and continues to be, a process of continuities and discontinuities. Some elements of the earlier technology carry over into the new, while others gradually disappear and entirely new characteristics emerge. In this organic process technology will be found to play a pivotal role.

In the historical narrative the central focus will be on the introduction and next the development of the digital textual medium. It discusses the social implications attending on the change from predominantly paper-based to increasingly digital textual mediation. Despite all appearances to the contrary, I would suggest that the digital substrate has lent to text a new and unfamiliar aspect.

This book probes especially what that unfamiliar aspect consists in, and what its significance is. While not ultimately immaterial, the inscrutable and conditional existence of virtual text, for example, gives it a ghostly and unstable quality. The convergence of modalities, as well as the convergence of formerly discrete mediums in a single digital medial space has repercussions that are not at once obvious but nonetheless farreaching. The digital ‘docuverse’ enables new ways of accessing the text, both as a whole (the unitary text, conventionally identified, for example, by means of a library catalogue record) and as fragments of text within a collection of unitary texts. Moreover, the ‘democratisation’ of textual production, distribution and consumption creates an entirely new relationship between author and reader.

The second part of the methodology is that this historical account, although it concentrates on the digital developments in text transmission, will be a contrastive analysis of all of the textual revolutions and their impact: the introduction of writing, printing, and digital textual transmission. In this way historical knowledge about the actual development of the earlier relevant medial technologies of writing and printing can inform an understanding of the digital revolution that is now taking place. A historical comparison can establish certain technological properties that can be seen—at least in retrospect—to account for its later development and, importantly, its social consequences. For these properties I propose to use the concept of *salient properties*.

In this process, social factors play a role too. The historical account of the way the computer came to be the next major support for text stresses the sociotechnical nature of change. This suggests a spiral movement in the dialectic between social and technological factors, in which however, technology acts as a catalyst. It both contributes the initial driving force and represents the conditions enabling change, initially as well as later. Technologies are usually created without a clear view of their full ultimate deployment. They usually suggest social uses *after* they are made available. It will be shown that these social uses are frequently not only additional to, but different from those foreseen by the developer of the technology. Instead of being steered by intentions, the development of technologies tends to be steered by inherent technological properties: their salient properties. Attending the unintended *uses* of technology there are obviously also unintended *social consequences*.

Such a comparative historical perspective on medial change also highlights the transformative nature of textual mediation. The book will suggest that medium change is as transformative as, for example, the evolutionary development of language in humans, influencing not only the form but also the content and nature of human knowledge. The implications are vast and, far beyond those who deal with text professionally (writers, educators, scholars, publishers, librarians), affect society at large, notably in such institutions as education and democracy. By helping to determine the way we think, they help to determine our culture and our identity.

This latest revolution in textual inscription is happening right now. It may be too early to bring to the analysis the right amount of historical distance to make lasting verdicts about its significance, but I am convinced that studying the radical

changes that are now happening will afford much-needed insight in the mechanisms at play. The findings from the comparison can be usefully applied to the present, offering a 'handle' to help understand present developments and perhaps even a measure of control over this process of change. Moreover, establishing the inherent properties of digital textuality in a historical perspective also allows a tentative extrapolation into the future. This is not intended as an exercise in fortune telling, but to help to gauge the pervasive transformative power of this latest textual revolution.

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The book is organised as follows. Suggesting a parallel with language *Chapter 1* establishes the transformative nature of textual technology. It elaborates on the book's aims and the method it employs, and discusses the challenges to the task at hand.

Chapter 2 offers definitions of the most relevant terms to understand textuality and its significance for human culture, and so sets the framework for the account of the historical development of textual technology and the contrastive analysis in the remainder of the book.

By presenting a concise account of the history of textual transmission up to the digital revolution, *Chapter 3* presents the historical context in which to understand that revolution. However, it also demonstrates how contemporary developments in the digitisation of text throw a new light on the earlier revolution of printing, forcing a reinterpretation of 'known' facts. In fact it challenges the very notion what it was that Gutenberg invented and why that was, or was not, significant.

The main topic addressed in *Chapter 4* is how developments in the digital transmission of text resulted from the interplay between social and technological factors, and how this relates to inherent salient properties of the digital medium on the one hand, and the social construction of these characteristics on the other.

Chapter 5 presents the particular constellation of salient technological properties that characterises digital text. It identifies some of the many social repercussions of this particular technological form of the medium, affecting both the nature of its messages and the connotation of digital textuality in the wider social sense.

Chapter 6 sketches in very broad outline some of the current and potential future effects of digital textuality, and in so doing, returns also to a discussion of the nature of sociotechnical change in the light of the book's findings.

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This book started life as a course reader, collecting a few instructional texts on markup: what is it, what it does, and how to actually mark up texts. It has since gained in ambition and scope, and altogether lost its original purpose. It found its present form as an essay on the history of textual transmission in 2007, when a

subsidy from the Dutch national research funding body, NWO, enabled me to take a six-month sabbatical, freeing me from teaching duties.

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