Drowning by Versions[1]

by **Mats Dahlström**

The scholarly, critical edition (SE), a quite complex metatextual and at times metamedial tool, is an outstanding child of print culture. It might prove a valuable study object of media history in order to gain insights into the mechanisms involved in the transition of works from one media setting to another. The SE forms and is formed by a particular conception of the way literary works could - and even should - be (re)presented in codex book form. Obvious factors in this formation are the very physical constraints posed by the codex book, or in other words the material 'economy' of print culture. Opportunities brought about by digital media and technology have begun to challenge the hegemonic SE form. This article addresses some relations between codex books and computer files as tools for storing and distributing SE:s, thus attempting a few media theory notes. What are the essential constraints and qualities of the two media forms, and to what different edition types and editorial strategies might and might they not be favourable? Are there areas where the two overlap? Where they compete? Will the role of the scholarly editor change? As incunables, current electronic SE:s tend to imitate the still sovereign print editions. Perhaps we had better consider what possible added value a digital edition might have in comparison to its printed counterpart - and vice versa, and how they might complement each other?

Contents

The physical medium signifies. Material matters. A number of studies[2] have emphasized in what way the medial forms and the textual carriers affect the storage, presentation, and distribution of the text itself. A literary work is rarely transferred from one medium to another with no textual affect at all. The analogy occasionally made between text, being transported from one carrying medium to another, and wine, being poured from one carrying bottle into another, can rather be quite misleading. Each medium, as well as each document type produced within and for that medium, offers a certain architectural setting, a particular *document architecture*[3], and brings to the text a semiotic system of its own[4]. Every transmission of a literary work affects its text[5] due to the qualities of the tools used, the specific architectures of the new medium and the more or less conscious measures of the person responsible for performing the transmission[6]. Certain features of the textual work that can be expressed within the new architecture and its web of signs are preserved, while others are treated as noise, obscuring the essential text signals.

This was certainly the case as ancient classical works of literature went from the specific architectural economy of the scroll to that of handwritten codex books, and were finally adjusted to the specifics of the printed book form. There are elucidating historical parallels within other art forms, e.g. musical notation[7]. It also holds true for the current transition of text: with each digitisation certain particulars of both the work and the tool are emphasised at the expense of others, and there is always some collision between different document architectures[8]. (Hence, media conservatism doesn't necessarily have to be of an irrationally fetishist nature, but might as well be based on a quite legitimate preference for known rather than unknown noise: "We need to acknowledge that the defense of any older communication system may be grounded in a not necessarily illogical desire to hold on to the noise we have in favor of the noise we may get"[9]).

Furthermore, as any McLuhan student knows, a new media form poses as the old medium by imitating its very form. Any bibliological study will tell how the first printed books, known as the incunables, well into the 16th century tried to fit a previous medial expression into the economy of the new, and thereby did their best to pose as handwritten, illuminated manuscripts[10].

Such collisions and transitions have, to some extent, been studied within disciplines such as book history, editorial theory, textual criticism, and analytical and historical

bibliography. One would therefore welcome more intense cooperative efforts between the currently "sexy" market of electronic publishing and the perhaps not-so-sexy competence of the latter disciplines.

1. Classic scholarly editions

Now, the changes brought about by transitions are doubly evident in the realm of *scholarly critical editing of literary works*.

This highly specialized, academic procedure has, even from its beginnings in the 18_{th} century, had as its purpose to deliver the edited work from one audience and generation to another, from one presentational display to another, from one carrier to another. And in the specific case of ancient works, scholarly editors have had plentiful reason to consider metamedial perspectives, as these works have been represented in different architectural media settings through the centuries[11].

The editors of classics are furthermore faced with truly *virtual* works. The originals are long since lost, and editors are left with the derivative medieval copies, all typically diverging from one another. The genealogical editors are hard put to tell which copies are more "faithful" to a presumed original text than others. A classical work is thus normally extant not as a unitary work, but as a complex mass of versions[12], and one might indeed be tempted to ask: if all the variant texts differ, where is the Work? In some discussions on hypertext editions, such striking versionality has perhaps been overexaggerated as far as works from the 19_{th} or 20_{th} century are concerned (and where, besides, we often have the authorial manuscript extant), but this is not quite the case with ancient or medieval literature[13]. The editors need to account for this versionality and degree of variance, and have been struggling to fit the fruits of their diachronous labour into one synchronous media architecture: the anatomical economy of the codex book, thereby producing what has come to be labelled the *scholarly, critical edition* (SE).

The SE, with its complex mass of interrelated, multi-layered and diversified textual material, is certainly one of the more outstanding metatextual tools print culture has brought about[14]. Any variant of a SE contains an assortment of diversified textual material from different hierarchical levels of the edited *work*, the abstract conception of which still is the very glue that holds a SE together. As a metatextual tool, the SE might prove a valuable study in order to gain further knowledge and insights into the mechanisms involved in the digitisation of works previously represented on printed paper. Throughout the centuries, classicists have developed theories and tools for establishing the relationships between the different work manuscripts, with the final purpose of conjecturing what its ancient author really wrote. These tools are conjoined in the printed SE and include such ingenious innovations as stemmata, concordances, varying indexes, hierarchical structuring of the displayed text by way of typographical means ("acoustic markup"), foot- and endnotes and other internal or external referential systems, commentaries, glossae, and various apparatuses.

More importantly, the SE, bound to and in a printed codex book, is constrained by the

printed book's limitations, the prime effect of which is the SE's necessity to display the work in the form of one primary base text. Admittedly, there are examples of SE:s structured so as to display more than one full version of the edited work. Parallel editions display normally two or perhaps even further versions. What is thus gained in versional abundance is however lost in manageability. And there are even further rivals to the universional SE, displaying varying architectural solutions: synoptic, variorum, or genetic editions. At times difficult to work with - not to mention reading from - these exceptional types illustrate the very limitations of print media and pinpoint the need for renewed medial forms for the SE. Typically, the SE however centralises its display of the edited work around one chosen or eclectically constructed version, known as the base text or the copy-text. The other, heterodox versions of the work are then literally brought down from the enlightened body text and placed in the catacombs of the printed SE, namely in the labyrinthine variant apparatuses. Thus buried, the noise of dissonant works becomes barely audible.

In this way, the printed SE tries to break its 2D bonds and represent the 3D qualities of the classical work. In theory, the SE spans from the uniform work (as manifested in the particular base text) to the multiform work (as manifested in the different versions). Due to the mere economy of the codex book, the printed SE however serves uniformity better than multiformity. In addition to its privileging of one particular work version, the functionality of the variant apparatus is a chimaera[15]. Apparatuses (notoriously laborious, if not downright impossible to read and understand to users outside the minimal circle of the immediate specialist core) are originally designed to support the potential reconstruction by the reader of the base text's rival versions, thereby compensating for the spatial limitations of the book. However, anyone having dealt more than briefly with the typical variant apparatus of a SE of a classical work will probably agree that it normally fails in this. In summation, the traditional structuring technique of the codex SE supports one particular view and presentation of the literary work, its text, and its status.

2. Scholarly editing reconsidered

Now, the facts of book history shouldn't blind us to the potentials of scholarly editing as such. The sovereign hegemony of the printed codex book as a vehicle for SE:s, and its subsequent, almost cathedral status in the consecrative procedures of literary life, has perhaps refrained us from asking such fundamental questions as: What *is* scholarly editing, its function, aims and purposes? When and why is a particular work considered ripe for scholarly editing? Where, if ever, is the line between *a* SE and *the* SE? What is the time-span of a SE, and which is its intended audience? What are the possible forms of the edited work of art[16]? What are the possible media forms at hand for the production of a SE?

Each and every one of these basic questions are quite legitimate, and should be addressed from time to time by anyone contemplating the act of scholarly editing as a subjective and historically contextualised approach. The last decades have witnessed a revived discussion in editorial theory and principles, and practically all of these

important questions have been put in the forefront[17]. The first one, for instance, is a useful reminder of the very nature of scholarly editing as one particular approach to literary works. It certainly is different from other approaches, such as e.g. linear leisure reading, and is, in the context of *haute culture*, considered somewhat superior, but is still only one perspective among several. However, the last question above, namely that of the appropriate tools and media forms for the SE construction, has in particular become the centre of attention at an accelerating rate. The hegemonic and almost ossified form of the printed SE has begun to be challenged.

The reason for this is threesome:

Firstly, a frustration concerning the way codex books seriously constrain what can and cannot be done in critical editorial practice[18]. Because of its physical economy, the printed SE can address only one particular editorial strategy, and is therefore useful primarily to one particular user group. This is of course due to the fixed and stable quality of printed artefacts in general. Where there is a need for new editions, either because the current printed SE has turned obsolete for various reasons (e.g. new manuscript discoveries or changing research trends, theories, or agreements), or because it is difficult or perhaps impossible to use for certain target audiences, new printed SE:s have to be manufactured - at significant costs to producers (editors, publishers, departments) as well as consumers (readers, libraries, the general public). Needless to say, finally, printed SE:s exhibit quite meagre opportunities for multi- or hypermediality, thereby supporting various presentations of and perspectives on the work from different kinds of media in a rather poor way.

Secondly, the last century has to an increasing degree witnessed alternative notions as to what way literary works should be presented in SE:s. Genetic criticism is such a notion, where interest lies in focusing on and presenting literary works as evolving processes during significant periods of time, as progressive results of either monoauthorial labour or collaborative efforts, where the author is but one (albeit important) agent. Subscribers to this view can quite understandably regard as rather trivial (or perhaps even a waste of time) the traditional printed SE with its frozen image of the way a dynamic multi-agented work happened to look like at a certain chosen moment in time[19]. As well, various sociological approaches are interested in scholarly editions exhibiting parallel views of the work as it has been displayed and presented to different kinds of audiences at different moments in the public life of the work[20].

Thirdly and foremost, however, the traditional printed SE has been challenged by the promises brought about by computer networks and digital media. Why? Let us begin by briefly addressing some important document qualities that are now enhanced by recent information technology.

3. Digitalics

- *Digital documents are immaterial and therefore logically defined, rather than material and therefore physically defined[21].*

Another way to express this: works manifested by digital documents cannot, as in print culture, be constituted or defined by the more or less accurate alphanumeric notation of their texts, but rather - and in fact *only* - by the pattern of signals and tensions at the binary level of the material carrier. This pattern is, with each displaying of the document, hopefully filtered so as to render the intended textual strings of the work. This secondary, more or less "lucky strike", must however not form the basis of a defining digital document constitution. This task is instead more adequately and reliably performed by the logical pattern[22].

Consequently, the management of large masses of text and images by e.g. search facilities is considerably improved. As well, digital texts, no longer absolutely fixed to their carriers, are transportable between carriers, machines, environments and file formats. This also means that the digital document is free from volume constrains in its storage phase: its storage and display are phenomenologically separate. Hence the increasing tendency[23] to terminologically distinguish between text-as-stored and text-as-displayed and treat them as different, a pragmatically justified practice in digital culture where the two textual phases differ, but not in the firm mould of print culture where they coincide.

- *Digital documents are seemingly dynamic and kinetic.*
  Hence the manifestation forms of the document are variable and malleable with each user. This is what is implied by the perhaps abused term *interactivity*. Depending on a certain user input, the output of a document will differ.

- *All digitally represented art and communication forms are based on the same binary sequences* (as a lingua franca) bundled in files. This facilitates[24] media integrated storage and presentation of works, and radically improves e.g. image processing. Parallel to the hypermedial development, scanning and subsequential OCR processing have made working with e.g. manuscript representations all the more interesting.

- *Wide area computer networks (WAN:s) fundamentally alter the logistics of document distribution.*
  Rather than print culture's pre-manufacturing of a fixed number of identical copies distributed by producers to would-be consumers, WAN:s support the manufacturing of only one set of files made available on a particular hard disk, to which the consumers teleconnect in order to copy the documents by themselves. The responsibility of copying and distributing documents has thus largely shifted from producer to consumer.

- *Markup techniques, especially the general markup languages, make way for a separation of form and content.*
  As well, vast amounts of malleable and searchable metainformation can be attached to the text in separate markup layers. Due to the growing number of sophisticated markup languages designed for specific document types, the level and sheer amount of potential metainformation is increasing. Also, depending on the markup technique used, a particular text can be matched to several different layers exhibiting different levels of markup, depending on the user's needs and

interests[25].

- *Digital documents are to an increasing degree characterized by fragmentization.*
  An expression of this is the splitting of documents into several segments with varying respective functions. Even in the case of a simple web page, we are faced with a divorce of the unified document into at least three textual layers, each of which is editable at minimal level: the binary layer of ones and zeros, the syntactic layer of marked up text along with its markup tags, and finally the presentational layer of temporarily displayed text at the screen or at a laser printed page[26]. The ongoing style sheet implementation as well as XML development seems to speed up this fragmenting process.

  Another aspect of this fragmentization is of course hypertext. While this is a feature not at all alien to printed media[27], it is certainly much enhanced by digital media. Hypertextuality is a structural quality, enabling the multisequential structuring and reading of text through various document layers, interconnected by links, footnotes, and other markers.

Some of these inherent qualities of digital media seem to agree quite well with those of editing processes and of the edited classical works themselves. The latter might seem the most ideal of all epochs to digitise, distribute over the web and use as the basis for the construction of large archives and databases. There has been much talk the last couple of decades of the obvious benefits of digital editions, such as search facilities, but in addition new problems appear, basically due to new architectural conditions of the new media environments. Let us have a look at some frequently addressed arguments in favour of digital editions, and consider a few subsequent problems.

4. Drowning by versions

The previously noted virtual, fluctuating state of the classical work harmonises with the fluid dynamics of immaterial digital text as well as with the altered document distribution logistics of the web. A further perspective of this is that digital editions, unconditioned by the spatial constrains of print media, can offer the user not one but several, or in fact all versions of the work. At least in theory, this seems to lead away from the previously mentioned centralization around one particular version, and to support a transition from universional to universal editions, where collating and stemmatic software offer the user multi- or even omniversional access and comparison. Early digital tools in humanistic research were in fact software to facilitate automatic collation of versions and variants, and stemmatic treatment of the versions.

Does this imply the death of the omnipotent critical editor, as suggested by e.g. Ross (1996) or O'Donnell[28]? Not quite. The single editor's authoritative control in the printed SE, manifested in e.g. the versional prerogative, isn't necessarily of a tyrannical nature. Conversely, the much spoken-of[29] hypermedia database exhibiting all versions of a work, enabling the user to choose freely between them and to construct his or her

"own" version or edition, presupposes a most highly competent user, and puts a rather heavy burden on him or her. Rather, this kind of ultra-eclectic archive can result in the user feeling disoriented and even lost in hyperspace. Where printed SE:s tend to bury rival versions deep down in the variant apparatuses, the document architecture of extreme hypertext SE:s, consequential to the very nature of digitally realised hypertext, threatens to bury the user deep among the mass of potential virtuality. A solution to this problem might be the formulation by the editor(s) of several distinct Ariadne threads through the textual labyrinths. A SE is intended to fulfil two perhaps contradictory user demands: a) the clear, economical, selective guiding through the textual mass in such a way that the user can benefit from the editor's insights and competent judgement[30], and b) the broadest possible presentation of the textual material, enabling the user to choose different paths and variants than has the editor. Print SE:s have adequately satisfied only the first demand, and in practice left the second one as an unfulfilled ideal. Digital SE:s so far try to satisfy both, but there is a grave risk of the second being fulfilled at the expense of the first.

5. Literary material prone to the Web?

The ancient works are presumably copyleft and legally free to digitise and distribute over the web. In reality however, particular SE:s might be protected as such by copyright. Consequently, current SE:s published on the web often deploy editorial results whose copyright have expired, i.e. at least 70 years old, a fact that might work detrimental to the quality and relevance of the edition. Again, this might be less detrimental to editions of classical works, for which there are even 19th century editions still considered as relevant and workable, if not downright standard.

Furthermore, the classics might arguably be regarded as a perfected literary epoch: concluded, analysable, and controllable. This talks in favour of the construction of long-term archives and editions. Attempts so far have proven fruitful[31] for complex stylistic and authorial analyses across hundreds of thousands of documents. The immaterial quality of digital texts and the distribution logistics of WAN:s favour digital representations and management of the medieval manuscripts witnessing the classical work. The original manuscripts, fragile and withering, are more often than not hidden in private archives and libraries, quite unattainable to most researchers and interested readers. Moreover, digital image management such as scanning and subsequent OCR processing has indeed itself offered new and unexpected fields of research for paleographers and manuscriptologists, by demonstraing unforeseen possibilities to analyse and work with the manuscript representations (and has admittedly brought severe quality assessment problems to the world of editing).

6. From universional to universal?

Classical literature is subject to an immense amount of comments, exegeses, and other secondary literature, not to mention the overwhelming numbers of various instantiations,

manifestations, and editions of the works themselves in varying media forms. Each classical work exhibits a highly interlaced network of intra- and extratextual relations. The need for nonsequential[32] and multisequential work with the texts, for the easy comparison of versions, for comprehensive text searches and swift cross-referencing within and across works is obvious, and cries out for the web's automatic hypertextuality[33]. As well, classical works historically represented in varying media forms seem to need the very multi- and hypermediality digital environments support. Also, classical philology has produced huge and bulky printed tools, difficult and expensive to obtain, awkward to use. These aids have rapidly been the object of digitisation, and several are available as databases over the Web[34], thus connectable to future editions and archives. Again, this whole development depends on the future architecture of the Internet itself. It is not improbable that the Net will face personalization, and that depending on various sine qua nons for resource access such as subscriptions, payments, affiliations, one user's Internet will not be the same as that of another user. Furthermore, such development entails the risk of the user drowning within the mass of varying resources. The future, digitally working editor will therefore have to supplement his or her traditional skills with the organising of intra- and extraeditorial resources through e.g. navigational and linking aids, i.e. information management tasks traditionally associated with librarians and other information architects[35]. The organising of information and other such tasks traditionally associated with librarians and other information architects will to a greater extent be a crucial ingredient of future editorial labour. Simultaneously, such organisation efforts must already in their initial phases be in co-ordination with those of other editors and projects, in order to meet scholarly community requirements of synchronised formatting, archiving, display, retrieval, and distribution of documents. Where they are not, readers will not fully enjoy the added value of web media, but rather end up with stand-alone resources analogous to those at the traditional bookshelf.

The inclusive feature has occasionally caused authors to envision future digital editions as containing literally everything ever written, printed and said of an edited work or a particular author[36]. At the end of the day, such "omnieditions" would annihilate any need for further editions of the particular work, since every edition one might wish for would be a possible output from the archive. Sweet as such visions may be, it is still probably quite impossible to express, retrieve and digitise "everything". And again - each and every digitisation is the result of subjective interpretations made by those responsible for the digitisation. This kind of vision however implies the possibility of "neutral" digitisation untouched by the hand of time, context, or even human intervention.

Of utmost interest in this respect is of course the huge architectural potential of inter- or intradocument linking by either hypertext or transclusion[37]. The ability to write and store once, then transclude and instantiate ubiquitously, suggests radically new organising principles for digital SE:s, where an "edition" might better be defined as a purely logical (or even social) document concept, as consisting of bundles of binary digits, temporarily conjoined by agreements.

7. Ideal versatile, extensible editions

Finally, it goes perhaps without saying that markup techniques are paving the way for highly specialised, flexible, and customizable SE:s. Instead of the printed SE's typographic, acoustic markup, the digital SE uses the electric markup of searchable and editable tags. Overall, digital media might support the construction of cumulative, changeable, and collaborative long-term archives[38], where print media offer static, yet temporary ad hoc-editions. A DBMS (Database Management System) archive allowing for varying layers of sophisticated markup can simultaneously accommodate several editorial strategies and aims. Bad news to print fetishists? Not necessarily. There is no reason why a digital archive could not result in a frozen print edition as an out product. The important difference is that a print edition from such a digital archive is *one potential* bi-product, not *the final* end product. The complexity of such envisioned archives allows one to rather imagine many possible edition types, be it reading, student, diplomatic, variorum, modernised, genealogical, multiple, or critical ones. But again, this is very much an ideal state of affairs, at least as far as ancient works, represented in orphan manuscripts and deprived of primary authorial material, are concerned. In reality, the particular strategy, type and architecture of a SE are seldom randomly chosen, but are motivated by and vary according to the particular textual state of the edited work at hand. Electronic publishing does not really annihilate this relationship, and it is therefore perhaps vain to look for one particular ideal structure for digital editions. Rather, their architecture might in the same way need to be in harmony with the particular qualities and needs of the edited work.

(To the top)

8. Where have all the classicists gone?

Considering such harmony as implied above, one would have expected to see a number of "classical" SE:s by now, using digital hypertext and web distribution. But there is as of yet a conspicuous lack of such projects. There are, granted, a number of impressive digital SE projects of modern or early modern or even medieval works[39]. And as for the great national literary monuments of the 19th or 20th century, impressive critical editorial labour is also being done or planned, with the final aims of digital distribution[40]. But for the classics?

There are indeed some notable database resources for classical studies (apart from those previously mentioned, *Patrologia Latina* or the *Perseus* and *Romulus* Projects are worth mentioning). Obviously, there does exist a number of digital products calling themselves hypertext editions. And yes, if by the term hypertext edition is understood anything brought to public attention using some sort of hypertextual structure (which in practice would imply any web page), then there are thousands of such editions of classical works on the Web. And if "hypertext edition of a classical work" simply means a digitised text version supplied with a few relevant external hyperlinks, then there can be no telling how many hypertext editions are currently out there online. But if we by hypertext edition mean a digital edition, composed for scholarly uses and needs, of a particular classical work, presenting some or all of the differing textual versions of the work and interconnecting them using hypertextual links, then the supply is scarce.

There are obvious reasons for this: shortages of time, resources, and competence. The making of any SE, not least a digital one, is a costly business, and will probably only be justified where it offers its users an added value the printed SE cannot. Given the fact that print and digital media each support different ways of managing text, it might be reasonable to imagine future SE:s being distributed using both media simultaneously, supplementing each other, with a clear division of editorial labour between the two.

Another reason for this conspicuous lack is the varying degrees of meritocratic prestige of print and digital media. Further reasons include: copyright restrictions[41]; presumed illucrativity and consequential difficulty in finding financial support; authenticity, security, and long-time preservation uncertainties; as of yet severely primitive software for storing, presenting, encoding, and displaying the kind of complexity inherent in classical works. Finally, both the construction and the usage of existing digital SE:s need probably be thoroughly evaluated[42].

9. Digital incunables

What does exist, if we take a look at actual digital SE:s using hypertext, is a bundle of diverging phenomena with little more in common than the umbrella label of "hypertext edition". Digital editing is yet considerably experimental and immature, and perhaps it is too early to attempt any typology of digital SE:s, even for classical works. What has been produced in the name of hypertext editions so far, are digital *incunabula* and all that goes with it. Judging from a closer look at the existing digital SE:s, they are either a) *digitisations*, in the sense of mere digital reproductions of printed SE:s, strictly continuing the latter's architecture and structure[43] (in which case we might refer to such editions as digitised codex editions, because of their efforts to reproduce digitally the codex book based structure of the edition), b) *hybrid SE:s*, where part of the edition is available as added value on the web, while the rest is in printed book form, or c) *digital SE:s*, all published in digital form. To date, however, the digital SE:s are very much constructed as though they were print based, trying to imitate the architecture and the subsequent status of print editions[44]. They are, in other words, digital incunables.

Traditional typologies of print codex SE:s depict them as supporting either the work as embodied in a particular *document* - i.e. facsimile or diplomatic editions, or the work as abstract, multiversional *work* - i.e. eclectic-critical, variorum, or synoptic editions. In some opposition to this, a division of the products of digital editing might rather be based on the degree of intra- or extraoperal inclusivity and connectivity, where the trend indicates either a) "intraoperal" stand-alone *editions* (e.g. the 1996 CD edition of Chaucer's *The Wife of Bath's Prologue*), pierced by the wormholes of hypertextual links, functioning as elevators between the various floors of the editorial architecture ; or b) "extraoperal", web-like and net distributed *archives* (such as the *Vergil Project*). The former, with its tendencies towards stability, uniformity and in-depth planning, echoes of the values of print culture, while the latter seems to suggest new forms of open-ended resources, specific to digital media, aimed rather at destabilizing and multiformatting the edited work, and where a quite central idea is the very unclosedness or indeterminacy of structure.

Editorial theory is in a constant state of mutual influence with its tools, in this case the media it deploys for displaying its resulting SE. Assuredly, digital media are fostering new architectures for SE:s in the form of e.g. hypermedia archives, various DBMS:s and virtual collections, which in turn will necessitate new theoretical perspectives and ideas. Current digital editions are largely defined by the immanent architectural and structural qualities of existing environments, be it the sophisticated particulars of proprietary markup and software or the open architecture of various Internet protocols. To what extent strategic decisions rooted in editorial theory conversely will generate software development and programming practices is yet to be seen. At the end of the day, the digital edition is the resulting trade-off between ideal theory - what is wished for - and real practice - what can be accomplished. As of yet, there is a significant gap between the two.

About the Author

Mats Dahlström holds a position as a lecturer and doctoral student at The Swedish School of Library and Information Studies at the University of Gothenburg and the University College of Borås. He is also legally responsible for the contents of Human IT and co-director of ITH. Outside SSLIS, he lectures extensively on popular as well as professional aspects of digital documents, and serves as a member of the referential group on electronic publishing matters at the National Council of Cultural Affairs, Stockholm. His main research interests are within document studies, digitization and textual criticism, and his ongoing Ph.D. thesis focuses on textual organisation and document architecture in electronic scholarly editions, with a particular emphasis on the transition from print to digital media.
Homepage: http://www.adm.hb.se/personal/mad/index.htm

Notes

1. An earlier version of this text was published as "Digital Incunables : Versionality and Versatility in Digital Scholarly Editions", in: Peter Linde, John W.T.Smith, and Elena Emelianova (Eds.), *Electronic Publishing in the Third Millennium. Proceedings of an ICCC/IFIP Conference held at the Kaliningrad State University, Kaliningrad/Svetlogorsk, Russia, 17-19 August, 2000.* Washington, DC: ICCC Press, 2000, pp. 224-234. A third, related version in Swedish was presented at "Bok og skjerm", a conference on editorial theory and practice 20-22 October 2000 in Oslo, and will be published as "Trycket från trycket : fixerade, mindre editioner eller mindre fixerade arkiv?", probably some time next year. (Back to the text)

2. Besides the obvious reference to McLuhan's general claim that media morphs the message, two specific consequence analyses are Gumbrecht & Pfeiffer, 1994 (materiality vs communication and media studies) and Aarseth, 1997 (materiality vs narratology and story-telling). (Back to the text)

3. More on the concept of *document architecture* in Dahlström & Gunnarsson, 1999. (Back to the text)

4. David Levy (2000, p. 26) notes, as have many others, the affects that transformation has on the textual content of a document, but bridges this knowledge with that of document theorists such as Buckland (1997) or Hjørland (2000) in emphasizing the contextual, one might be tempted to say social, constrains of a document's properties and essence: "Differences will always be introduced

in copying; the trick is to regulate the process sufficiently so that the resulting differences are of little or no consequence and that the properties of greatest consequence are shared. *Determinations of which properties matter are made in the context of purpose and use.*" (Levy, 2000, p. 26, my italics) ([Back to the text](#))

5. In particular if by text is implied not only the linguistic text expressed in linear sequences of alphanumeric characters along with interpunction, but also the accidental textual particulars (expressed in typography and other visual markers) McGann chooses to label *bibliographic codes* (McGann, 1991, p. 13). If the former aspect is normally subject to authorial intention, the latter is more the result of collaborative acts, including e.g. typographers, printers, and editors. The bibliographical codes are subject to transmediational changes to a higher degree than are the linguistic characters we normally define as the pure text. This is because they, for the most part, are considered trivial by scholarly editors and not transferred into new scholarly editions. Not infrequently however, the codes in the very physical presentation of printed texts serve an aesthetic purpose and imply some meaning or other (ibid., pp. 58-60), a feature noted by the so-called sociology of texts (a seminal work of which is Donald McKenzie's *Bibliography and the Sociology of Texts,* 1986). ([Back to the text](#))

6. Analogous is the notion that no text can really be free of markup, formulated by Sperberg-McQueen (1991) or McGann (1991). ([Back to the text](#))

7. Further elaborated in Huitfeldt, 1999, who in turn points to some interesting examples in Sinding-Larsen, 1988. ([Back to the text](#))

8. Consider e.g. web novices who mistake the "back" button of the web browser for the "back" button inherent in the particular web document viewed. Consider also the confusion when imposing traditional bibliographic systems on web distributed documents: from where, e.g., is a reference title to be quoted? Bibliographic practice frequently chooses as reference title the phrase that visually predominates the screen. Normally, however, this is defined by the markup architecture as a heading, <H1>, whereas the markup title (the <TITLE> element) has to settle for the tiny upper bar of the screen, if present at all. ([Back to the text](#))

9. Levinson, 1997, p. 52 f. ([Back to the text](#))

10. At times even beyond the practically justified: there are elements in printed incunables with no function at all other than to imitate the scribal practices of manuscripts. There are copies of the printed Gutenberg bible, for instance, with not only the standard manuscript rubrication, "but also the pricked guide holes and blind-scribed guide lines of scribal practice. The only purpose for adding such elements to a printed book would be to mimic the manuscript" (Martin, 2000). For a contrary argument, however, see Smith, 1994. ([Back to the text](#))

11. An awareness of media ephemerality noticed by i.a. Nunberg (1996, p. 15): "I suppose it isn't surprising that classicists like O'Donnell (and Jay Bolter, as well) should be more readily disposed than most humanists to find the book ultimately dispensable, since the cultural tradition that most concerns them has already survived several fundamental shifts in its material support". The classicist's need to overview several different media settings within projects is illustrated by the recent Vindolanda Stylus Tablets project described in the last issue of *Human IT* (Terras, 2000). ([Back to the text](#))

12. Versionality is of course by no means a significant mark of classical literature alone, but rather a natural ingredient in any textual production, regardless of media, time or genre. As I compose this paper, be it by means of old-fashioned paper, ink, and fountain-pen, or using MS Word processing software, a number of versions are produced. In most cases, this kind of versionality is treated as an irrelevant outcome of the writing process, as redundant noise, and not considered an interesting product *per se*. There are however areas (such as genetic criticism) where versionality turns interesting, and where it is considered relevant to preserve extant versions. To editors of classical works, the versions even turn crucial, as they are all we have left of the works. The writing tool and the medium deployed allow to varying degrees the preservation and documentation of such versionality. Admittedly, the practice of writing using digital tools such as word and text processing does seem to pose serious problems in this regard, and some attempts have been made to automatically preserve and layer authorial versions of contemporary literary works for future study (see e.g. Fiormonte & Babini, 1998, and Holmquist, 1998). In the digital

realm, versionality is extremely enhanced, as each document display is constrained by the particulars of the hardware, software and environment involved. David Levy (2000, p. 29) states: " (...) two different viewings of the "same" source may differ in important ways—they may not be "the same." Under such circumstances of radical variability, there does not appear to be anything like a stable document or object. (- - -) What you do see at any given moment will be the product both of the local digital source and of the complex technical environment (hardware and software), which is itself changing in complex and unpredictable ways." (Back to the text)

13. For a highly entertaining discussion concerning medieval examples, specifically Chaucerian ones, see Robinson, 1996. For instance, through an implementation of severe textual criticism, exerting graphemic as well as graphetic filtering, it is striking to see that in a twenty-word example of a presumed Chaucerian base text, only four words have complete support in all extant witnesses. As for the other 80 %, there is disagreement among the versions. In cases such as Chaucer (as well as classical works), the typical printed edition with its clean base text indicates harmony and cosmos where a more thorough investigation would detect dissonance and chaos. (Back to the text)

14. Elegantly, McGann labels the critical edition "one of the most sociohistorically self-conscious of texts" (1991, p. 121). (Back to the text)

15. "The apparatus eventually becomes a mere cemetery of variants" (Vanhoutte, 1999, p. 202). (Back to the text)

16. At least in principle, the edited work might represent other art and media forms than literary text. Imagine a scholarly, critical edition of, say, Dylan's *The Basement Tapes*, Welles' *Citizen Kane*, or Picasso's *Guerníca*. Or, broadening literary editing to digital media, what will the scholarly, critical edition of Michael Joyce's hypertext novel *afternoon: a story* look like? A critical SE of a literary work that was in itself "born digital" will of course be all the more relevant and crucial by time. While to my knowledge no attempts have yet been made to accomplish digital SE:s of originally digital works, Hohm's 1993 hypercard re-edition of the Canadian poet bp Nichol's posthumous work *First Screening* (kinetic poems originally composed in BASIC for Apple II) points to some interesting new problems consequential to new media formats as the object of editing (Nichol, 1993 ; the case is briefly discussed in Kendall, 1998). (Back to the text)

17. As demonstrated in the 90s by several important anthologies in editorial theory (e.g. Bornstein & Williams, 1993 or Finneran, 1996), by various periodicals (the yearbook *Editio* or a number of mailing lists such as *ESE*: Electronic Scholarly Editions), by new organizations and networks (the Nordic *NNE* - Nordiskt Nätverk för Editionsfilologer, or the Flemish *<ed>it</ed>*), by doctoral dissertations in editorial theory (e.g. Van Hulle, 1999), and obviously by a large number of articles trying to call into question and deepen the theory and methods of editorial practice. (Back to the text)

18. To textual critic Jerome McGann, this is basically because printed SE:s "deploy a book form to study another book form" (McGann, 1997). (Back to the text)

19. Normally one of three moments, illustrating the work as it was 1) conceived in its original authorial stage, i.e. as manuscript, before any editor or publisher had had any chance of influencing the text of the work ; 2) first published and thus presented to the general public, its readers ; 3) "perfected" by the author in his or her final version (a perspective supporting the so-called *Ausgabe letzter Hand*). The first case can be said to focus on initial authorial intention, thereby representing a Romanticist rather than sociological or genetic criticism. The second case is more sociologically oriented. The third case, finally, focuses on final authorial intention, and might serve some (but not all) genetic criticism, since it tries to respect the historical development the work has undergone during the lifetime of its author. This however implies that the work's final appearance is a better witness to what the author really intended than is an initial version of the work. Also, it is still a view of the work as a purely authorial matter, where the importance of other agents is reduced or even annihilated. (Back to the text)

20. An elegant overview of such 20th century developments in editorial theory is to be found in Svedjedal, 1991. (Back to the text)

21. Granted, works on the Web depend on hard disks and other material carriers for their storage.

The texts however constantly *oscillate* between different carriers and various manifested forms, creating a highly complex document flow including immense numbers of more or less temporary versions, even within single "readings". (Back to the text)

22. The transition from a physical to a logical definition of what constitutes a document begins to influence European immaterial law, and is currently being attempted in e.g. Swedish customs' and tax legislation. In this view, the text as signal pattern is more defining of the document than the supporting physical document carrier, thereby treating any document performance equally, regardless of its material accidents (elaborated in Furberg, 2000, p. 12). (Back to the text)

23. E.g. Ryan, 1999, p. 97, who sees this as a result of various usages of text. Depending on the approach, the text will appear as different display layers, either the text as written/engineered or the text as presented/displayed or the text as constructed (mentally). More on such partitioning and layering of textual phases in Finnemann, 1997. (Back to the text)

24. [Due to a misreading in the footnote in the printed text, it has been cut out in the electronic version of the article.] (Back to the text)

25. Among the various problems of current markup techniques, the inability of general markup languages to simultaneously overlap different hierarchies in the same document might be noted (the problem is discussed in depth in Sperberg-McQueen & Huitfeldt, 1999). (Back to the text)

26. From this, there might be some severe theoretical implications to the concept of *text*, cf Dahlström, 1999. (Back to the text)

27. A fact that, following the initial "hyperhype", has been increasingly addressed, e.g. by Aarseth (1997), Pang (1998), or Svedjedal (2000, esp. p. 56). (Back to the text)

28. "If editors can be reduced to a set of programming instructions, then it ought to be possible, in an electronic edition, to automate the manipulations necessary to produce various kinds of critical texts" (O'Donnell, 1998). (Back to the text)

29. Outlined by e.g. McGann, 1997, and to some extent being realized in the currently launched, web distributed hypermedia archive of the works of Dante Gabriel Rossetti. (Back to the text)

30. It might prove an interesting case to ponder on current document sociology trends in this respect. In the lines of e.g. Brown & Duguid (1996), and explicitly based on Shapin (1994), David Levy (2000) views documents (and document types) as surrogates for people performing some or other task. One might then, using such a perspective, view the scholarly edition as a surrogate for the scholarly editor him- or herself. Bethany Nowiskie puts it pregnantly: "In the codex form, a scholarly edition contains an editorial essay, which makes an argument about a text or set of texts, and is then followed by an arranged document that constitutes a frozen version of that argument. Let me make this clear: the text of a scholarly edition is an embodied argument being made by the text's editor" (Nowviskie, 2000). Can such an argument be supplanted by an Ariadne thread piercing the archive, and in any case, how is the social "game" affected, in which the SE as a document type traditionally has played a distinctive task, when the edition is transformed into a huge, dynamic, hypermedia archive? (Back to the text)

31. Interesting results are reported by e.g. McCarthy, 1996, or Radcliffe, 1997. (Back to the text)

32. As realised when using a search software to scan one or several document files. (Back to the text)

33. In passing, one should perhaps not overtheorize the relation between on the one hand inclusive hypertextuality of digital media and, on the other, 20th century editorial theory emphasizing the dissonant multiversionality of works. There might indeed lure a fallacy equivalent to the deceptive analogy occasionally made between postmodern intertextuality and document hypertextuality (an analogy attempted by Landow, 1992, and criticized later on by Aarseth, 1997 and Pang, 1998). This latter temptation is a caveat to scholarly editors as well: ought implicit intertextual allusions in a print work, let us say the presumed references to Dante in Eliot's *The Waste Land*, be translated into explicit hypertextual links in the digital edition of the same work, simply because the technology is there? In other words, to what degree ought a scholarly edition embody its editor's subjective argument? (Back to the text)

34. Concordances, grammars, various dictionaries and other referential works, e.g. *Thesaurus Linguae Graecae*, *Orbis Latinus* and Liddell & Scott's Greek Dictionary. *Thesaurus Linguae Latinae* is reportedly in the process of digital conversion. (Back to the text)

35. Even further skills particular to digital media will be needed, such as programming, digital image management, and awareness of current development in markup techniques, protocols, and software innovations. This might suggest that future editorial competence will be fragmented into separate diversified skills that can only adequately be performed by a collegiate staff rather than by the universal "lone ranger" editor à la Housman. (Back to the text)

36. Shakespeare scholar Marder, e.g., envisioned "everything necessary" to be archived in "a constantly updated Shakespeare data bank,", and "all the relevant information (...) retrievable on command", culminating in a "universal, up-to-date, constantly improving, eclectic "edition" of Shakespeare" (Marder, 1982, p. 29, quoted in Siemens, 1998, n. 33). He then hoped for: "a project to *computerize all that is known* about Shakespeare's life, times, and work ..." (ibid.) [my italics]. Siemens (1998, § 12) seems to agree: "we might conceive of a hypertextual edition that includes nearly everything of value relating specifically to Shakespeare". (Back to the text)

37. A term coined by Ted Nelson, explained in e.g. his 1981 *Literary Machines* as the simultaneous display of (parts of) a document in different contexts. Having come across several misunderstandings of the concept, Nelson has lately (Nelson, 1997) attempted another term for the same phenomenon: *hyper-sharing*. (Back to the text)

38. Even the re-construction of long since scattered collections through virtually composed digital archives, as has been accomplished in the British Library's *International Dunhuang Project* (http://idp.bl.uk). Those interested might want to have a look at Whitfield, 1999. (Back to the text)

39. Among the most notable and impressive editorial projects in digital form so far is the 1996 CD edition (published by Cambridge University Press) of Chaucer's *The Wife of Bath's Prologue*. Its publication and possible use are commented by Robinson & Taylor, 1998. (Back to the text)

40. E.g. Henrik Ibsen in Norway, Søren Kierkegaard in Denmark, and August Strindberg and Carl Jonas Love Almqvist in Sweden. Are such seminal projects designed primarily on the basis of currently available Internet technology or thought-through strategies rooted in editorial theory? Further: how is a balance to be achieved between ad-hoc experimental editions, based on existing technology, and long-time planned archives, based on imagined future technology? A comparative study, along these terms, of two different Nordic editing projects is suggested in Wallberg, 2000. (Back to the text)

41. As hinted earlier: although Homer's *Ulysses* might presumably be in the public domain, a particular scholarly edition of the work might by its own virtues be protected by copyright. (Back to the text)

42. Seminal steps in that direction are suggested by Peurell, 2000. (Back to the text)

43. Looking beyond the days of joyful experimentation, this kind of print SE digitisations can certainly be put to question. Given the costs of digitising, are they really financially justified? If so, to what extent should their print based architecture (e.g. comments, annotations, footnotes, apparatus) be preserved in the digital version? (Back to the text)

44. "(...) most ''hypertext'' scholarly editions are, as has been noted, extraordinarily similar in structure and aim to their paper counterparts." (Potter, 1998, n. 7) (Back to the text)

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