

**MiT6**

**Media in Transition 6: *stone and papyrus, storage and transmission***

April 24-26, 2009

Massachusetts Institute of Technology in Cambridge, MA, USA.

**GUTENBERG, AUTHORITY, AND THE ORDERING OF EXPERIENCE**

**organized by the Gutenberg Parenthesis Research Forum,**

**Institute of Literature, Media and Cultural Studies,**

**University of Southern Denmark**

**"The Encyclopedia and the Gutenberg Parenthesis"**

**Prof. Lars Ole Sauerberg**

Lars Ole Sauerberg  
Gutenberg Parenthesis Research Forum  
University of Southern Denmark

### *The Encyclopedia and the Gutenberg Parenthesis*

1.

It is becoming increasingly likely that from the perspective of a not too distant future the period from the late Renaissance to the beginning of the 21st century will be seen as dominated and even defined by the cultural significance of print – not least in the form of the mass-produced book which is virtually synonymous with Western culture. It accordingly seems appropriate to designate this period, roughly corresponding to the half-millennium from 1500 to 2000, “the Gutenberg Parenthesis”.<sup>i</sup>

With the invention of moveable type and the printing press, the conditions for communication of and access to information and knowledge changed radically. The change affected not merely the material appearance of information and knowledge dissemination but also, in the process, the very nature of cognition. Today, in analogous but inverse manner, the mass-produced book is being absorbed into a digital environment, which enables reproduction and dissemination surpassing even the longest print runs, but which in terms of the disseminated substance also reduces the book to just another option in a wealth of different media modes and permutations. As the opening of the Gutenberg Parenthesis meant the closing of privileged production and consumption of textually communicated knowledge, statement and information, the closing of the Gutenberg Parenthesis symmetrically implies the opening up to a completely new and so far only partially glimpsed - let alone understood - cognitive situation. What Walter Ong in his *Orality and Literacy: The Technologizing of the Word* suggests in his introduction about the dependence of thought upon writing, or what he calls chirographic activity, seems to apply also to the changes in thought brought about next by printing then by digitization: “Many of the features we have taken for granted in thought and expression in literature, philosophy and science, and even in oral discourse among literates, are not directly native to human existence as such but have come into being because of the resources which the technology of the writing makes available to human consciousness” (1).

The methods of modern science and scholarship for the last half millennium depend on broad respect for the book. What reaches print and ensuing mass distribution in a book or anthology reciprocally shapes through convention further material anticipating publication. To most scientists and scholars this is an accepted a priori fact. And it is not only in science and scholarship that the book is cognitively formative, but in entertainments, too.

From the vantage point of the early 21st century it seems likely, then, that conventional notions of the text, which since Gutenberg have often been conflated with the printed book, will be radically transformed. The emerging notion of the text is, on the one hand, a both qualitative and quantitative expansion of the particular form of virtuality which is generated by the mass-produced book, and, on the other hand, despite the apparent variety, a new uniformity of the virtual, caused, not least, by a shift from a publishing-house culture to a diffuse internet culture determined by technological standards which are no more “natural” than those of the book. In this IT version of textuality, visual and auditive, elite culture and mass culture, old and new, text and commentary, sacral and secular, are placed on an equal footing. It is a development with significant consequences for our approach to the world. It is a development which, by changing the material conditions for cognition, changes the material conditions of cognition.

The nature of the Gutenberg Parenthesis is not, however, one of a sharp distinction between what it includes and excludes. Rather it is a flexible one that allows what is outside the parenthesis to blend with what is inside, and vice versa. Applied chronologically this means that phenomena current before the opening of the parenthesis may be observed within it, and what has become consolidated within it is seen to recur after its closure. An example to the point would be the efforts on the part of today’s designers of communication software to try and make the text produced as like the printed or typewritten page as possible. At the same time textual and communicative practice outside the conventional office situation is eager to accommodate the digital conditions into the form of the writing, as it is seen in both e-mail and mobile-phone text messages.

In a cognitive context the mass-produced and mass-distributed book has been of the greatest significance for the way we approach the world. Recognizing a text not as the final product in an edition of a mass-produced printed book, but as a never-stopping ongoing process - blog, wiki, twitter, etc. - owing its existence not to a specially privileged author but to the contributions of very many proximate but unseen hands, will have the greatest consequence for cognition generally. From the finished product of the book we are on the way to the never-finished, multi-originated, and multi-media shifting work in eternal progress. In principle, with the internet offering all information simultaneously, all the inquisitive user wants is an efficient

browser. Nonetheless the urge to have the information pre-sorted in the familiar encyclopedia way has paved the way for Wikipedia and other online encyclopedic facilities.

2.

The emergence and consolidation of the encyclopedia as a multi-volume and privately-owned instrument of access to all existing knowledge is traditionally related to the Enlightenment in general and to Diderot's work in particular. Now, at the end of the Gutenberg Parenthesis, the material existence of the encyclopedia as printed book is yielding to the hyper-text search facilities of the internet, and new, open-ended and open-contribution encyclopedias like Wikipedia. I suggest that the change from a finite, static set of volumes (the numerous encyclopedias of the 19<sup>th</sup> and 20<sup>th</sup> centuries) relying on collective production, use, and support (authors and users sharing basic ontological and epistemological notions) to an infinite, dynamic repository relying on personal production, use, and support (authors and users cultivating widely differing agendas ) entails a cognitive change regarding knowledge just as revolutionary as the change at the opening of the Parenthesis. This means a change from the encyclopedia as something idiosyncratically designed and with limited access possibilities (Antiquity, Middle Ages, Renaissance) to something standardized and open to readers through printed volumes in private and public libraries (Enlightenment, 19<sup>th</sup>, and 20<sup>th</sup> centuries).

The application of a Gutenberg-Parenthesis perspective prompts an examination of the encyclopedia situation in terms of symmetry between pre- and post-Gutenberg parenthesis. It is helpful, perhaps, here to employ to notion of ownership of cultural capital or, simply, authority.

The pre-Gutenberg situation relating to the organization of knowledge after Antiquity was almost completely in the hands of the Church. It was, in other words, a matter of owning and maintaining a permanent claim on the intellectual-property rights in accordance with the interests of a religiously maintained world picture. To the extent that a text existed in one copy only, as in the case of Umberto Eco's fiction about the missing half of Aristotle's Poetics on comedy in *The Name of the Rose* (1980) lost irrevocably to posterity in a fire, there was complete monopoly. But the existence of even several copies, in combination with lack of fast and easy communication dynamics, did not mean any broadening out of texts beyond the Church. In the pre-Gutenberg situation, the Church monopoly on orthodox knowledge preserved as hand-written and hand-copied texts, gave divine authority to the kinds of writings concerning spiritual life, whereas what was needed for the day-to-day ordinary life of people had the authority given to it only in limited forms in writing, such a legal instruments, leaving the bulk

to oral tradition (cp. Ong 1982 for a survey and discussion of mindset consequences of cultures depending on orality and chirography).

At the start of the parenthesis, the by now bifurcating Christian Church, retained some authority, the Roman-Catholic branch by sticking to Latin, the Lutheran branch despite the declared democratization of Bible reading and exegesis because of general analphabetism, whereas an increasingly growing part was transferred to other offices, notably the state and various official institutions, such as courts, universities, etc. During the period of the Gutenberg Parenthesis knowledge ownership functions by acknowledgment of a rather diffuse kind, by what might be called guardianship by hegemony of (rationalistic) trust, with the scientist and scholar taking over the torch of knowledge authority in an increasingly secularized world.

At the closure of the parenthesis, there is, in principle, a free-for-all situation. Anyone can enter the knowledge and information game, which naturally leads to a call for demarcations and secure positions. Ownership of knowledge, which has more or less been taken for granted as guarded by science and its institutions during the Gutenberg Parenthesis, must be re-defined and clearly re-stated. In the post-Gutenberg era an ever-acute awareness of problematic, even contested ownership will be an inextricable part of the information flow. Not, however, as in the pre-Gutenberg era, in terms of a general monopoly, which does not need constant marking, nor during it, as a matter of common consent based on a general if only partly realized acceptance of secular rationalism, but as local marking, like the trademark or copyright symbols, claiming special status for items thus marked. Knowledge will have to be clearly branded as it once was by the church.

In short, before and after the Gutenberg Parenthesis, ownership of knowledge and information is a matter of clearly stated or marked authority. Inside it, coinciding with the mass dissemination of the printed text, authority is very much invested in the very phenomenon of the printed text as the printed and therefore finite stamp on the world of those in command of books, with the publisher as the visible outlet for guardians or owners relying on a never defined common consent among users.

This supposition calls for a mapping of knowledge and information dissemination over the last millennium on the one hand and the nature and development of general civic and cultural authority on the other. In this limited space I shall focus on the development dynamics of knowledge and information handling in the form of the encyclopedia in the period from hand-copied works via multi-volume print enterprises to digitalized screen-mediated projects. I shall attempt to hold this development up to changes in the constitution of authority ownership during the same period, sketching a situation of give-and-take between changes in media – copying by hand followed by print followed by digitization – and ownership of authority as

essential for cognitive-formation shifts, in terms of authority lent to the medium, as well as authority gained from the medium.

3.

In the article on “encyclopaedia” the Britannica online encyclopedia states that “in the past two millennia several thousand encyclopaedias have been issued in various parts of the world, and some of these have had many editions” (1). In perspective of the Gutenberg Parenthesis it is striking that the words “issues” and “editions” seem to take it more or less for granted that the phenomenon of the encyclopedia is pivoted on the mechanisms of printing and mass distribution.

A survey of the development of encyclopedias from before the Gutenberg parentheses, throughout it, and after it, could systematically look at the following features of encyclopedia-making (reflecting the simple communication situation):

- Intentions and assumptions of producer: writer/editorial team/sponsor.
- Kind of knowledge included.
- Ordering principle of accumulation.
- Ordering principle of presentation.
- Manner of publication.
- Intended/actual audience.

4.

Many manuscript copies of pre-print encyclopedias were in circulation. Pliny the Elder’s *Naturalis Historia* was known in the Middle Ages. As Robert Collison remarks in his invaluable study *Encyclopedias: Their History Throughout the Ages* from 1966 : “No self-respecting medieval library was without a copy” (26).<sup>ii</sup> Collison 1966 (49) estimates that more than one hundred copies of Hugh St. Victor’s *Didascalicon: de studio legendi* (late 1120s) copied through the ensuing four hundred have been preserved. St. Victor’s work was designed to counter secular tendencies threatening the monopoly of the church in matters of learning and instruction.

**Intentions and assumptions of producer: writer/editorial team/sponsor.**

Gathering of whatever is relevant to either individual (Roman times) or religious desire (Church).

**Kind of knowledge included.**

What is available in (hand)writing and compiler's memory. Gradually comprehensive.

**Ordering principle of accumulation.**

Idiosyncratic/systematic/alphabetical ordering.

**Ordering principle of presentation.**

Scroll or codex. Systematic/alphabetical ordering.

**Manner of publication.**

Handwritten/copied. Rare. Expensive.

**Intended/actual audience.**

Closed communities, but broadening out.

4.

After Gutenberg's invention the tendency on the part of publishers and printers – often the same persons – was to make use of what had already proved of some popularity. Hand-copied works were turned into printed works, printed works provided quarries for new works, and gradually new works were commissioned for printing. It is quite striking, however, that in Collison 1966 the shift from pre-Gutenberg to Gutenberg, from pre-print to print, is noted as a purely mechanical shift, as it were, not something entailing a major change in mindset offset by something for once deserving the designation of a culture-paradigm shift.

Collison 1966 divides a period from Gutenberg to the mid-eighteenth century: “Bacon to the Encyclopédistes,” then one dedicated to the Encyclopédistes, followed by the Encyclopedia Britannica and Brockhaus, followed by the nineteenth and twentieth centuries.

Hand-copied encyclopedias were turned into print from mid-fifteenth century. Examples of early printed copies in Collison 1966:

Bartholomaeus Anglicus, *De proprietatibus rerum* (1220-40), according to Collison 1966, 58, most popular encyclopedia in Europe for the next three hundred years. The Latin text printed by Koelhoff at Cologne ca. 1470, reprinted by Koberger at Nuremberg in 1492 and 1519, and several more until 1601.

Thomas of Cantimpré, *De natura rerum* (1228-1244) printed in Augsburg in 1475, and saw six reprints in the same century.

Vincent of Beauvais, *Speculum maius* (1244), last encyclopedia to address the religious community exclusively. First editions printed 1472-6 by Johann Mentelin of Strasbourg (based on fourteenth-century mss.)

All in Latin, but frequently translated into vernacular.

Brunetto Latini (master of Dante and Guido Cavalcanti), *Li livres dou trésor* (ca. 1266). In French and to a secular audience. Used Cicero, not Aquinas, as basis. Printed in France and Italy in 1491 and 1474 respectively.

From Bruno Latini encyclopedias addressed and appealed to an audience beyond the strictly religious community. This means that an encyclopedia development taking place from about the mid-thirteenth century in the direction of secular coverage and address saw print alongside earlier ones celebrating religious exclusiveness.

The first two encyclopedias to go directly into print were Wenceslaus Brack, *Vocabularius rerum*, printed in several editions in late fifteenth century, in Basle by Peter Kollicker, 1483, and by Anton Sorg in Augsburg, 1487, and Gregor Reisch, *Margarita philosophica*, first published in Heidelberg in 1496.

The first encyclopedias designed for printing coincided with the secularist tendencies of humanism, and, we may add, of protestant Christianity. The printing technique did not occasion the secularist tendencies, but facilitated their impact. (No Luther success without Gutenberg success!).

In the perspective of the Gutenberg Parenthesis, the prototypes for and the realizations of the encyclopedia in the relatively uniform appearances and with the generally recognized Bildung ideal (incl. skepticism towards established truths) became part of national and international culture during the nineteenth and twentieth centuries, coincided with moveable-type printing and mass distribution.

Francis Bacon (1561-1626) put a distance to the medieval world view and proposed an encyclopedia wholly secular according to scientific principles. Bacon published his plan in 1620. Last encyclopedia to appear in Latin and in systematic order: Johann Heinrich Alsted (1588-1638), *Encyclopedia, septem tomis distinct* (1630).

Louis Moréri (1643-80) had an enormous success in 1674 with his one-volume folio *Le grand dictionnaire historique, ou le mélange curieux de l'histoire sainte et profane*. Reprinted, enlarged, and translated several times it had enormous European influence

Another very influential encyclopedia by Pierre Bayle (1647-1706), two-vol. *Dictionnaire historique et critique* (1697). "To every point he applied a mercilessly scientific and enquiring mind that challenged the assumptions and the blind reverence for authority which had characterized all his predecessors in this field" (Collison 1966:96).



The modern system with invitations to recognized specialists to contribute was devised by John Harris (1666?-1719), the first pure English general encyclopedia, *Lexicon technicum; or, An universal English dictionary of the arts and sciences, explaining no only the terms of arts, but the arts themselves* (1704).

The German tradition for *Konversations-Lexikon* started by Johann Hübner (1668-1731): *Reales Staats- und Zeitungs-Lexikon* (1704). In the fourth ed. Of 1709 enlarged to *Reales Staats-, Zeitungs- und Conversations-Lexikon*.

The “father of the modern encyclopedia throughout the world” (Collison 1966:103) was Ephraim Chambers: *Cyclopaedia: or, An universal dictionary of arts and sciences, containing an explication of the terms and an account of the things signified thereby in several arts, liberal and mechanical, and the several sciences, human and divine, compiled from the best authors* (1728). Chambers the pioneer of encyclopedia-making.

The French Encyclopedi financed by subscription. Plans changed from a work of translation to a huge compilation of commissioned articles. First vol. published 1751, last vol.1765, running to 35 folio volumes. Highly controversial.

By the end of the nineteenth century there were universally recognized multi-volume encyclopedias in print in most countries, running along roughly the same lines of systematization and presentation. What is noteworthy in this context of authorization encyclopedias soon developed into more or less self-propelling ventures. Many of them assure their own reliability by the very fact of being in print in ever-updated versions. The genre of the encyclopedia consolidated itself as a virtually closed-circuit system of authority, whose trustworthiness almost paradoxically owed itself to the constant deconstruction of past truth by updating and revising. At the one end of the scale is the kind of encyclopedia vouching for its reliability by an overt system of authority, extending from signed articles up through a layer of editors and advisers via the editor in chief to the university institution. It is striking that the editor’s preface to the *Encyclopedia Britannica* published in 1967, while mapping the difficult territory braved by the editor of such a huge work such as the passage of time, changes in structure of knowledge, exclusions, the nature of the huge printed work against the rapid development of science, etc., there is no mention about authorization, in neither sense of the word. There is, though, on the verso of the title page the rather cavalier declaration that

“The Encyclopaedia Britannica is published with the editorial advice of the faculties of the University of Chicago and of a committee of members of the faculties of Oxford, Cambridge and London Universities and a committee at The University of Toronto.”

Then follows a list of Departmental editors and advisers and their awe-inspiring almanacs, before the articles appear in alphabetical order, signed by initials, which may be interpreted in the very last index volume. At the other end of the scale we find the much more affordable *Everyman's Encyclopedia*. The twelve volumes of its fifth edition of 1967 has a brief preface by the editor, E. F. Bozman, M.A. (Cantab.), stating with regard to the authority of the volumes that

“These standard articles, which between them have created the unique quality and usefulness of *Everyman's Encyclopedia*, remain anonymous as a matter of policy. The team of contributors has been reinforced by numerous specialists, particular care being taken to ensure that new and authoritative factual statements are available on contemporary problems” (v).

No doubt to many users of this encyclopedia its very physical features qualities endows it with any authority wanted.

The ideal encyclopedia at the end of the Gutenberg Parenthesis must be judged, as claimed by S. Padraig Walsh in his *General Encyclopedias in Print 1969: A Comparative Analysis*, in his reflections on authority, by the “measure of the authority behind its compilation. A good encyclopedia will emphasize this by publishing a full list of the editors, special advisory boards, consultants, and contributors, together with a detailed listing of their academic and special qualifications and a clear definition of their areas of contribution” (8). (Nonetheless he recommends the *Everyman Encyclopedia*.)

**Intentions and assumptions of producer: writer/editorial team/sponsor.**

Reflects standard of Bildung shared by polite community. Educational. Guaranteed and edited. Built-in skepticism indicated by constant revision and updating.

**Kind of knowledge included.**

All accessible, including science, religion, art, and scholarship.

**Ordering principle of accumulation.**

Taxonomic. Editorial policy. Regulated.

**Ordering principle of presentation.**

Codex. Alphabetical ordering.

**Manner of publication.**

Codex. Print. Multi-volume. Relatively costly but affordable (hp typical).

**Intended/actual audience.**

Reflects standard of Bildung shared by community at large and individual user. But market.

During the Gutenberg Parenthesis it might be said that the very genre of the encyclopedia is itself a guarantee of its authority. To have all available knowledge standing there in the bookcase in an impressive number of volumes to be consulted in a maneuver requiring physical exertion, that is walking, fetching volume, turning pages, gives the retrieval of information an aura of substance, of something solid existing in and by itself and quite distinct and different from any other chore preoccupying the one seeking knowledge.

5.

What has been happening over the last few years in the area of encyclopedia publication may be briefly illustrated by the history of Danish encyclopedia project, for which I acted as consultant editor and contributor. The project started in 1990, with the wish to create a completely new encyclopedia for readers of Danish, ca. 5 mill. people. Something similar was going on in Norway and Sweden at the same time. We started with the critical revision of lists from an aborted project back in the 1970s, modeled on the famous Danish encyclopedia from 1893-1911, *Salmonsens Store Illustrerede Konversationsleksikon*. The result was a 20-volume work plus two supplementary volumes and a world atlas, and with original, commissioned articles by about 3,500 contributors, supervised by consultant editors, editors, an editor-in-chief, and, at the top of the ladder, a scientific council. Publication was by subscription, and the process of publication was followed volume by volume by an ever vigilant national press and a host of letter-to-the-editor-writing individuals offering second opinions. From about the turn of the millennium followed in quick order a CD-rom edition (without illustrations and against payment), a DVD (with illustrations and against payment), an online version of the updated original, printed volumes (with limited illustrations and against payment), and, finally, now in production, an online - wiki - version on the basis of original, printed volumes, inviting contributions from users (free to users, financed by ads.; self-suggested experts, vetted by publisher's editorial team).

The situation today for the encyclopedia is indeed one of convergence, as users use a variety of options at their disposal. But it is hardly imaginable that a new, printed-encyclopedia will ever see light again anywhere. In itself, the internet is one vast encyclopedia, ready to be browsed by the search engines at hand. But the encyclopedia principle, that is the availability of knowledge in an ordered and authoritative manner, still seems to play a considerable role. Users want reliability in the barrage of information that a simple Google search will result in.

**Intentions and assumptions of producer: writer/editorial team/sponsor.**

Free for all. Editorial formats for practical purposes. Libel and obscenity laws only restraints.

**Kind of knowledge included.**

All accessible knowledge. As a rule digitally copied and/or edited from other sources.

**Ordering principle of accumulation.**

Random and personal. Individual contributor uploading and browser determined.

**Ordering principle of presentation.**

By hyperlink.

**Manner of publication.**

On-line, not meant for printing. Individual user may create individual portfolio.  
Inexpensive.

**Intended/actual audience.**

All computer users, often to be integrated in other tasks.

Today's encyclopedia user does not differentiate knowledge retrieval from the task performed, as the source for knowledge is only a key punch away. Knowledge becomes integrative but at the same time every instance of its use must be probed for its reliability. Whereas the Gutenberg-Paranthesis encyclopedia user could consult the relevant volume with an untroubled mind, knowing that state-of-the art truth could indeed be had, today's user will have to not only sort from a wealth of information, but also to be alert to those features which contribute to the reliability of the source. This is a mindset that requires simultaneous work on object and meta levels, always judging reliability along with knowledge provided.

6.

Whereas authority during the Gutenberg Parenthesis rested on the mastery of the accumulated canon of wisdom lodged in books (in Bacon's words, books were 'ships of time' bearing precious cargo through the ages), beyond the closing of the parenthesis authority will lie with those mastering the permutations of iconography under the aegis of the permanence of change. Experience - 'wisdom' - is no longer in demand, because experience is always already and simultaneously accessible. This currently takes the guise of a generational conflict and a validation of new, social and cultural groupings interfacing with and breaking down barriers

between “serious” and “entertainment” cultures. An important aspect of the book-dominant cognition of the Gutenberg Parenthesis has been the privileging of the diachronic dimension as the ordering principle of experience: chronicle, history (books). Even though digitalized media offer facilities for continuing the diachronic dimension - and to a large extent still do so by imitating the familiar book medium - it is in the nature of IT to apply a synchronic perspective in a pattern of simultaneity. What this will do to book-related cognition in terms of the linear and diachronic, and even to the notion of causality, is as yet only partially explored, but very likely the idea of the diachronic will yield to an idea of spatiality. It is worth noting that by this re-orientation we are, arguably, effectively reverting to medieval and Renaissance thought from before Gutenberg, a pre-parenthetical phase which saw creativity as a re-forming, by memory and imagination, of what was available. The post-Gutenberg memory is the digital storage unit, which offers accessibility and combination more in line with the dynamics of memory than the memory virtually printed, and kept outside personal experience – in books.

Bozman, E. F. (1967) *Everyman's Encyclopedia*. London: J. M. Dent & Sons Ltd.

Collison, Robert (1966). *Encyclopedias: Their History Throughout the Ages. A Bibliographical Guide with Extensive Historical notes to the General Encyclopedias Issued throughout the World from 350 B.C. to the Present Day*. New York & London: Hafner Publishing Company. 2<sup>nd</sup> ed.

encyclopaedia. (2009). In *Encyclopædia Britannica*. Retrieved January 12, 2009, from Encyclopædia Britannica Online: <http://search.eb.com.proxy1-bib.sdu.dk:2048/eb/article-9106030>

Preece, Warren E. (1967). *Encyclopedia Britannica*. Chicago, London, etc. : William Benton Ong, W. (1982). *Orality and Literacy: The Technologizing of the Word*. London: Routledge.

Walsh, S. P. (1969). *General Encyclopedias in Print 1969: A Comparative Analysis*. New York and London: R. R. Bowker Co.

---

<sup>i</sup> This and the ensuing introductory paragraphs are based on the position paper of the Gutenberg Parenthesis Research Forum at [http://www.sdu.dk/Om\\_SDU/Institutter\\_centre/Ilkm/Forskning/Forskningsprojekter/Gutenberg\\_projekt.aspx](http://www.sdu.dk/Om_SDU/Institutter_centre/Ilkm/Forskning/Forskningsprojekter/Gutenberg_projekt.aspx), of which I am a co-author.

<sup>ii</sup> In my survey of the history of the encyclopedia I follow Collison 1966.