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eBooks and McLuhan: The Medium is Still the Message

by **Tony Horava** (Associate University Librarian (Collections), University of Ottawa, Canada) <thorava@uottawa.ca>

I hope many of you will know the name **Marshall McLuhan** (1911-1980), the eccentric and famed Canadian media theorist who rose to prominence in the 1960s with his iconic dictum, “The Medium is the Message.” It has been used and overused for many decades. As with many famous phrases, endless repetition has beaten it into a meaningless pulp. Sometimes it is taken to mean that the form overrides the content, or that the content no longer has prominence; sometimes it has been reversed to mean that the message is no longer the medium. In libraries we work with a wide range of content and forms, and their interaction in a rapidly changing information technology landscape. We have been experiencing the transformational impact of eBooks for our patrons, namely their use of books for learning and growth, and their shifting expectations of how the library should deliver monographic literature to them. The shift from print to online is also a massive shift in how we provide value to our institutions, and what patrons expect from us. And certainly the advent of eBooks has provoked a reevaluation of our collections strategies, budgets, workflows, and vendor relationships.

In this context I would like to explore the eBook against a backdrop of **McLuhan’s** ideas. **McLuhan** is notoriously difficult to understand due to his nonlinear style and complex thinking, but he’s well worth the effort. He died of course before the digital era took hold, but I’d like to deconstruct his most famous phrase through the lens of the eBook, and see what happens. This can give us a better and perhaps more holistic understanding of how the eBook has led to profound changes in the ways that patrons engage with long-form knowledge. In so doing, we can gain a better understanding of societal and personal impacts of the book experience, as it affects the act of reading, the nature of cognition, and the unanticipated cultural transformations caused by digital technology. These changes have led to a rapid and visceral change in our relationship to books and the ways we relate to knowledge and information in general. We rarely think of these issues because they don’t impact our daily working lives, and because they are too intangible or seemingly invisible to engage. However, they impact our actions and practices in a remarkably powerful way.

Media Effects

Let us start with **McLuhan’s** words. He asserts that “it is only too typical that the ‘content’ of any medium blinds us to the character of the medium.”¹ This is the case because it is all too easy to focus on the content or output of a given medium (e.g., television, radio, film, smartphones, tablets) than to perceive the attributes of the medium and how it affects us personally and socially. If we think about the light bulb, for example, the message of this medium is not light — electricity is not content. Rather it is the ability of artificial light to extend our daytime activities and thus transform

our opportunities for reading. It is hard for us to imaginatively reconstruct the pre-artificial light era and the constraints that human society lived under, before the ubiquity of artificial light. We take it for granted that reading, for example, can be carried out anytime and anywhere. What was it like before this was possible? Electrification changed our culture by allowing new possibilities for reading and acquiring knowledge. **McLuhan** notes that “it is the medium that shapes and controls the scale and form of human association and action.”² It is on the symbiotic effects of the new medium where we need to focus our attention, as we can learn much about our changed reality and social relations. As **Mark Federman** writes, “‘The medium is the message’ tells us that noticing change in our societal or cultural *ground* conditions indicates the presence of a new message, that is, the *effects* of a new medium.”³ Thus the light bulb led to a sea-change in our ability to read, learn, and absorb information, regardless of the external environment. No longer restricted to natural light, we could multiply our opportunities for self-growth, new ideas and knowledge.

For **McLuhan**, the changes brought about by technology were existential and utterly life changing. However these changes were effected gradually and implicitly, rather than overtly and suddenly, therefore escaping our common awareness: “The effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily and without resistance.”⁴ They fly under our conscious radar but their cumulative impact alters our consciousness: “Any extension, whether of skin, hand, or foot, affects the whole psychic and social complex.”⁵

Any new technology is an extension of ourselves, not simply in the ability to carry out a new task (e.g., hammering a nail, speaking into a phone, writing words with a pen or tapping them on a keyboard) but in leading to new ways of knowing, communicating and using information. As **David Bobbit** says, “Thus, the wheel extends our feet, the phone extends our voice, television extends our eyes and ears, the computer extends our brain, and electronic media, in general, extend our central nervous system.”⁶ And what about eBooks? They would affect us as profoundly as any other new media form, and probably more so, since digital media brings about a wholesale change to our central nervous system. This means a major shift in how we engage with books, at a visceral level. Engaging with digital media and information on an ongoing basis does make me feel sometimes that my nervous system is being affected in some important and irreversible way. Mind and matter are conjoined at a new and more intricate level.

Materiality in Reading

There is a materiality, or physical support dimension, to any interaction with books and information in general. As **Barry Cull** has

written, “We are only beginning to appreciate what neuroscientists call the haptics, or the tactile dimension of our technologies, especially as they apply to reading.”⁷ Learning is affected by the nature of the tools or objects we choose to use. Therefore learning is not device-neutral — it is greatly influenced by the technologies that we choose to employ. Whether the container is a tablet, eBook reader, laptop, desktop computer, Google glasses, a print book, or a manuscript scroll, this container carries the content that we wish to read and gain ideas and understanding. This determines the process for acquiring and assimilating knowledge. We need to negotiate with its form, structure, and constraints to be able to read and absorb anything at all. **Rebecca Lyons** and **Samantha Rayner** concisely describe the enormous power contained within books: “Books *are* matter: they are containers, crucibles, confrontations.”⁸

The eBook creates a very new relationship with books — one that had not changed in substantive ways since the **Gutenberg** era. With a print book, the tactile aspect was a reality that determined how we interacted with the work. The hands acted as a cradle, remaining more or less stationary as we read the left and right-hand pages of an open book, and then enabling us to turn the page and position our eyes and our bodies for the next set of two pages. Whether we sat upright at a desk or sprawled in a comfortable chair, or lay on a beach or in a bathtub, the hands usually played an integral support role to guide our progress across the words and ideas. The container and the content were fused in a single artifact (unlike eBooks where the word stream of a text can be easily detached from its container). Whether the hands involuntarily wandered up and down the edge of the pages, or kept to a fixed position, they acted in specific ways that were adapted to the physical attributes of the artefact — tactile, fixed, and personalized through our contact. The hands were the cradle that enabled the eyes and the brain to do their work.

With reading an eBook, however, the hand-eye relationship is profoundly changed. The hands are constantly engaged in a whirlwind of activity, whether in clicking and pointing, or tapping, swiping, scrolling, and zooming. The eBook, especially as read via a mobile device, is a very different sensorimotor reality for reading and absorbing words. Interaction with an eBook can allow a wide range of control of inputs. The hand-eye relationship is thus transformed as the hands become much more critical to the display, sequence, flow, and speed of the words received and processed by the brain. Think of how rapidly and unconsciously the hands behave in reading from a mobile device — this is an unconscious interplay that governs how we absorb words and make cognitive sense out of them. We are rarely aware of it. In a few short years we have

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adapted our bodily coordination to align with the reality of the medium. The plasticity of our brains enables our neural circuits involved in processing words and creating meaning from symbolic representations to be re-wired to suit the new practices. Searchable, accessible, linkable, parsable, and portable — eBooks have fundamentally different characteristics from print books, and they exist within an infinite ocean of media and information that attracts us and pushes 24/7 into our eyes. The effect of the medium is very clear.

There is no doubt that our brains have been rewired to a significant degree in the past decade or two (much quicker than **McLuhan** believed that technology changes us). The neural circuits that control hand-eye coordination have been transformed in ways that would have been unimaginable in previous generations. Much depends on the multiple containers used for reading. We choose these containers but in various ways they frame our expectations for reading, particularly for speed, accessibility, portability, and control. They extend our senses and structure our reactions as did the earlier transformations brought about by radio, film, and television.

The printed page as a physical and visual unit has been integral for many centuries to our relationship with books. It guides our understanding of the architecture and the navigational possibilities for engaging with the world inside the book. As such it is wired into our brains and we don't notice it until the model is overturned, as is occurring with eBooks. The PDF eBook retains the page layout that replicates the print medium. When it comes to HTML and other formats, however, the primacy (or some would say tyranny) of the page as intellectual unit has been overturned, in favour of continuous reading or floating display. This is disruption at the cerebral level, where the brain and the eyes are presented with a much more expansive, flexible and scrolling view of the book. Being able to visually scan an entire chapter or section, the eyes have to discipline themselves to focus on a single line as it being read. The temptation to scroll without fully absorbing what is there can be irresistible. The patterns of perception and experience can be significantly altered, as the eyes can scan much faster than the brain can read, thus leading to perennial distraction. The patterns of perception, as **McLuhan** would say, are irrevocably changed.

Another indication of this sea-change is the way in which we check our progress in reading a book. With an eBook, depending on platform and device, we may have a progress bar that tells us how much of a book we have read (or a percentage). This is a different form of observation than visually seeing one's progress by looking at the text block on the edge of the physical book. The use of a digital counter is an example of software mediating our experience of reading. As with the abolition of the page as the unit of navigation, it creates a new awareness that shapes our consciousness in the reading experience.

Memory

One of the benefits of reading is the mental space for memories triggered by the narrative or the ideas in a book. Reading can also trigger an incredible wealth of thoughts and feelings that are then stored in the brain for future recall. The child development expert **Maryanne Wolf** notes that "The mysterious, invisible gift of time to think beyond is the reading brain's greatest achievement; these built-in milliseconds form the basis of our ability to propel knowledge, to ponder virtue, and to articulate what was once inexpressible — which, when expressed, builds the next platform from which we dive below or soar above."⁹ The ability of consciousness to "think beyond" is the fertile ground for memory formation. The shift from print to eBooks has meant that our use of mnemonic markers to form memories has been completely changed. Remembering a key event or a character's memorable lines that happened on page 251 of a print book is much easier to locate than with an eBook; there is a wide consensus on this. The print copy is an artifact with unique attributes of size, colour, texture, smell, and feel. **Ferris Jabr** describes the brain navigating a print text as if it were analogous to a physical landscape:

When we read, we construct a mental representation of the text in which meaning is anchored to structure. The exact nature of such representations remains unclear, but they are likely similar to the mental maps we create of terrain — such as mountains and trails — and of man-made physical spaces, such as apartments and offices. Both anecdotally and in published studies, people report that when trying to locate a particular piece of written information they often remember where in the text it appeared.¹⁰

This mental topography has a subtle but powerful impact on how humans navigate and locate textual information — the brain associates the features of the reading surface with physical markers that help define meaning and create understanding. It is not an exaggeration to say that our facility for retrieving memories is being transformed by the reading of eBooks. The eBook is akin to a database rather than to a finite artifact with unique haptic properties. As such, the eBook is becoming a form of prosthetic memory, an outsourcing of our experience in engaging with words and ideas. Search engines will find what we want. Highlighting, annotating, and other markings in eBook files, will be a key way of recording our engagement with books, assuming that the current software/hardware combination will retrieve these pieces of ourselves when we wish to do so. Of course no one denies that there are great strengths of the eBook, such as convenience, searchability, portability, scale of access, and integration within a digital ecosystem. Ironically, the searchability of eBooks is countered by the loss of the mental topography that allowed print books to serve our memories in better ways. I like to think that if **McLuhan** were here, he would be observing these issues as major effects of the medium, and that these phenomena illustrate how the medium is certainly the message, in relation to eBooks.

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There is no doubt that cultural expectations and assumptions regarding information have shifted radically. The tipping of the scales from information scarcity to infinite abundance has changed our attitude to books and other cultural objects. As **Viktor Mayer-Schonberger** puts it, “Remembering was hard and costly, and humans had to choose deliberately what to remember. The default was to forget. In the digital age, in what is perhaps the most fundamental change for humans since our humble beginnings, that balance of remembering and forgetting has become inverted. Committing information to digital memory has become the default, and forgetting the exception.”¹¹ As the print book has long been one of the integral vehicles of knowledge, the shift from scarcity to abundance has had a major impact on our relationship with books, which are more available than ever before in history. Sources of memory have shifted to external devices, usually in the cloud. As well, many fewer books are ‘out of print’ today than in the analog world.

And this brings us back again to **McLuhan**. If I can take the liberty to channel him, I think he would in turns be fascinated, intrigued, and troubled



as the eBook has profoundly changed the culture of books and altered our minds, perceptions, and mental habits (for better and for worse). His ideas are a reminder to us to remain aware of the wider implications of the information world we inhabit and work in. I’ll end with a quote that encapsulates how far his thinking went: “Rapidly, we approach the final phase of the extension of man — the technological simulation of consciousness, when the creative process of knowing will be collectively and corporately extended to the whole of human society, much as we have already extended our senses and nerves by the various media.”¹²

Think of the collective intelligence, the hive mind, the intelligent network, the singularity, and the universal database of knowledge that many have described and dreamed about — **McLuhan** was there first. Capturing our collective knowledge, propelled by powerful new information technologies and tools, leading to a transformation in our culture and ourselves — this makes me think about AI, virtual reality, immersive technologies, visualization tools, wearable smart devices, and a brave new digital world where books are only one small node in a vast data ecology. Information superabundance is the air that we breathe, and the pervasive effects are mostly unnoticed. Hmmmm.....sounds like the medium is still the message. 🐞

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ATG Special Report Part 2 — Industry Consolidation in the Information Services and Library Environment: Perspectives from Thought Leaders

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In June we published our first 10 responses to the following “consolidation question.”

Large companies grow larger through acquisition. Of course each acquisition is justified in terms of strategic fit, the need to offer “full service” to customers and complimentary services; but it is the need to grow that is the ultimate driver. Small companies either operate in unique niches and sustain their place or go head to head with large companies and generally lose. Of course the small companies operating in unique and profitable niches are the acquisition targets of the large companies seeking to grow larger. Perhaps it is a virtuous and useful process/cycle with small companies innovating in important niches and then going to scale through acquisition by the large company. Or, perhaps, innovation and customer choice suffer when the small companies are acquired. What if we were to remove our partisan hat for just a moment and speculate on the future state of the library content and services environment assuming the pace of consolidation continues and possibly quickens?

This then is the question: Think forward to 2026. Assume what you will about the changing needs of libraries. Consider the pace of consolidation and the nature of consolidation we have seen over the past 10 years. Factor in everything from demand-driven models to open access. In 500 words or less, please give us your take on

the future impact of consolidation on the industry. Concerns like competition, pricing, the growth of startups, etc. are all grist for the mill. Please keep in mind that we are looking for your candid opinions on this crucial issue and naturally we’d be delighted if you could tell us something we hadn’t considered or don’t already know.

The response from our readership was swift and we received another 13 responses from industry leaders whose opinions we sought. In the first 10 responses published in June, various themes emerged that I summarized as: information consumers will rule and win. Cost per access/use will keep going down. The boundaries of the library and the companies that serve libraries will keep moving out. And the cloud and open source, services, content will become more and more central.

These themes continued in the second wave of 13 responses but there were new themes and new poles of perspective. For example, in this second batch of responses the definition of consolidation extended beyond the expected habit of for profit entities to acquire other for profit entities. In this group of responses consolidation took on three forms: commercial business consolidation, the merging of university presses and libraries, and the need for libraries themselves to coordinate and consolidate a range of activities from buying to cataloging to collection development strategies.

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