

The Speed of Reading
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For the past few years I have followed the formal research and informal web dialogue about the voluntary practice of slow reading. In general, slow reading is regarded as a negative thing to be corrected. Most of the available research on slow reading is about physical conditions such as dyslexia and eye disorders. Certainly, it is often useful and necessary to read quickly. However, many people share a conviction that reading slowly is preferable at times. It is a pleasure when reading for recreation and an aid to comprehension when deciphering a complex text. In an age of information overload, an increasing number of people are choosing to slow down and enjoy reading again.

There is little research on the subject of voluntary slow reading, so I gathered what I could find, and summarized it in a small book aptly called *Slow Reading*, which is available from Litwin Books.

Today, I would like to highlight four themes from the book. First, I will talk directly about the voluntary nature of slow reading. Second, I will discuss the enduring place of slow reading in the information age. Third, I will show how the larger Slow movement informs our understanding of slow reading. Finally, I will discuss research in psychology and neuroscience pointing to the vital role of slowness in our processing of information.

1. The Voluntary Nature of Slow Reading

The concept of slow reading goes far back. Early references take the form of bibliophagy in the Bible, where prophets were commanded to eat a book to gain spiritual insight. The earliest explicit reference to slow reading is in Nietzsche's preface to *Daybreak* where he defines his task as a philologist to be a teacher of slow reading. Scholars in the field of literary criticism practice close reading, the evaluation of a work through careful analysis of its text and language. English students often learn rigorous techniques to extract a work's layers of meaning.

While prophets might obey divine commands to consume books, and scholars might use prescribed techniques for close reading, all of this may be sufficient to ward off a reader curious about slow reading. It need not be so. One professor complains that the literati are doing what her sex education nurse did in her seventh grade – forget to tell the students that the practice is quite fun.

Francine Prose has written a book called *Reading Like a Writer*. She was concerned that her students found reading stressful, and used close reading to get around it. We all begin life as close readers, she says, learning to read by listening word-by-word, phrase-by-phrase, to those reading to us. Prose transforms what has become drudgery for some into “the bliss of childhood reading when time, mercifully, stands still”.

The perception that slow reading is only for advanced readers is being challenged by teachers who are innovating with slow reading techniques with students of all ages.

I imagine many of you have re-read a favourite book, perhaps discovering the vertigo and pleasure of the perspective of years. Anticipation more than makes up for lost suspense of re-reading. Faust & Glenzer used re-reading in the classroom. The title of their article came from the testimony of their children: *I could read those parts over and over*. The students readily grasped that re-reading literature is like watching movies and listening to music more than once.

Another innovative approach by Lindblom is the use of performance reading in English classes, asking students to look closely at a piece of text and use their voices and bodies to explore the subtleties of the author's words". He calls it "close reading on your feet" and the students loved it.

The success of slow reading in the classroom compels an expansion of its meaning. Innovations such as performance reading suggest that slow reading is any type of reading that deepens a reader's relationship with a text. Speed-reading courses are intended to teach students to read as fast as possible, but slow reading is not about reading as slow as possible all the time. One person savours each word while another skims, slowing down only for certain passages. Slow reading may involve arguing with a text, so to speak, or seeking out additional materials to add context. Some readers may prefer the classics. Research by Nell found that nearly half of his ludic readers, those who describe themselves as reading addicts, rate half their pleasure reading as "trash." Variability and personal control are essential in slow reading. As Virginia Wolf said, in the final analysis, no one can give another advice on what to read or how to read it.

2. Slow Reading in the Information Age

The notion of a "paperless office" was coined in the '70s by Palo Alto Research Center, formerly Xerox, ironically a company known as "the paper people". The now familiar idea was that on-screen documents would replace print. It has grown into a popular conception about the death of print, along with the end of books and physical libraries. Fredrick Lancaster rose to prominence as a librarian who promoted a vision of a paperless library. He viewed the book-as-artifact as a major constraint on libraries. It is important to observe that Lancaster's vision was a totalizing one. He did not foresee a combination of print books and virtual libraries, but a complete displacement of the traditional media in favour of digital technology.

Things were changing fast in the eighties. The typewriter, the indispensable tool of writers for over a century, had been superseded by the word processor. In the 90s, the first e-book readers were introduced on the market. A few years later the Web went mainstream. It seemed only a matter of time before the fruition of the vision of a paperless society. Nevermind that print was still in use everywhere, in the minds of policy and budget makers, print, books, and physical libraries were no longer a factor in their planning.

The evidence of a generation is in: the prediction of a paperless society was in error.

Global consumption of paper products has tripled. Use of office paper alone has increased steadily for twenty years. Last year, the Association of American Publishers indicated a 3.2 percent increase in book sales. Libraries are thriving.

Many of us bought into the vision of a paperless society. How is that so many of us were wrong? Some people still believe that the paperless society is just around the corner. Stories about the end of print, books, and libraries still get trotted out. It is still a popular conception. An explanation for the persistence of print is required. Why does it persist? And what is the connection with slow reading?

There are two possible explanations. On the one hand, perhaps there have just been more practical problems than expected, slowing down the transition to digital technology. E-books may have failed because of high pricing and low availability of titles. Scanning technologies are still labour-intensive and error-prone. Intellectual property rights are easier to protect in a print culture. These are practical problems that can in principle get resolved. According to this first explanation, it is still only a matter of time before we achieve the paperless society.

But the practical problems may not explain the whole situation. There is an alternative explanation for the persistence of print. According to this explanation, there is something enduring about print that we are just beginning to appreciate, and will keep it as part of information landscape for the foreseeable future. If this is so, there must be a hard centre to print that cannot finally be tackled by future technological innovation. It must also be a subtle factor, for many of us missed it in our rush to the paperless society. I suggest the hard centre of print is our need for slow reading.

I have little doubt that progress will be made with the practical problems associated with the transition from print to digital technology. An increasing percentage of information we now read in print will no doubt become digital. Despite the crisp feel and smell of a fresh newspaper, those who want the latest information can find it sooner it on the Web. On the other hand, the length of the average book has grown from 400 to 500 pages between 1995 and 2005 and "wordy" magazines like Atlantic Monthly and Foreign Affairs are increasing in circulation. It seems that those who prefer slow reading also prefer print.

I mentioned earlier that book sales were up. Audio and e-book sales were up too. I am sure you heard the recent hype from Amazon about sales of Dan Brown's latest book. First day e-book sales were outselling print. The e-book sales were impressive, but a week later print sales were also impressive. People do not want digital books *instead* of print books; they want them both. The overall book pie has grown.

There is no question that digital technology has been a major driver in the reinvention of libraries. Libraries have become popular digital information hubs. But there is good evidence that it is the books that kept people coming back. An environmental scan by OCLC shows that people still overwhelmingly identify libraries with print books. The massive restructurings to offer digital services go largely unnoticed by users. This finding may dismay those with a futuristic bent, but it should send a signal to the library administrators and budget makers – print books are a secure brand for future planning.

The historical timing of inventions does not always correspond to the brilliance and importance of the same. If they did, print would be the next big thing.

Consider the Kindle. Jeff Bezos of Amazon says the Kindle, “should be less of a whizzy gizmo than an austere vessel of culture”. Everything about the Kindle is designed to make it more like a book. It has the dimensions of a paperback and is tapered to emulate the bulge of a book's binding. It uses e-ink, a technology designed to simulate real print. Battery life has been extended so that the device will not shut down during a lengthy read in the park.

It is the express goal of the vendors to make their e-book readers like print books. The pursuit of this goal may ultimately be self-defeating. While print books have many features that resist digitalization, it has one fundamental feature that undercuts the need for digital technology: fixity. Print has the virtue of capturing an idea in a fixed form so that it can be read slowly and processed. Brain function is always a combination of neural excitation and inhibition. An inability to inhibit neural activity is associated with disorders such as epilepsy. Neural inhibition requires fixity, giving the brain the opportunity to open deeply to a text, to evaluate it without concern that it will change. You cannot click away. There are no message notifications. For slow reading, I seldom need full-text searching because I am trying to recreate the author's original intentions, reading in the linear format the ideas as they were intended to be read. E-book readers can only mimic this state by turning off all the bells and whistles. For the Kindle to serve the purposes of slow reading, it must become a print book.

Books are not being replaced by digital technology. Instead of reading online, websites are increasingly offering online services to enhance the experience of reading print books. The WorldCat catalogue helps people find books in their local libraries. Web 2.0 startups like LibraryThing allow users to catalogue their print books online. Literary websites are using GoogleEarth to show people the literary heritage of their cities. Digital technology is bending to the constancy of the print book.

Authors and publishers are distributing free full-length e-books online. How come? As science fiction writer Cory Doctorow sees it, readers will be grateful for the freebies, become evangelists of his work and ultimately buy more print books than if he remained in obscurity. I will go one step further. I learned about Doctorow online while scanning my daily dose of 250 RSS feeds. When it came time to read his book, I bought it. This is a common experience. We learn about books on the web, then we borrow them from our libraries or purchase them.

E-books are metadata for print books. I will say that again. E-books are metadata for print books. Digital technology has many advantages for learning about books. For books of any length, richness or substance, i.e., for slow reading, people prefer the superior technology of print.

I conclude this section with a pitch for a book. It is not my book, but one by Bonnie Nardi and Vicki O'Day called *Information Ecologies*. It is in your hand out. In this book the authors describe a new model for understanding our relationship with digital

technology. Nardi and O'Day state, "In information ecologies, the spotlight is not on technology, but on human activities that are served by technology". Libraries are a clear example of an information ecology, with books, magazines, DVDs, and computer terminals. It also has librarians for whom access to information of all kinds for all people is a core value. Libraries house a complex range of information activities, be that story time for two-year-olds, a poetry recitation by a local author, or a podcasting workshop. It is no wonder that libraries have thrived through the digital age. They are one of the few places that respond to the complexity of our information needs. Slow reading makes perfect sense from this point of view.

3. The Slow Movement and Slow Reading

Carl Honoré (2004) is the author of the book, *In Praise of Slow: How a Worldwide Movement is Changing the Cult of Speed*, which documents the rise of the Slow Movement. Fed up with fast food, Carlo Petrini started Slow Food, an organization that promotes the eating fresh local foods produced in season by sustainable farming practices.

Honoré's interest in the Slow Movement began with slow reading. One day in an airport he spotted a newspaper article on a series of condensed fairy tales called *The One-Minute Bedtime Story*. At first it struck him as brilliant — the cure to his nightly tug-of-war with his son's demands for more stories — then the absurdity of his fast lifestyle called him to his senses. These days he goes into son's room, leaving his watch behind and his computer turned off, and slows down to his son's pace, talking about whatever as they read a story. It has changed from a task to be hurried to a reward to be cherished.

The point of the Slow Movement is not that everything should be done as slowly as possible. The problem is only obsession with speed. Slowing down is not only pleasurable; it tends to improve our performance with most things including reading. Waters is executive editor for the humanities at Harvard. He declared a worldwide reading crisis resulting from our global push toward productivity. Young children are learning to read faster, skipping phonetics and diagramming sentences; these children will not grow up to read Milton. Foreseeing the end of graduate English literature programs, he advised re-introducing time into reading, "People are trying slow eating. Why not slow reading?"

Earlier I mentioned that slow reading is not simply about slowing down in time. Hinged to time is space. The Slow Food organization brings out the less obvious sense of spatial or geographical slowness in its promotion of local eating. The theme of locality also fits with slow reading. Fast books are those produced for the broadest possible appeal, stamped out in assembly lines and distributed at points of maximum exposure such as Amazon. Fast reading is associated with reading on the web, where people tend to scan content rather than read slowly. Slow books, on the other hand, may be characterized by local events which may be of great interest to residents and visitors seeking to learn more about a particular region, but too limited in market appeal for mass production. Slow books may not be written so much for profit as for pleasure, developing a local tradition in writing and micro-publishing. As with Slow Food, there is a much closer connection between readers and their information.

Kelly wrote a book called *The Black Donnellys*, a down and dirty, true tale of the Donnelly clan; and how they wronged virtually everyone in the pioneer town of Lucan, Ontario, only a few miles from my home. The grammar is strained, the perspective is biased, and I wouldn't change a thing. After reading this book, I went to visit the site of the Donnelly homestead. The original house had burned down and there was little to indicate the Donnellys once lived there, but I swear I heard an echo of "my own grave being dug." This book is not literary reading, but it is slow reading because it engages memories and feelings only a local resident will share. Slow reading is anything that brings more of the reader's being to bear on a book.

The Slow Movement reminds us of the role of location in our information. Libraries have long been considered the physical embodiment of knowledge, the home of shelves of books. Within the library, one can be sure to find every item in the collection catalogued with a specific call number. In this ordered world, information clearly has a location. The advent of the Web has called this view under scrutiny.

HTML has been supplemented by XML which cleanly separates webpage data from its presentation format. People can call up the same information on a computer from home by a browser or on the road by cell phone or GPS. Instead of the traditional hierarchical classification schemes, social software sites use user generated tags to organize information. Information seems ethereal, transcending the limits of its container or physical embodiment.

One hears the terms 'miasma computing' and 'cloud computing'. Miasma computing promises a separation of physical hardware from its users. It is possible to change servers in a moment with the notice of users. It is marketed as "cloud computing" as if the servers are out in cyberspace. The idea of a separate ethereal cyberspace makes for good marketing, but it caters to a false perception. Humans, computers and information have always co-existed in the same physical space. Every bit of data is stored on a physical computer and every exchange of data is a physical event.

We worry about the impact of print on the environment, and people tout e-books as a greener alternative. But digital products are not in cyberspace. They occupy physical space, consume physical resources, and fill our dumps. The Internet is a massive hardware infrastructure. Jonathan Schwartz, CEO of Sun Microsystems, observed that "Google's and Yahoo!'s second largest operating expense - after the people they employ is ... electricity. That's why they're building datacenters next to smelting plants." Each MB moved across the web consumes energy. The Internet is a large, hungry creature placing a heavy footprint on our planet. The Slow Movement reminds us of the physical nature of our information.

Consider that the production of print materials escalated dramatically with the advent of the digital age. Print culture produced better quality materials intended for endurance and reuse. Some of the best innovations for today's problems may be found in the past.

4. The Psychology and Neuroscience of Slow Reading

In his book, *The Singularity Is Near: When Humans Transcend Biology*, futurist Ray Kurzweil envisions a time when accelerating developments in technology will lead to a merger of human intelligence with machines. His vision is a fantastic one. Perhaps advanced brains like this will be able to absorb information both at an incredible pace and with penetrating depth.

There is reason to be doubtful. Perhaps one day information will be everywhere, only to be plucked instantly from the ether whenever we need it, and minds will be engineered to absorb much larger quantities of information than is possible today. But will the information mean the same thing? Can it maintain the desirable qualities associated with slowness, such as intimacy and sociability? If not, we must seek them outside of technology. Reading research and studies in psychology and neuroscience suggest that slowness is in fact an important factor in understanding how we read and think.

Carver's research on rauding theory proposes that we have five "gears" of reading. Unlike the first two gears of scanning and skimming, the third gear, "rauding", includes comprehension and it is what we normally think of as reading. The last two gears are learning and memorizing; they are slower and even more powerful than rauding. Carver found that most people read at a constant rate, their rauding rate, and it is best for comprehension of relatively easy material. When difficult material is encountered, individuals will temporarily shift down to slower rates of reading.

Nell's research on "ludic" or pleasure reading indicates that some readers may experience an altered state of consciousness. Nell discusses how ludic reading is not just absorption associated with laboured attention on a difficult text. Ludic reading is "entrancement, transporting us to other places and transfiguring our consciousness to make other people of us". Many readers describe this kind of reading as effortless. It is effortless, but not necessarily rapid. There is substantial rate variability during natural reading, with most-liked pages being read significantly slower.

Wolf observes that reading is an unnatural activity for humans. We were not born with genes for reading, but have repurposed neural circuitry to allow for it. Reading is work for most people, and it is very difficult for others. Dyslexia is a common cause of involuntary slow reading. Interestingly, dyslexia has a greater than chance association with increased creativity, including geniuses like Edison and DaVinci, and accomplished performers such as Whoopi Goldberg and Johnny Depp. What would be lost if we could fix dyslexia with surgery or force brains to read faster using technology? The answer is not known, but Wolf makes the critical point that different styles of reading are instructive in gaining a broader understanding of how all of us read. We should not be too quick to label slowness as a negative thing. Perhaps evolution will make us faster readers, but Wolf disagrees with futurists like Kurzweil who think that acceleration is always positive:

In music, in poetry, and in life, the rest, the pause, the slow movements are essential to comprehending the whole. Indeed, there are "delay neurons" whose sole function is to slow neuronal transmission by other neurons for milliseconds.

Our brains have evolved to use slowness as part of our overall information processing experience. This pattern points to a more fundamental design found throughout creation, the constant oscillation of a process to its opposite, yin-yang fashion, be that neural excitation and inhibition, sowing and reaping, kingdoms rising and falling, or the universe expanding then contracting. As fast as our minds become, ultimately slowness may be required to make the most of reading.

Conclusion

It is often said that a person can only read about five thousand books in a lifetime. It is a small range of books given the accelerating quantity available to us. This limitation might lead some readers to rush their reading, thereby increasing the number of books. This response turns a reader into a tourist, jumping from experience to experience, noting only the highlights, being able to say he or she has done it, though not entirely sure what was done. Another response is to simply and happily acknowledge that life is indeed short, and that our smaller selection of books represents a unique expression of our character. This second choice removes the needless pressure from reading, and restores it as a great pleasure.