# Digital Technology, Techno-texts & World Change

By Mukesh Williams

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Half a century ago we were surrounded by digital technology; today we are completely dependent on it. Most of our waking time is spent not in front of the television but before the Internet and the mobile phone screen. The Internet, telecommunications and cinematography haunt us with their specters, phantoms and ghosts in the same way ghosts haunted medieval man. Plagued by the haunting of the past and present we are losing our ability to interact fruitfully with real people. Our economy has been taken over by electronics, our sex lives by Internet videos, our entertainment by YouTube, and our knowledge information by global media like the BBC, Reuters or Al-Jazeera. Today we do not just procure information about social, economic and political problems from the Internet but often this information on the Internet causes the very problems we read about.

### Digital Haunting

In a digital age the world still remains a mystery to us, where digital phantoms come as a "blast from the past" to haunt us when we switch off the computer or exit the movie theater. The images from videos or cinema recur in the mind, disturb us and often force us to have recourse to psychoanalysis to understand the experience. The French philosopher Jacques Derrida calls digital haunting "hauntology" or the science of ghosts where cinema and psychoanalysis meet. Whether we believe in ghosts or not, the techno phantoms haunt us when we sleep and leave us tired when we wake up in the morning. Over the course of years they transform us, redeem us or even damn us.

Developments in modern technology and telecommunications have enhanced the power of such ghosts and their ability to haunt us. Even videos and movies on the digital media force the ghosts to return and force us to analyze their effect on us through psychoanalysis. Sleuthing for motives and sinister plots on and through the digital media is becoming increasingly fashionable in the literary world. Many modern writers now use the "forensic imagination", as Matthew Kirschenbaum calls it, to explore digital reading and digital forensics to recreate erased history from telltale signs. However, we do not think this is happening to us.

Each of us spends about eight to 10 hours every day on the Internet and mobile devices. The gap between knowledge and technology, learning and technology, entertainment and technology, business and technology or any other conceivable binaries of technology is increasing every day. School children in Japan spend about three hours on technology every day, university students about 12, and geeks (or *otaku*) inconceivably more. Even housewives and the older generation are not left behind. Many housewives use the Internet to develop new skills or conduct online business, while grandmothers tap into Computer-Based Training (CBT) to learn a new language.

Many universities are losing their position of preeminence as being the only repositories of elitist knowledge. The hierarchy involved in disseminating knowledge is constantly being challenged by the Internet. Now encyclopedias are free online, while ways to develop academic skills can be accessed through online editors or DIY YouTube videos without going to a university library. Millions of journals are available free as a part of a university or public library database placed in the public domain. Most student mentoring, once the preserve of elitist school professors, can now be conducted through emails or YouTube tutorials. It is possible to find e-mentoring manuals on the Internet to assist students in the methods of studying, organizing time, memorizing and academic writing.

The way we read a newspaper or a literary text has also changed. Newspapers have gone digital and a consortium of libraries in the West has been digitalizing about 10 million books, produced since Gutenberg started printing books, in partnership with big digital companies like Google and Microsoft. Digital technology has altered not only our way of thinking but also the way groups in society conceive of themselves. Electronic media has shaped and sustained diasporic identities now for over a decade. Expatriate groups seeking information about their home country from abroad read ethnic newspapers electronically, listen to music online, watch movies and access ethnic food stores on the Internet to catch up with what is happening back home or get a taste of home. The sense of alienation that people in diasporas faced in the pre-digital age is now alleviated by electronic newspapers, Skype, Facebook, Twitter and emails.

### The Digital Paradigm Shift

This digital paradigm shift began in the 1970s, challenging established knowledge hierarchies by making information freely available electronically. Assumptions about authorship, copyright,

and the authority of the printed book began to be questioned in a freewheeling worldwide web of interpretation and evaluation. Scholarly studies dealing with literature, history and the humanities have given way to electronic literature studies called eLit and humanities studies called Digital Humanities. Most of the digital natives now employ media-specific strategies to access, interpret and evaluate information. In less than half a century we have left behind the Gutenberg galaxy of printed knowledge and entered the Internet galaxy of digital information.

This intergalactic transition has not been smooth. Both psychological and intellectual anxieties have left behind the hard hierarchies of print scholarship and introduced a freewheeling enterprise of digital scholarship that requires no apprenticeship. The fast-changing world of digital technology raises not only technical and legal issues but also ethical and social ones that nations have to grapple with singly and collectively. The strategies connected to Internet security are now seeking new trajectories both nationally and internationally, and becoming caught in legalities, protocols and technicalities.

Just as reading and evaluation of knowledge has undergone change so has the production, authenticity and transmission of information. The certainties built over the centuries by print technology as to the creation of knowledge, the whirligig of reader taste and a web of business dissemination have been redrawn in the digital era by digital powerhouses. Digital media groups have re-imagined for us our conceptions of reality, the way we define ourselves and the way we conceptualize out past. All this has affected the disciplines of philosophy, history, historical analysis, and ideological assumptions, and increased intellectual and ideological conflicts.

## Imaginative Literature

The British mathematician and philosopher Alan Turing argued that the computer is not just a computing machine but a system that can simulate and create new environments for the user, from global networks to powering gadgets on the desktop. When the computer environment enters the imagination of a fiction writer it creates new patterns of thought that can engage the reader's body and mind. The result is a techno-text that can imagine the cognitive and emotional world. The techno-text, which is different from the printed text, holds new and richer possibilities that were not available to the reader of print half a century ago. Today many writers are taking a cue from digital technology and are either creating techno-texts or imagining their possibilities.

Imaginative literature is also riding the space created by digital technology, interpreting the world of emails and digital forensics with a nationalist and internationalist twist. The epistolary novel of the 19th century has evolved into the email novel where shorter missives back and forth, called round robin communication, are adding speed and immediacy to the novel genre in keeping with the expectations of digital natives. Austrian writer Daniel Glattauer's novel *Love Virtually*, based on email communication between a young man and a woman,

became a best seller, selling around two million copies. The story centers on chance email communication between two people and as the story progresses a digital intimacy develops. It highlights the make-believe world of digital secrecy and the openness of communication that email is susceptible to. The readers find the thin line separating the semi-private nature of email communication and issues involved with virtual love and intimacy.

Another much talked about novel is Amitav Ghosh's *Calcutta Chromosome* (1995) where erased emails are brought back to reality through a quirky process of digital forensics and Bengali nationalist zeal to reveal a Bengali man's original discovery of malaria-carrying mosquitoes stolen by an Englishman in colonial India. The story plays upon the concept of the "digital literary" to evoke ideas of machine reading and data mining, or *not* reading. These two works anticipate or play upon the notion of replacing textual literature by digital literature and yet remaining within the confines of the printed text. The novels manipulate the anxieties, intrigues and make-believe world of digital technology with real life and human concerns which are located in the individual and the nation.

## The Web of Meaning

Digital technology has altered our habits of the mind and the way we think. The linear thought process of the Enlightenment period has given way to lateral thinking where meaning is gathered through a complicated web of interconnected meanings. The web, like the structure of our thought, carries the DNA of the worldwide web. Some believe that the spider-like structure of our thinking habits has destroyed old certitudes of hierarchical knowledge and authorial responsibly but has given us access to vast bodies of knowledge in all areas of life with a speed hitherto unknown. This voluminous and speedy information has created an intellectual glut and confusion. Most of us lack the ability to distinguish important and unimportant information or to imagine the connections between one idea and another.

Photo: photolibrary



### Reading Literary Texts - the Virtual Machine

The reading of literary texts and their analysis have also been affected by digital media. Literary and media critic N. Katherine Hayles argues in her book *Writing Machines (2002)* that even the teaching of literature and other subjects has undergone a dramatic transformation in our digital age. She explains that the old literary canon is no longer relevant. An elite community of literary critics does not construct a literary canon. Today literary or historical analyses are affected by electronic technology. Most teaching in this area, she contends, had to take cognizance of a "media specific analysis" where literary or historical discourses are affected by technology, and literature and history are just two of the disciplines operating in a huge "media landscape" of "electronic textuality". Hayles posits that the discipline of literature and literary studies must restate their critical and ideological assumptions in a post-print reality. Undoubtedly electronic technology has altered intellectual certitudes derived from Western philosophy and it directly affects historical and scientific analyses that scholars must recognize and factor into their critical attitudes and assumptions.

It is no longer possible to present a formalist understanding of literary texts based on print knowledge. Anthony Eastope believes that new theories and evolving areas of literary studies, political postulates and foreign policy projections are now employing the evolving disciplines of cultural studies, digital humanities, media studies and communicative discourses to make sense of their texts and specialized knowledge. University departments and think tanks are now changing their nomenclature and intellectual slant to include digital media and technology to give a contemporaneous direction to their inquiries. New cross-cultural disciplines ranging from digital governance to media culture are developing in counties like the United States, Finland, India and Japan. Many of the area studies disciplines such as governance and information studies now exist within the larger category of electronic media and communication. Undoubtedly oral texts and print texts do exist and are archived in libraries. Print scholarship based on archival research, lexicographical work and philological study is now replaced by data mining, databases, and web mining searches.

### The Internet Galaxy

The galactic shift from print to electronic media has been rather quick, taking place within the lifetime of a single individual. In the 1960s Marshall McLuhan was quick to recognize the demise of the print media and mankind's entry into the world of electronic media represented at that time by the television. Manuel Castells pointed out in his book *The Internet Galaxy: Reflections on the Internet, Business, and Society* (2001) that with the spread of the Internet and the worldwide web we have entered the "Internet Galaxy". This shift has not only been exciting but at times quite bewildering. But the new stars in the firmament are interesting to watch.

In 2004 a consortium of universities and libraries in the US and the United Kingdom in cooperation with Google Digital Library decided to digitize 100 million books in English that had been published between the 15th and 20th centuries and make them available at books.google.com. The trend to digitize print books was taken up by the British Library Online Project in a tie-up with Microsoft to digitize about a million books and 80 million journals in English and the project was completed in 2008. During this time Carnegie Mellon University undertook a more ambitious project called the Universal Digital Library to digitize general knowledge books from the US, China, India and Egypt and make them available free in the Internet public domain. The trend to digitize knowledge books and literary texts has picked up speed since 2010 and more and more information is available digitally as more books are not only digitalized but written electronically.

Changes in our reading habits are so rapid that many scholars are not sure if there is a transition from print to digital or there is a total change. Observing the muscular proliferation of G3 and android technology some scholars have already rung the death knell of print, while others say print is dead. As early as the 1970s Michael Shamberg observed "as a psychological environment print is dead." However, these views are rather extreme. Digital publication has undoubtedly exceeded print but print still survives. It is reasonable to agree with Lisa Nakamura that though digital technology and digital media manage our lives more than print, print nonetheless survives.

Though the digitization of books is quite swift and many books published now are electronic, more digitalized texts must be available in the market for readers to shift completely from print to digital. We have come a long way from the way literary texts and knowledge were consumed. In the past big publishing houses monopolized literary and knowledge books but today Internet publishers like Amazon allow the reader to electronically browse actual pages of books without charge. Often readers find digitized books online as a PDF or downloadable document.

### The Way We Like to Read

The restructuring of knowledge on the Internet has changed the

way we think and read. Online journals, digital media, Google, Wikipedia, online electronic libraries, databases, YouTube, digital videos, and electronic texts have become a vast reservoir of knowledge and have changed our reading habits. The academic ideas of textual authenticity and scholarly impartiality are not taken as seriously as they were before. Reading of original texts runs in tandem with digital videos, animations and amended electronic versions. Many Internet users are more aware of Jane Austen, Charles Dickens, Lewis Carroll or Washington Irving from Hollywood movies or Walt Disney animations than from reading their original works. The introduction of short story radio with themes ranging from memoirs, drama, and relationships to love, sex and family have made the reading of printed texts virtually negligible. Even when texts are read they are not bought. Many of these texts are downloadable free just like canonical books within university digital archives.

Habits of reading are also shaped by the response to the medium, the values built around the response and the history of literary taste. The whirligig of taste that is created within literary communities, virtual communities and web communities shapes our response to knowledge books and literary texts. So there is a history of response to reading printed texts and the preferences that are created for us. The artifact of the printed text is structured around a page sustained by a binding, the reputation of a publishing house and the reviews of leading authorities in the area. The printed text possesses a temporal sequence that is felt more deeply than the electronic text. Hayles believes that the materiality of the printed text is different from that of the electronic text as each imparts a different reading experience. Hayles finds the transition from the printed book structure to the digital network construction transforms the relationship of "word to world" and alters our "represented world".

### Backlash of Print Scholarship

The world as represented by print scholarship is not happy as both American scholars Kathleen Fitzpatrick and Stanley Fish assert. In her book *Planned Obsolescence: Publishing, Technology, and the Future of the Academy* (2011), Fitzpatrick states that the nature of digital publishing is more concerned with "present works" and the destabilization of "long-form scholarship" than with tradition and past conclusions. Time-honored scholarship has always been "in conversation" with past findings while digital scholarship explores the "stand-alone myth". Fish adds more punch to Fitzpatrick's indictment. In a 2012 article in *The New York Times* titled "The Digital Humanities and the Transcending of Mortality" he asserts that digital authorship is an amalgam of many authorial influences, a "cornucopia of ever-expanding significances" where claims of individual authorship are not recognized. He further argues that digital knowledge takes us away from "discrete, partial and situated" knowledge and places us in a world of an ever-expanding "meaning-producing system" where everyone has access to complete knowledge. But both Fitzpatrick and Fish belong to the old world of scholarship, with their own old world principles.

Modern scholarship, especially as enshrined in the 2010 Digital Humanities Manifesto 2.0, calls for abolishing the "outmoded practices surrounding peer review, tenure and promotion" practices of academia and establishing an equal relationship between specialists and the public at large. It argues that reputed universities around the world should not be considered the sole repositories of knowledge or the only agencies to disseminate knowledge. Instead "networks of knowledge production" should also be involved in the propagation of knowledge. Undoubtedly, if universities must survive they need to "facilitate the formation of networks of knowledge production, exchange, and dissemination that are, at once, global and local." In brief, digital technology as major conduits of knowledge has decentered or is about to decenter Western academia as wholesale distributors of knowledge.

All is not hunky dory for digital publishing. It now battles with issues connected with fewer display ads, less revenue from users, rising costs of cutting-edge publishing technology and unpredictable user traffic. In a 2004 article entitled "Ethics and the Cost of Digital Government", Ronald E. Anderson points out that governmental agencies are now battling security in information systems and information technology breaches not just along technical lines but along social and ethical ones as well. Undoubtedly publishing, print or digital, is always connected to power and opposition to such power. Digital media is not free from the constraints of power and control, such as copyright issues and the way national governments exercise control or monitor electronic media. Electronic platforms such as social network services and interactive e-printing are also subject to surveillance and monitoring, exerting undue pressure on the writer and the reader.

### The Post-Print Culture

The post-print culture has created its own kind of freedom and control which is different from the autonomy seen in print culture. The sense of independence amongst digital natives is greater than once enjoyed by print users but digital users often ignore community and interaction with others. Studies in the area reveal that the use of the Internet has a direct bearing on the loss of belief in the Christian faith. Social networking services like Facebook, Line and Twitter create their own virtual and real communities, often denying the neighborhood communities where religion and faith exist. The make-believe world of independence is punctured by exploitation of Internet users through siphoning of personal data for profit. Though digital natives can traverse the digital paradigm and watch with wonder the different worlds in the Internet galaxy, they need analytical, community and life skills to make their lives more effective and meaningful. They need the ability to connect this vast reservoir of knowledge with their personal lives and create strategies to manage the world they live in.  **JS**

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