

How Are Computers and Networks Changing How we Think?

By Haydn Shaughnessy

Introduction

Every major transition in communications has an effect on the way people think. Proof of the pudding is easy to cook up. For example when people began to write, they lessened their dependence on memory.

Imagine the early civilised human endlessly reiterating directions, recipes, truisms and names, just so nothing of value would be forgotten – well we see that in rhymes, epic poems like the Iliad, and the begot and begat lists of the Bible.

Language at that point is imbued with mnemonic devices like alliteration and rhyme. That argument was first presented by people like Eric Havelock (*The Muse Learns to Write*) and Walter Ong (*Orality and Literacy*).

Once people learned to write – or at least when writing became pervasive within a social group - the purposeful inner dialogue changed.

The mind was released from its copious and continuous memory tasks and began its slow transition into the variegated potential we've seen realised since classical antiquity: literature, maths, objective science, philosophy, pragmatic technology. A mind bedevilled by remembering cannot spare the time for these activities.

But once you have a computer, which does all the memory work for you, what then?

The question isn't just confined to how you and your memory might possibly change when you are further liberated from memory tasks.

Memory tasks are deeply social as well as personal. Collective memories usually led to some form of memorialisation, the Lest We Forget type symbols of past struggles, sacrifices and heroism that are dotted around cities, the countryside and Mount Rushmore, among other places.

And they are social in the sense that oral uses of language are generally pertinent to a society's political life.

Shakespeare was a great writer in part because he reflected the conflicts of the society of his day by writing about old Denmark, Rome and Egypt. Language used to be so allusive, symbolic and ambiguous and therein lay its power. It had many masters to serve and rarely has the task of exposing corrupt political relationships been a welcome one.

A point that Havelock makes astutely is that epic poetry was used to reveal corruption in oblique ways. The pleasure of the Homeric performance was seeing the well-to-do exposed, but discreetly.

A further feature of memory is creativity. Because memory is so closely allied to traditional forms of expression it has been viewed by many experts as the seat of creativity (the thesis is explored in various books by Stephen Bertman, particularly his *Cultural Amnesia*).

How does the memory-creativity link show itself? In a world with no pervasive forms of recording, for example, the *quality* of language is paramount as a mnemonic device. You simply don't remember unimpressive prose.

Shakespeare not only wrote beautifully but also memorably. His characters are larger than life – which is a reasonable definition of any good traditional drama. Many memorials are made exactly like that: larger than life, so they will be remembered. Memorability is both a criterion of quality and a characteristic of art.

Creativity, traditionally, took us beyond ourselves in these exaggerated ways, painting life in caricatures in order that we remember the characters and their relationships. The sculpture of Winston Churchill outside the Houses of Parliament in London is hardly realistic. It is huge. But then art is never realistic because its purpose, like Churchill's statue, used to be remembrance in all its forms.

And finally knowledge. It should go without saying that in those days when recording was piecemeal and when we relied largely on oral mnemonics – remembering by what we say – when language and the purpose of creative activity was deeply ambiguous and difficult to arrest in time, we had a tenuous grip on knowledge, as we define it now.

The corollary of this is that in a world of allusion it is ok to know things intuitively. And since there are few records it is ok to change your mind on matters of apparent fact.

These are important differences with the formal life of modern society. We tend to believe we know facts and in so far as there are public records then there is a documentary base for what we know. Nonetheless the solidity of knowledge is over-rated. Even written records are open to interpretation.

Unless you have written records knowledge is somewhat in the mix, a fact that law Courts are often faced with. Even in the presence of written records, what we know is not as safe as we would like to believe.

The significant change is not that we are more certain now – we are – but that we are more concerned about certainty.

We should say that the past hundred years have been marked by a degree of certainty that we wouldn't previously have been bothered with.

So what's changing?

The Flexible Brain

From an evolutionary perspective people don't change much. At the level of our DNA we're not vastly different from Palaeolithic humans. We need to eat the same diets, more or less, and should follow roughly the same patterns of exercise. We are rigid and inflexible in these genetic matters.

The circuitry of our brains on the other hand is infinitely flexible. Martin Seligman's work on failure reflects the downside of this. People who repeatedly experience failure will learn how to feel helpless and fail even more. The reason isn't just a learned pattern of responses but a chemical reworking of the brain that predisposes people to giving up.

The upside, as positive psychologists and cognitive psychologists know, is that if people begin implementing patterns of behaviour with positive outcomes, the brain will rewire for success.

That principle lies behind many of the major changes in the communications landscape over millennia – the evolution of the alphabet (and the development of a phonetic symbolism for experience), writing (and the evolution of abstraction), printing (and the birth of objectivity)... Computing?

I think the issue has to be addressed along three main lines of inquiry and we touched on them above:

- Memory and collective reflection
- Creativity
- What we know

And the principle we bring to those issues is the simple one that whatever else stays constant, the brain will always adapt.

First though a few words on what is changing in communications

The Changing Media Landscape

The 21st century has seen the proliferation of media types. If we go back over the past 500 years we can ascribe some form of categorisation to this change.

The printing press gave us books, pamphlets and political tracts. It led in time, once there was adequate distribution with the arrival of the train, to newspapers.

The invention of telegraphy eventually gave us the telegram and the telephone and as technologists played around with the wireless possibilities we were treated to the radio and then the TV. And in the meantime film was born.

There are a few major innovations behind the evolution of a media landscape many of us grew up with. Printing presses, trains, telegraphy/telephony, moving picture capture, and radio-diffusion.

What difference does the Internet make?

In terms of distribution the Internet takes the cost of picture/video distribution close to zero to the end-user/content producer. If that was its only contribution to change it would be a substantial one. It also makes distribution instantaneous. It is we rather than the product that is often not available.

In terms of content production the Internet and advances in processing technologies (not just the chip but also the algorithm) the current media environment now consists of around thirty innovations including podcasts, vidcasts, blogs, RSS feeds, aggregation of content, automation of content production, online classifieds, new forms of search and search result visualisation, personal TV stations, social bookmarking, social networks, Wikis, mobile content (two minute movies), SMS of course, mixed media productions, virtual worlds (Second Life), start pages.

The list is so long that it begs a little understanding. What does it mean? The reality is only a few things are happening though they are happening in many ways.

1. The fact is everybody (within sufficient media literacy) can create a content object that can be freely distributed to everybody. This is the flat earth syndrome. There are going to be no media hierarchies, we think.
2. That in turn means traditional media companies are threatened, though they have audience loyalty and should survive that threat.
3. Many of the people who create media objects like blogs, vidcasts etc, have them aggregated by others (so there is a hierarchy!). Aggregation simply means a site that compiles extracts from other sites/media objects and presents that aggregation as a new media object.
4. Search becomes more pressing and important as do social networks which collectively bring some sense and order into the content ocean.

This is not like a revolution but in its essentials it signals dramatic change.

The “media” for over 150 years have acted as a mediating power between corporations, politicians, authorities and the population at large. They are the cornerstone of the societies we have known and lived in.

They make compromises to stay in business but they have also executed successfully and maintained themselves in this mediating position, reporting news on corporations, politicians and authorities, while earning ad revenue and staying out of gaol.

We are taking that cornerstone away. The result might simply be that corporations, politicians and authorities have to go out seeking more mediating points to maintain their presence and credibility.

The result might also be, though, a profound loss of certainty, a loss of societal identity, the breakdown of what limited commonality societies enjoyed.

Perhaps it impacts memory and patterns of remembrance. Our appreciation of creativity and its purpose might also be changing.

The next part of this article will ask if so, how?

Memory and Collective Reflection