The New Papyrus

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We live in a complex age dominated by change. The notion of change brings with it conflicting emotions. On the one hand, it offers promise and hope, on the other, anxiety and discomfort. It results in unexpected outcomes. A modern day example is the menace of the increasing rabbit population, with its effect on crops. So a virus is bred and released which results in large scale extermination of rabbits. The impact of the death of the rabbits means that with nothing to curb its growth, grass grows so thick it becomes a fire risk!

Change also causes paradigm paralysis. People fixate on a way of doing things and actively resist change, which in turn becomes an attitude against change. Today, we also have to face the speed of change. It sometimes feels that having faced one change and accepted it, we are faced with another. There seems little time to consolidate, to get used to previous changed circumstances, before we are expected to make another change. In the case of changes in communications, we speak more of a revolution than we do of evolution. In a thesis developed by Neil Postman, Professor of Science, Arts and Culture at New York University, Postman speaks of communication technology as the dominant change agent in the evolution of new culture. Thus he cites the first technology adopted by civilised man as being speech. The Acoustic Age as he calls it dominated the way we lived from the dawn of civilisation to 3000 BC when another technology appeared which was to profoundly affect and change the culture. The alphabets meant that what was previously spoken of could now be preserved in the form of words. The first books appeared and scribing was developed. This was the Semi-Mechanical Age.

This lasted until 1542 when Guttenberg invented type face. Thus, what was until then laboriously written by hand, could be reproduced in a mechanical way by a machine - the printing press. In one hundred years there were books all across Europe, sparking off the development of schools. This then was the Mechanical Age.

In less than three hundred years came the next dominant technology. In 1840, Faraday discovered electricity and in the next hundred years a host of exciting inventions changed the culture. Amongst these were the phonograph, the radio, the telephone, film and television. We call this the Electrical Age.

But in 1947, the transistor was invented which sparked off another profound cultural change. The computer was born, and the miniaturisation revolution commenced. We might call this the Electronic Era which is still with us. However, I suggest that we are about to see another significant change, which might be called the Age of Digitalisation. This simply means that every developed medium of communication cannot be passed down the same pipe.

Extrapolating from this thesis, we note that the time between these great changes has gradually diminished, from say 50,000 years for the Acoustic Age to a mere 50 years to the Digital Age.

So the problem that we currently face is the speed of change linked to the commercial reality of the need to sell, which results in the disease of the 21st century - hype! Everything is subject to hype which carries with it a new language. Currently we are bombarded with such words as super-highway, net and web, on which to surf, multimedia, interactive multimedia and lately on-line. The current fashion is to talk of the 'online economy'. No wonder we get lost in such a talk fest!

However, let us try to understand some of the terminology.

What is multimedia? There are probably hundreds of definitions, but the one I tend to use is:

> The reduction of traditional mediums such as print, film, audio, video, graphical into a lowest common denominator through the process of digitisation so that they can be mixed together into one medium and played or delivered through a single device.

Related to this is the term 'interactive' which is:

> The process whereby a user can direct the way in which the content is used, allowing choice to become a major characteristic in that use. In independent technologies, as for instance in CDROMs, the interaction is between the user and the content installed on the disc. In broadcast and online technologies interactivity may extend to the user with another person or persons in real time.

We hear a great deal of the word 'convergence'. All this means is the bringing together of the mediums. In the old days the only way you could meld mediums together was through the use of different machines suited to the individual medium. Today, through digitisation, we merge the mediums into one in such a way that there could be an argument for the creation of a new language. More and more we hear the term 'new media'. This new language, if it is one, has its own constructs and characters too.

The new language can be carried in three main ways. By disc, by narrowband and by broadband. Simplistically, laser-read discs provide the platform for vast amounts of data which can be retrieved in a non-linear fashion, unlike film or video tape and offers many different ways of utilising the information it contains.

Narrowband refers to the capacity of the pipe used to deliver information. The term itself signifies that it is restricted in its capacity, and is linked to telephony, and what can be passed down a telephone wire or multiples of telephone connections, as for instance in ISDN. ISDN gives a capacity to deliver a video signal and has led to the development of video conferencing.

Broadband is a pipe with much greater capacity and is usually optical fibre. This allows for the delivery of mega amounts of information, as information is contained in a laser beam fed down a tube of glass.

Because broadband is currently expensive, and scarce, the problem faced by those who want a greater volume of information traffic is bandwidth. The pipes are too narrow!

However, the scene is rapidly changing and we see now a true information based economy (the economy of the 21st century). It is now being spoken of as on the online economy, and is all about trade in digital services, which will change all commercial and community activity. Further, today's technology is distance independent and so we see the development of a global economy. Certainly, McLuhan's Global Village is a lot easier to understand.

We are then faced with a new game. We are moving beyond technology. It's about the exploitation of new tools within the overall fabric of our economic and social activity. Don Tapscott, in a 1995 publication entitled "The Digital Economy: Promise and Peril in the Age of Networked Intelligence" (New York, 1995) states:

> The age of networked intelligence is an age of promise. It is not simply about the networking of technology, but about the networking of humans *through* technology. It's not an age of smart machines, but of humans who through networks can combine their intelligence, knowledge and creativity for breakthroughs in the creation of wealth and social development. It is not just an age of linking computers, but of internetworking human ingenuity. It is an age of vast new promise and unimaginable opportunity.

What will be the basis of characteristics of this new world? I suggest a few (following Cutler):

* The emerging online economy involves a major paradigm shift. This is an economy where we use information management to add value.
* An economy of knowledge workers, where value is measured in terms of digital assets.
* Convergence provides the building blocks where there is a link between computing communications and content - content being the key to it all.
* We will trade in market spaces, not market places, because distance has become distance independent.
* Intellectual property and copyright issues and management will become focal to the success of economy.

How should we relate this to libraries? In the past libraries have been labelled the last bastions of conservatism. In my opinion this is rapidly changing, as more and more librarians see merit in the new technologies. The greatest change may be in the adoption of disc based materials, and online services. There will be growing tendency to keep materials in a digital format for longer periods. Thus the shape of libraries may change and interiors may comprise sophisticated banks of computers, etc. I personally do not see this as the end of the book. Indeed, far from it, but for the specialist information-based libraries, where browsing is a luxury not appreciated by the clientele, quick retrieval becomes imperative. The development of sophisticated search engines will rapidly advance this concept.

Libraries will not only become repositories of their own particular collections, but show places for information gleaned in world-wide searches.

The age of the new papyrus is well and truly with us. We should not fear it, but learn to accept its vast capacities and potential. It is indeed an age of vast new promise and unimaginable opportunity.

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