

# eBooks and the e-learning 'filling station' revisited?

by Derek Morrison, 21 September 2008

In my November 2004 Auricle post [A 'filling station' model of e-learning?](#) I posited a 'filling station' view of e-learning which was at variance with the then dominant VLE view of the online learning world. I reflected on the learning potential of the increasingly ubiquitous mobile multifunction/multimedia devices that can play games, communicate, make telephone calls, play audio and video, store data and don't need to be connected to a local or wide area network to function, but are enhanced by doing so. There are also a [series of related Auricle postings on the topic](#). Here we are in 2008 and so I thought it was time to revisit and extend the 'filling station' metaphor to include considerations of the 'vehicles' and their 'drivers'. I'll be focusing mainly, but not exclusively, on one category of vehicle, i.e. ebooks.

In my 2004 posting I stated:

*This is a bit different from a model of e-learning which assumes students sit in front of computers, need to be constantly connected to a network and must access all they require from the institutional VLE. I think users may find this 'disconnected but connectable' model attractive as well.. I concluded my November 2004 posting by posing a series of questions, i.e*

*Who's was going to build the global network of e-learning filling stations? But also .... Which device to buy? How interoperable are the devices? ... don't worry it's an industry standard ... my industry standard 😊 How can I track this? What do you mean if I want to use your device I must use your digital rights management system? ... You're really going to charge me that much for the contract for network services?*

## The 'Vehicles'

So how much progress has there been on the 'vehicle' front since 2004? Some devices have got smaller, lighter and cheaper. For example, laptops are considerably cheaper and the advent of ultra-small, fairly usable notebook computers like the Asus eEE PC

et al have broken through a restrictive small = premium price barrier to point where most students and staff could buy one (or be loaned one? by their HEI). The price differential is now so low that laptop sales now exceed that of desktops. But yet some objects of desire retain sufficient of a price premium or are locked to proprietary services or - and - media formats to inhibit their consideration for generic educational use. I would place the Apple iPhone in this latter category. On the audio media front, MP3 players are now so cheap and ubiquitous that the dissemination of material via podcast is fairly commonplace. In UK HE there is now even a [Podcasting for Pedagogical Purposes SIG](#) to help focus interest in developing that channel for educational purposes.

But what about video? There are certainly some interesting portable media player devices as well as multimedia mobile phones that can play video and a recommended 'standard' format, MP4, which, theoretically, should have helped progress developments on this front. There are, however, various flavours of the MP4 'standard'. Consequently these variations, as well as the persistence of various incompatible proprietary formats, still means that video material for use in portable devices appears to me to remain more complex, expensive and unnecessarily tethered to proprietary systems and devices than it needs to be. Interestingly, user-generated video content appears to offer fewer constraints. For example, the recent advent of relatively inexpensive portable camcorders, e.g. the £99 [Flip](#), the £35 [Busbi](#), or the forthcoming [Kodak Zi6](#) provides users (let's call them students 😊) with an ultra easy-to-use device for video capture that can be used as an alternative or supplement to the video capture functions in some mobile phones. Google's YouTube has proven to be a highly successful 'free' dissemination service for such material which is usually presented in "learning bite" size; for example see [Gilly Salmon's Designing E-Learning](#) on YouTube demonstrates, as will later examples, that YouTube can be used as a serious channel of communication. Ironically, rather than an open video standard on the web dominating this space it's the now ubiquitous Adobe [Flash video format](#) that currently offers the greatest interoperability, e.g. witness its use in the streaming 'catch up' service of the [BBC iPlayer](#).

All of the above undoubtedly merit a more considered posting of their own but I have mentioned them only because they make a useful background for what I really want to consider in the remainder of this post. I now want to focus on one vehicle and its potential filling stations, a technology which, in its traditional book form, has proved to be a highly portable and resilient analogue vehicle for conveying knowledge, if not wisdom, through the centuries and generations. The analogue book is now being subjected to various attempts at transformation into an equally portable and resilient vehicle for transporting knowledge and information in digital form before converting it back to the analogue forms the human brain so easily processes.

So where to start?

Consider the following vision statement:

*I like to tell people that the holy grail of e-paper will be embodied as a cylindrical tube, about 1 centimeter in diameter and 15 to 20 centimeters long, that a person can comfortably carry in his or her pocket. The tube will contain a tightly rolled sheet of e-paper that can be spooled out of a slit in the tube as a flat sheet, for reading, and stored again at the touch of a button. Information will be downloaded—there will be simple user interface—from an overhead satellite, a cell phone network, or an internal memory chip. This document reader will be used for e-mail, the Internet, books downloaded from a global digital library that is currently under construction, technical manuals, newspapers (perhaps in larger format), magazines, and so forth, anywhere on the planet. It will cost less than \$100, and nearly everyone will have one! (Source: [extract from an interview with Nick Sheridan](#) who invented electronic paper at Xerox Palo Alto Research Center (Xerox PARC) in 1974.)*

That was Sheridan's 1974 vision of a flexible, almost scroll-like device, based on e-paper. But what are we actually being offered in 2008? Keep in mind that Sheridan's vision throughout the rest of this posting, particularly that "less than \$100" and that scroll-like design. (perhaps he meant \$100 at 1974 prices 😊)

At the time of writing, in 2008, the three putative heavy hitters in the ebook world are the £199 [Sony Reader](#), the £399 [iRex iLiad](#), and the ~£200 [Amazon Kindle](#) (when the UK version is released later in the year). Some high street UK book retailers, e.g. Waterstone's (Sony Reader), and Borders (iLiad) are already selling ebook devices, and later in the year Amazon will join them with its own Kindle platform. But ebooks are nothing without content, and major publishers, e.g. Pearson's Penguin, Simon & Schuster, and Random House are apparently investing considerable sums in the assumption that this market can only grow. The membership of the [International Digital Publishing Forum](#) (IDPF - formerly Open eBook Forum) shows the range of interests now participating in this space. The IDPF's [ebook statistics pages](#) provide an indication of the level of non-UK sales. The open letter from the American Association of Publishers (AAP) recommending the open-standards based EPUB file format to the IDPF is also available from the IDPF site and makes for an interesting read if only for the reason that some of the key technology developers don't appear to be listening. The Sony Reader and its Waterstone's partner use the recommended EPUB format, the iRex uses the Mobipocket format, and the Amazon Kindle looks like it will use its own proprietary AZW format. That is the equivalent of different bookshops selling you the same paperback book but requiring you to buy an expensive translator before you can read the content you thought you had bought. Or is that leased?

Although not claiming to be an ebook purveyor at the moment, Apple's iPhone (or similar emerging devices) could well be the Trojan Horses that disrupt the plans of the current major ebook players above. Surprisingly, rather than Apple take this space for itself it has allowed (for the moment) a number of third party applications (some free) to be uploaded to its online store; these applications arguably make the iPhone a fairly effective ebook reader. One such example is *TextOnPhone* whose service is better understood by viewing [Kevin Tofel's YouTube video](#) than from their web site. It may have a small screen in comparison to the other ebook products but the iPhone's innovative interface design has made a virtue of such smallness and Tofel's video demonstrates the utility of bite sized chunks. Whether anyone would want to read *War and Peace* this way is another matter.

Nevertheless, despite the increasing interest of book publishers and retailers the ebook has clearly yet to gain mass market traction.

Why? Or is that why not?

A visit to one established digital bookstore [eBooks.com](#) illustrates part of the problem. eBooks.com appears to offer a good selection of books for download. Now put yourself in the place of the would-be purchaser who is a technology-novice who visits the [help page on which format to choose](#). Now visit the new UK [Waterstone's ebook site](#). Again, apparently a good selection, but notice how Waterstone's have simplified the technical choices, i.e. you first have to buy the £200 Sony Reader before purchasing their e-content; and the price of those ebooks look suspiciously similar to the traditional paper product despite the much lower production and dissemination costs. Over on the [Borders site](#) it is hard to see any serious commitment to the ebook apart from Borders being [willing to sell the premium £400 iLiad reader](#) complete with 50 classic, i.e. out of copyright, titles (and only at select stores). At least Waterstone's, by offering current ebook titles, is demonstrating commitment ... as well as taking more of a commercial risk.

So from my perspective, what we have in reality are still unfunctional premium-priced 'lifestyle' products priced for early adopters and gadget lovers. At £200-£400 per such device users are entitled to (and should) ask:

1. And what else does it do?
2. Does it make phone calls?
3. Does it play movies or audio files?
4. Is there a colour version?
5. What other services are included in the price?

6. What added value is there in this device?
7. How long does the battery last under normal use?
8. How long does the battery last when I'm connected to a network?
9. Can I replace the batteries myself?
10. Can I print a page?
11. What other media formats does it display?
12. Can I transfer my own content to the device and how do I do this?
13. Can I share the downloaded book with my friends?
14. How can I backup the ebooks I've purchased?
15. Can I read my ebook content on another device or ebook reader?
16. How much cheaper are the ebook versions in comparison to the paper book?
17. What happens if I drop the device? How much is the insurance against this?

Now this posting is not meant to be a polemic against the ebook concept. I really want to like the ebook concept, I really do. I have a Sheridan-like vision of the student entering university with a light weight, flexible and robust device which can be configured to automatically load and unload key reading material related to their chosen area of study plus allow for the downloading of supplementary material or sharing with other students. But I just don't think this current generation of 'lifestyle', 'early adopter', 'gadget enthusiast' products are up to the job particularly when existing alternative and emerging solutions may represent better value for money, be more flexible or more usable. At best, the current ebook offerings will make interesting studies of what is predicted to be in general usage in the traditional "within the next five years".

I can almost see the "mobile learning" research proposals before my eyes now 😊

So what do I see as the key impediments to the success of the current generation of ebooks?

First, there are better value alternatives that will do what the current generation of ebooks can do and much, much, more. The [Asus Eee was the vanguard](#) of relatively low cost ultra-portable devices that are just large enough to be useful but small enough to be convenient. As the very high uptake of the eEEPC demonstrated in its single handed creation of a new market segment, eBook readers need to be perceived as almost commodities and not luxury items.

An entry price point of, say, £50 for a 'standard ebook' reader like the Amazon Kindle would instantly move such devices out of the early adopter or lifestyle class and bring it within reach of the sceptical and cautious who would then be willing to experiment with the

balance of affordances to constraints of such devices. Unless ebook developers grasp this particular nettle then it could well be a new generation of eEPC-like (or iPhone-like) devices that steal their clothes. After all the latter can also display text, move from page-to-page, download and upload to and from the web, display web pages, and play a wide range of audio and video formats. Ok, they have a light transmissive display and not the light reflective paper-like qualities of the e-ink displays used in dedicated ebook readers, but that by itself may not be enough to sway the mass of potential users, other than early adopters. Anyway the benefits of the light reflective display are only going to become obvious if users buy the technology rather than have it explained to them by a salesman. I can almost see the potential customers eyes glaze over as someone in a bookshop tries to explain the reflective display as a major selling point and justification for the premium price. No one, after all, has to explain the light reflective qualities of paper because it's been cheap and ubiquitous enough for us to experience every day of our learning lives without thought. Nevertheless, we should not ignore the usability science underpinning the benefits of the light reflective as opposed to the light transmissive reading source, e.g.

*Reflective displays offer more than just power reduction and sunlight readability. The eye and brain are used to looking at objects that reflect light. We automatically compensate for variations in both the colour and intensity of ambient light and the effect of this on reflective objects. Reflective things look more natural, although possibly less eye catching.*

Source: <http://www.electronicweekly.com/Articles/1996/05/15/1251/reflective.htm>

For those wishing to pursue this in more depth there is the [Journal of the Society for Information Display](#) (subscription service).

Second, who wants to be locked to one ebook reader and one ebook content supplier? Such monopolies simply represent higher costs for users. Theoretically, ebook content should be priced 'attractively', but publishers and retailers are worried that digital downloads could rapidly undermine their traditional paper-based media business as has happened with such a rapid and disruptive impact on the traditional business model of the music industry. And what about illegal copying and piracy? Again as the music industry experience has shown, imposing digital rights management systems merely impedes legal sales, does not stop piracy, and risks bringing an industry into direct conflict with its potential consumers who, as the increasing traction of the legal digital music download business model has demonstrated, are prepared to purchase DPR free material when the convenience and value-added is sufficiently high.

Now here is a really radical idea for publishers and book retailers. If they are serious about establishing a solid and thriving market for ebooks, rather than adopting the rather anxious

“let’s not compromise traditional book sales” business models we have at the moment, then why not for every traditional book purchased, give away, or sell at a nominal cost, the ebook version of a book? A variant would be for a voucher to be issued for each paper book which contained a unique number that would enable the purchaser to download the ebook version. Selling such a bundle, particularly with the low-cost reader I suggested earlier, could actually increase paper book sales whilst simultaneously stimulating the nascent ebook market.

Third, although cost of e-content and cost of the e-device matter convenience also matters a lot. Convenience can be related to the physical characteristics of the device and its interface as well as the content or service it provides/connects to.

Consider again at Sheridan’s 1974 vision of a quasi scroll-like device with its pull out flexible screen. Such a device would be both compact but expandable rather than the rigid boxes we currently have. Much of the rigidity is currently necessary in order to protect the device display which, if damaged, as many owners of damaged laptops can testify, may instantly convert a much prized digital device into a ‘brick’ or ‘doorstop’ (replacing the display is usually uneconomic).

Sheridon’s 1974 vision may not yet be realised in the mass market but there are promising technologies which are much closer to the original Sheridan vision and which could rapidly make the Sony, iLiad, and Kindle look rather passé , e.g.

[Plastic Logic’s](#) electronic reading device which is slated for production in the first half of 2009 is currently being marketed at business users rather than consumers (you can just feel the ffffff\$ pain). The [video of their Demo 2008 presentation](#) gives a glimpse of a possible form and function of such devices. There also a panoply of [Plastic Logic YouTube videos](#). If this technology delivers, I suggest it would be much more relevant and useful than Amazon Kindles, Sony Readers or iLiads. I may even be happy to read a newspaper on that ... if I could afford it. Plastic Logic is primarily a semiconductor company which currently leads on the development of plastic electronics, i.e. the replacement of materials like silicon and copper with a new generation of semiconductor materials. With this offering they appear to be signalling that they are also now a device company. Incidentally, Plastic Logic was established in 2000 as a commercial spin-off from Cambridge University’s Cavendish Laboratory. It now has facilities in the UK, Germany and the US.

Or read the [May 2007 press release](#) from South Korea’s LG Philips LCD announcing what they claim to be the world’s first A4 colour flexible e-paper.

Or what about [Polymer Vision's forthcoming RADIUS e-reader](#), with its roll-out screen? Oh, and it's phone as well.

To finish this look at the near future, visit ScienceCentral's short video presentation entitled [The REAL Daily Prophet](#).

But for most of us the physical form of this generation of ebooks is for the moment as variants of rigid box-like devices. And so the major generic convenience factors for me in evaluating and using such boxes are:

1. How heavy a portable device is?
2. How easily I can stow it away and retrieve it?
3. How quickly I can get it doing effective work?
4. How quickly it shuts down?
5. How long its battery lasts?
6. How good is the display for the job it's doing?

The first two factors are probably the biggest determinants on whether a device will be used frequently by me or not. I recently purchased the ultra-small [Asus eEEPC](#) which has a ~9 inch screen. It has proved to be highly popular domestically because it's small and light enough to carry to a multitude of different sites, has very fast start-up and finish times, and has a good display. But yet, I've been reflecting on why it is that, several times a week, I still travel to the local newsagent and purchase an old technology newspaper even though I can use the eEEPC and its wi-fi connection to read the same newspaper online for free. I also purchase a couple of technical magazines per month even though, again, I can access the publisher's web site for free where the content is presented in standard HTML format. Incidentally, automatic downloads of newspapers and magazines is being trumpeted as one of the potential affordances arising from the purchase of an ebook reader like the Amazon Kindle which transfers new content to subscribers using a mobile telephone network rather than the internet. In this theoretical scenario subscribers would wake up in the morning ... kiss one of ... the partner, cat, dog ... and the Kindle will already have downloaded their preferred daily read. So assuming I'm representative of the target demographic, why don't I already use my conveniently packaged Asus eEEPC for this purpose? So why would other members of this demographic use an alternative device like the Amazon Kindle for this purpose?

I suggest that while portable devices like the Asus eEEPC or ebook readers may be neatly packaged they are as not yet a viable alternative to, or improvement on, spreading the mega



display of the paper newspaper across a table, surveying the headline and picture tableaux, and then zooming into read the article or column that has caught the reader's attention; and all happening at a navigation speed that even the fastest device still cannot cope with. Using the eEEPC a user would have to start the machine (say 30 seconds) and then navigate to, say, the [Times Online](#) site and scroll around its home page before clicking the relevant hyperlink (say further 2 minutes, maybe more). The Amazon Kindle of course could claim benefit from downloading such new material while the user slept.

But surely, local, regional and national newspapers could, if they choose to do so, offer a PDF format or other version of their daily newspaper for automatic download and display on various mobile devices (including ultra notebooks). Well they do, sort of. But before we consider these mainstream examples there's a variant of such a service available in the form of the UK [National Talking Newspaper and Magazine service](#) which acts as national newsagent for blind and partially-sighted people and others for whom print is not an accessible medium. [Many daily, weekly, monthly, and quarterly publications](#) are available by this route (subscription service). It's interesting to reflect on why a service designed to improve accessibility for one population demographic is apparently not being perceived of as a potential model applicable to other demographics. It's also interesting to reflect that the [production workflow of many newspapers](#) actually includes the production of PDF format files and so making this format available for download on a laptop or ebook reader should, therefore, be a relatively trivial process. Some newspapers, however, appear to be making tentative and under-promoted steps in this direction, e.g. the [Guardian and The Observer digital editions](#) are subscription services which offer manual pdf downloads of relevant sections of the paper edition. [The Times E-Paper offering](#) is another, as yet, underwhelming subscription service that would have gone unnoticed had I not been explicitly looking for it. And the [Telegraph's e-paper offering](#) apparently wants offline readers to use the proprietary PressReader, as does the [Irish Times](#) offering. I think all newspapers really need to study the podcast auto-download model if they seriously wish to develop this area of the market. Offering either fragmented pdf files for manual download (a la *Guardian/Observer*) or proprietary download formats as do the *Telegraph* or *Irish Times* just doesn't do the job and it presages ill for the newspapers migrating to an ebook platform. Ironically, the UK [Telegraph's mobile site](#) may offer a better model for an offline download service.

But let's reconsider the affordances of the paper version of a newspaper or magazine or journal which an e-variant needs to equal or enhance. I can abuse a newspaper. I don't need to worry about dropping it, spilling tea on it, or spreading margarine/jam across its surface. Also the paper newspaper is multi-sectioned so my spouse can be kept occupied until we are ready to do an exchange of sections. But to achieve the last of these functions we would need

two Amazon Kindles at ~£400 cost for their purchase plus perhaps even two subscriptions to the relevant newspapers downloads. But the Asus eEEPC does allow me to connect to, say, [The Times](#) or [the Guardian](#) and listen to a piece of music or watch a video clip referred to in an article; and that would be even more convenient had I already been reading the article online.

Some of the above is undoubtedly the result of learned behaviour on my part that could perhaps be unlearned. So should I stop traveling down to the newspaper shop and just read the online version in order to prepare myself for the Amazon Kindle experience? I'll see if I can pluck up the courage to try this for a week or so. Of course then I may simply have confirmed I don't need a dedicated e-book reader at all ... perhaps all I need is a second generation even lighter eEEPC-type device? Or maybe, just maybe, [Plastic Logic's light weight A4 clipboard type device](#) (or similar) I highlighted earlier will have come to dominate the world by that time?

The ebook as a delivery vehicle for newspapers and magazines may be important to the future of all these technologies. Why? [Some may argue](#) (Guardian, 14 August 2008) that rather than ebooks defining this market and technology it is e-newspapers, e-magazines, and e-journals that will do so, e.g. news, short features, columns and for scholarly use e-articles/e-papers. In fact any scenario in which information, analysis, and commentary needs to be rapidly updated. I can well envisage the student or academic with, whatever device, within range of a 'filling station' with which they have an account having the data automatically updated. The *TextOnPhone* YouTube demonstration offered earlier is a good example of what could be possible although the viewing experience on the small Apple iPhone screen is probably not optimum for anything other than text or video clips (let's call that bite size learning). The 'account' could well be a subscription to a newspaper, magazine, journal or with a University with whom they have registered and who then automatically authenticates their download for, say current course materials or assignments. But for such a possible future to work it would require an ebook platform (whatever form that takes) which was not tethered to one supplier or publisher. Being a professional sceptic, however, unless the UK HE sector gets its act together I can well envisage University X opting for brand 'abc' ebook reader and University Y opting for brand 'def' and University Z opting for brand 'ghi' with none of the content being really interchangeable despite the claims of the companies that enter this space. An open source ebook reader with the best characteristics of the current crop, plus a standard content format, and a flexible display anyone? Maybe an MIT or Asus would be interested?

I think that there is a major flaw, however, in the contention that the killer application for

the ebook may actually end up being the newspaper and magazine. Unlike the book where the content is the revenue generator, the business model for the newspaper and magazine industry is usually premised on advertising and not the content. But it is exactly that collapsing advertising revenue as a result of competition with online services which is undermining the conventional paper publishing and distribution model and forcing a move online. But ... Advertising means colour; and colour on production quality ebooks is a yet nowhere to be seen (although there are technologies that look promising in this regard). So this generation of strictly black and white ebook devices look like unlikely candidates to lead an electronic newspaper revolution. A more optimistic scenario, however, could see the synergy of a new generation of ubiquitous and affordable readers (perhaps a Plastic Logic type device), attractive subscription and download packages via, say, the 3G mobile phone network (a la Amazon Kindle) and the ability to respond directly to advertisements via the same network actually reviving the fortunes of newspaper and magazine publishers et al because they become major online services in their own right. But not if they indulge themselves in meaningless proprietary content format wars, DRM, and tethered devices. After all, a newspaper or magazine in its paper form is a transient time-limited artefact which is usually destined for the recycle bin after everyone in a household, train, or plane has read it, so why make things more complicated by placing barriers in the way of potential consumers of the digital variants? Instead effort should be expended on making it easy for them to subscribe to a publication at a reasonable cost and then provide them with a good user experience that justifies the use of a standardized or multiformat digital reader.

### **The Filling Stations?**

In the earlier days of motoring loyalty to a particular filling station brand was not just a matter of individual preference because there were engine critical variations in the blends of fuel offered by different refineries. Consequently, the guidance to fill up only at, say, "S..ll" garages was more of a necessity rather than a recommendation. Today any mass automobile manufacturer producing a vehicle, no matter how desirable, that could only be fueled at a specific chain of garages would soon be out of business. But yet here we have just such a scenario with developers and distributors of ebooks and other vehicles attempting to impose such constraints or 'tethering'; in some cases, e.g. Apple iPhone and Apple iPod, with considerable success. As indicated in [other recent Auricle postings](#) Jonathan Zittrain's *The Future of the Internet: And How to Stop It* highlights the risks to our future freedoms we risk by accepting such constraints.

Many commercial 'e' filling stations do not wish to offer fuel as though it is a commodity. Instead each one wants their 'fuel mixture' going into the vehicles they choose, preferably

ones they also own or, failing that, at least those manufactured by strategic partners who are equally concerned with constraining and controlling what they perceive to be a lucrative market. There are some beacons of light, however, and here I am thinking of the various national and international [open courseware/open content initiatives](#) and the excellent video material produced by the [TED site](#) (Technology Entertainment & Design) with the latter managing to demonstrate there is still much value in the thought leader “talking head”. But even here that content is being produced with the mature technology of the ubiquitous personal computer as the delivery vehicle in mind rather than the still immature ebook. The ebook is bogging itself down in a marsh in which it is being marketed more as an “object of desire” with tightly tethered content. Until that early adolescent phase is over its true potential will not be realised. That doesn't mean there won't be a few interesting pilot studies hinting at promising future, but in terms of scalability and ubiquity a mass of open and commercial contemporary content developers and suppliers will be needed. Indeed, as Google's [YouTube](#) or Yahoo's [Flickr](#) service has demonstrated, such content suppliers may well come from unexpected quarters.

With regard to the accessibility and usability of ebook vehicles, it would be good to see the global HE sector and its agencies exercising some imagination and influence here in a way similar to that of the open courseware or computer hardware initiatives. Or perhaps Google will decide that this is another area worthy of its attention in much the same way as they initiated the development of the [Android](#) 'open' mobile phone operating system as an alternative to the closed proprietary systems currently in use. Perhaps Google would sponsor a competition to name such an open ebook operating system, e.g. “Caxton”, “Shakespeare”, “Gutenberg”, “Codex”, “Papyrus”? 😊

At the moment we are in a situation more closely related to that of alternative fuel cars whose growth is constrained by the absence of a national and international infrastructure for refuelling. Until that is solved then ebooks will be a bit like hydrogen or fuel cell cars, i.e. promising examples, but “when do the **real** ones arrive so I can undertake journey without worrying about it becoming a 'brick' because I've run out of fuel”? And that will require a mass market where ebooks and their content become a commodity rather than a lifestyle statement.

But, yet putting aside the affordances and constraints associated with emerging ebook technologies there is one supreme irony associated with the internet as a 'filling station'; it can also rejuvenate 'old' media like the paper-based book. Shall we call this a p-book? 😊

How can this be?

In a publishing and retail world of bestsellers, marketing campaigns, and product placement, the chances of minority interest or new authors making it to the shelves of the high street booksellers or escaping the 'remainder' outlets are extremely slim. And what about those out-of-print books? A new business model can, however, be applied, one in which there is a synergy of new with the old. Chris Anderson first described this new model in what was originally a short paper called the [Long Tail](#) (*Wired*, October 2004). Anderson's original *Wired* article has since been enhanced and published as [The Long Tail: How Endless Choice Is Creating Unlimited Demand](#) (2007) and [The Long Tail: Why the Future of Business Is Selling Less of More](#) (2008)

So here is a delicious irony. It may well be the internet that ensures future diversity of authorship rather than the emerging monoculture that some may feel is the reality presented by modern day high street bookseller. Stephen Page's [The free-thinking reader is not dead, but found online](#) (Guardian 6 March 2008) reinforces this point very well.

Andrew Sullivan also reinforces the point that it's new media which is adding and extending the value of the old in his newspaper column earlier in the year [Do not adjust your set: TV is about to blow apart](#). (Sunday Times 16 Mar 2008). He states:

*The great beauty of the online world, after all, is its lack of constraint. No interview need stop in full flow to accommodate an advertisement; the cost is so low that the format can accommodate the content rather than the other way round; and if viewers have sought you out, there is less need for the low attention span gimmick to keep the ratings up ... Equally, a simple 20-second sight gag or joke or comment online can be profoundly effective – a time slot that can't exist alone on television. The web deconstructs and reconstructs media in ways that the institutions of the past couldn't muster.*

And let us ponder the impact of printing or publishing on-demand (POD) technologies upon the ebook vision (particularly one in which it is envisioned as being dominated by one or more proprietary ebook vehicles). POD machines are now being sited in a few bookshops as well as offered via online services. POD services such as these may actually end up enhancing and reinforcing p-books (paper). A recent press article [Book out of stock sir? We'll print it for you](#) (Sunday Times, 27 July 2008 - N.B. the online article has a different title from the print version) highlights how the UK Blackwell's is intending to trial the [Espresso Book Machine](#) in some of their shops later in the year. The really interesting point of reflection for me is whether such technologies books will really end the curse of "out-of-print" because it now becomes worthwhile for publishers and distributors to engage with Chris Anderson's *Long Tail* model in which a book is either printed in real time (7 minutes estimated) in a shop or ordered for next day delivery over the internet. And why just a book

shop? A public or university library could equally offer such a service, or any facility prepared to meet the initial capital cost of the POD machine.

## The Drivers?

The form and function of the 'vehicles' and 'filling stations' may well be changing but it is the members of human networks that need to drive these vehicles and be able to refuel with ease at the filling stations who are the ultimate arbiters of success or failure. It's always worth remembering that humans are analogue entities, albeit entities increasingly expected to function in a world where data and information are stored and disseminated digitally before being processed back to into the analogue forms we can use and are most comfortable with. It's this analogue reality which partially explains the development and use of various light reflective 'epaper' technologies in ebooks and is also evidenced by the number of people whose first instinct is to convert all but the most trivial of information created or transferred digitally back into paper form via their device's print button. That in turn explains why, that far from realising the promise by technology futurists that computers would reduce the use of paper, the technology simply created a more efficient way to use more of it. So for all those contending that their digital artefacts, e.g. documents have reduced printing and replication costs, the chances are is that has simply displaced them to the recipient of your digital document whose first action is invariably to convert it back to its analogue form so that they can read it on the train, plane, or in the bath 😊

But what is it like to be a driver of the new generation of technologies like ebooks? We can glean some superficial feedback from the likes of user reviews in the popular press. For example, Naomi Alderman, and the novelist Stephen Amidon's article [Amazon's e-reader, the Kindle, reviewed](#) (Sunday Times, 9 March 2008)

But on a more sombre note there are those who highlight how technologies appear to be changing our behaviour and expectations regarding the way information is presented and processed. For example, Nicholas Carr's recent article [Is Google Making Us Stupid?](#) (Atlantic Monthly, July/August 2008) makes for very uncomfortable reading when he suggests there is a degradation in his own analytical and reflective abilities. He compares this to the process HAL the sinister computer in Stanley Kubrick's *2001: A Space Odyssey* whose hyper, but killer, intellect was removed memory-board by memory-board by the astronaut he had tried to kill. Carr's powerful introduction states:

*My mind isn't going—so far as I can tell—but it's changing. I'm not thinking the way I used to think. I can feel it most strongly when I'm reading. Immersing myself in a book or a lengthy article used to be easy. My mind would get caught up in the narrative or the turns of*

*the argument, and I'd spend hours strolling through long stretches of prose. That's rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, begin looking for something else to do. I feel as if I'm always dragging my wayward brain back to the text. The deep reading that used to come naturally has become a struggle ... As the media theorist Marshall McLuhan pointed out in the 1960s, media are not just passive channels of information. They supply the stuff of thought, but they also shape the process of thought.*

Carr also goes on to say:

*... we may well be reading more today than we did in the 1970s or 1980s, when television was our medium of choice. But it's a different kind of reading, and behind it lies a different kind of thinking—perhaps even a new sense of the self.*

Or consider the January 2008 briefing [Information behaviour of the researcher of the future](#) from University College London's [School of Library, Archive and Information Studies](#) (SLAIS) [Centre for Information Behaviour and the Evaluation of Research](#) (CIBER) research activities. The briefing paper is part of longer term work commissioned by the British Library and JISC that suggests that, far from encouraging active reflective reading, hyper-connectivity appears to be creating “power browsers”. In the section of the briefing “How do people currently behave in virtual libraries?” the UCL researchers state:

*The average times that users spend on e-book and ejournal sites are very short: typically four and eight minutes respectively. It is clear that users are not reading online in the traditional sense, indeed there are signs that new forms of 'reading' are emerging as users 'power browse' horizontally through titles, contents pages and abstracts going for quick wins. It almost seems that they go online to avoid reading in the traditional sense. (p10)*

The US National Endowment for the Arts study, [To Read or Not to Read](#) (19 November 2007) suggests that there are global implications. For example, the proportion of US college graduates who were proficient in reading prose declined 23 percent from 1992 to 2003. In summary, the NEA compendium finds that Americans are reading less and less well and that this has profound social and economic consequences, e.g.

*On average, Americans ages 15 to 24 spend almost two hours a day watching TV, and only seven minutes of their daily leisure time on reading ... Nearly two-thirds of employers ranked reading comprehension “very important” for high school graduates. Yet 38 percent consider most high school graduates deficient in this basic skill ... Literary readers are more likely than non-readers to engage in positive civic and individual activities – such as volunteering, attending sports or cultural events, and exercising.*

If reading motivation and proficiency is on the decline as some assert that has some implications for the much vaunted ebook. Theoretically, as I've suggested in previous Auricle postings the internet will increasingly become a 'filling station' for learning devices and so a mature ebook technology should be able to enhance learning opportunities and experiences by acting as a local repository of reading material (journals, books, and papers) related to students' interests and studies. I also suggested that such a possible future was being frustrated by proprietary interests, expensive devices, and rights management technologies which would constrain uptake and possibly kill the nascent market. A recent article in the popular press offers an even more pessimistic perspective. In [I'll never be caught reading an ebook](#) (Sunday Times, 13 July 2008) the journalist and author Nick Hornby offers a well reasoned argument for what will continue to constrain the ebook concept. I recommend reading his full article but here are a few extracts which to me have some resonances with both the Carr article and the UCL study highlighted earlier:

*We don't buy many books – seven per person per year, a couple of which, we must assume, are presents for other people. Three paperbacks bought in a three-for-two offer – expenditure, £14 approx – will do most of us for months. The advantages of the iLiad and the Kindle, Amazon's version of the ebook – that you can take vast numbers of books away with you – are of no interest to the average book-buyer ... How much reading has been done historically, simply because there is no television available on a bus or a train or a sun-lounger? But that's no longer true. You could watch a whole series of The Sopranos by the pool on your iPod touchscreen, if you wanted. Reading is going to take a hit from this ... while people are so resistant to the act of reading itself, the £400 reader is not going to be the must-have accessory of the near future.*

So is the book as the primary vehicle for encapsulating a body of knowledge dying or not? A really worthwhile overview of the different perspectives was provided in a special edition of [On the Media](#) (23 November 2007) which focused solely on the book in its traditional as well as in its emergent forms. The arguments in this edition range from those that view paper as an advanced technology that cannot be improved upon, the putative tree-saving possibilities offered by the likes of Amazon's *Kindle* ebook, a new angle on disintermediation offered by the *Espresso Book Machine* and the changing (vanishing) nature of book reviews. There are six sections (transcripts and MP3 downloads) that are well worth listening to.

The traditional 'p'-book became the 'killer' application of the printing press and it certainly played a major part in changing human thought and behaviour. There is more than one suggestion above that other digital information vehicles are already playing their part in doing the same, although there are concerns about the possibly detrimental nature of some of these changes. It's hard to judge what part the ebook will ultimately play, but I think that in their



current manifestations there are more constraints than affordances. The alternative devices based on flexible display technologies I highlighted earlier seem much closer to the original Sheridan vision I started this posting with rather than the Sony Reader, iRex iLiad, or Amazon Kindle. Consequently, I think it's a combination of one such new generation device at a non-premium cost, plus a large scale preferably global open content initiative, plus a download system like the Amazon Kindle's that's necessary to advance thinking about and ultimately the market for ebooks. Failing that, alternative technologies will fill the niche by default and may ultimately absorb some of the technologies originally designed for the dedicated ebook.

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