

The
Future
of the
Printed
Book



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PREPS is a Carnstone project. It was formed 10 years ago as the brainchild of Alison Kennedy, the former Production Director at Egmont Publishing and Carnstone (then called Acona Ltd). Alison had implemented a paper sourcing policy at Egmont but had realised both the challenges of trying to engage upstream suppliers, and the wasted opportunity of not doing something as a collective publishing force. She invited 10 publishers to attend a meeting and PREPS was born.

Today PREPS is a part of the wider Book Chain Project, which provides publishers with data on forest sources, chemical components and labour standards in their supply chains. PREPS now comprises 23 publishers spanning Europe and North America, works directly with over 200 mills spanning 102 countries, and holds comprehensive data on forests and tree species on more than 800 papers.

PREPS is about providing sustainability information to enable participating publishers to make informed decisions about the papers they buy. At its core is the online platform to enable publishing staff to access information on those papers. On top of this we provide briefing notes, seminars, engage with external experts, and discussion forums to improve our collective understanding of the sustainability issues facing the paper supply chain.



Carnstone Partners LLP is an independent management consultancy, specialising in corporate responsibility and sustainability.

We advise clients on the full range of social, environmental and ethical topics – from supplier management to community investment, from environmental modelling to corporate governance. We have offices in London and Shanghai, and a representative operating out of São Paulo.

We work mainly for large companies – also for NGOs and charities - and we have known many of our clients for years. We help set strategy, we do research, we run projects and frequently we're just there at the end of the phone for some quick advice.

We're an equity partnership, with a strong culture of employee engagement, transparency and internal debate. Our team comes from a wide range of backgrounds; different countries and sectors. We have worked in-house in large companies, and many of us have been involved in this field since its inception.

Neil Everett is the report author. He is a Senior Partner with Carnstone. Neil helped found all three of the Book Chain Project's original initiatives within Carnstone: PREPS, PIPS and PRELIMS.

Nicholas Sammons is a contributor to the report. He is a Partner with Carnstone, led the creation of what is now called the Book Chain Project, and remains its Project Manager.

Valentina Okolo is a contributor to the report. She is a Junior Partner with Carnstone, a member of the team working on the PREPS element of the Book Chain Project, and coordinates engagement with mills within the project.

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Executive Summary

The PREPS project is 10 years old. It now forms part of the wider Book Chain Project, the publishing initiative run by Carnstone that engages the wider supply chain to capture information on forest sources, paper mill environmental information, chemicals used in book components, and printer sustainability performance (environmental and labour practices).

What is the future of the printed book? Will it still be relevant in 10 years' time and, if so, how and where will those books be printed? This report seeks to answer those questions and, in doing so, help inform how the PREPS project should evolve over the next 10 years.

We begin by looking back 10 years to how and why PREPS began. We then look at the context in which we've been working over the past 10 years: the rise of digital content and its influence on the way we read, developments in new print technology, and changing patterns in paper sourcing.

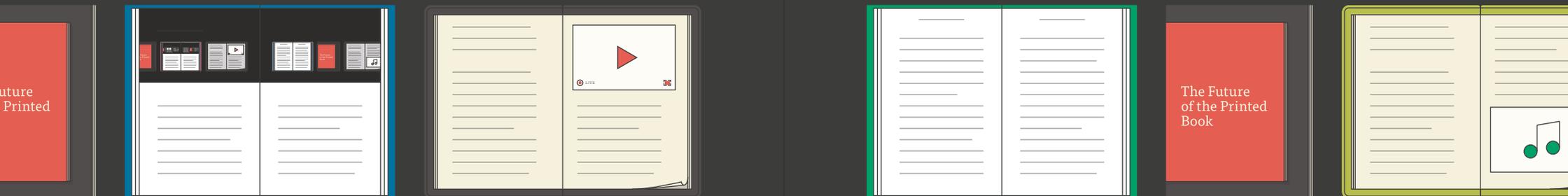
We go on to explore the key trends today. Our research shows us that those trends vary by book type. We identify four underlying stories of the book:

- ◆ Digital print: the impact that digital printing technology is having on the way books are made. As digital print quality improves we expect to see more print on demand, bespoke/personalised books, archived titles coming back in to print, and local printing. This is already starting to have an effect on print stock control, print waste (pulping of old titles), and paper choices.
- ◆ Digital conversion: there are cases where digital offers clear benefits over print, both in terms of accessibility and interactivity. Here we're seeing a rapid conversion of content from print to digital.
- ◆ Digital interaction: where the two work alongside each other, with digital content helping to bring print to life. Less relevant than first anticipated, QR codes came and went, but remain relevant for some formats, especially educational publishing.
- ◆ Digital distraction: in a world of screens are people turning back to the book as a way of escaping from digital overload? Certainly for children's books we're seeing print as the clear winner over digital but we're also seeing digital sales of trade books plateau. It's too early to explain the latter as a response to digital overload but watch this space!

The report ends with our predictions on where this is all going and what this means for PREPS. We predict that the printed book is here to stay but that digital content and digital printing will mean the way printed books are produced, consumed and shared will change.

We see some content inevitably moving online, academic and educational titles particularly. There may be some innovative digital/print interaction but it will be limited. At the same time, we think that people will still want to read printed books and escape to the worlds they create. Some of those titles people won't want or need to own, and they'll be printed digitally, on demand and close to the market. Other titles people will want to own, as publishers continue to create ever more beautiful books.

Introduction



What is the future of the printed book? Can we imagine a world where people still read physical books? If so, how will those books be made?

These were the questions we set out to ask ourselves as the PREPS project reaches its 10 year anniversary. Why? Because we wanted to understand the relevance of the PREPS project across the next 10 years.

To answer these questions we:

- looked at broad trends in the industry with a focus on the two major book markets: the UK and USA;
- conducted a survey of the 23 publishers that participate in the PREPS project and,
- carried out a series of interviews with opinion formers.

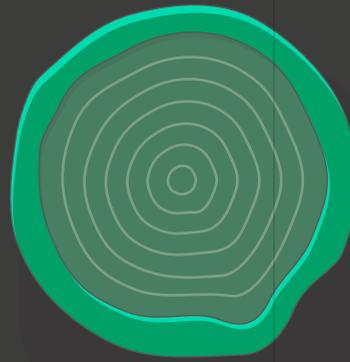
The 23 publishers range in size. They include educational publishers, children's book publishers, publishers of trade books, and academic

publishers. They have an annual turnover of over £24 billion, and represent a major chunk of the books sold in Europe and North America. Collectively, they have the potential to make a significant impact on the paper supply chain – and ultimately the forests producing those papers – through the decisions they make.

The future of the printed book was the theme for the annual PREPS seminars in New York and London in 2016. Over two days we heard from printers, paper manufacturers, publishers, and non-governmental organisations working in this sphere. Those presentations and panel discussions have contributed to this report.

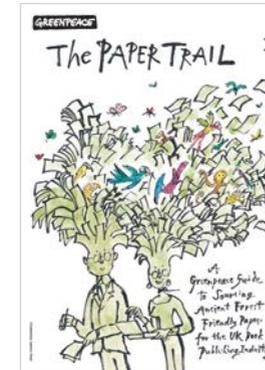
This report is Carnstone's view on the future of the printed book based on our research and discussions as part of the PREPS project. The publishers within PREPS are (what might be called) traditional book publishers. We're keen to understand how the publishing companies of today are going to distribute content in the future. We accept there are other models of publishing out there (independent, self-publishing, etc.) but they remain out of the scope of this report.

Ten years ago; what we knew then



PREPS began 10 years ago in response to the concern that book publishing papers could be contributing to destructive logging and deforestation of high conservation value forests.¹

The Paper Trail



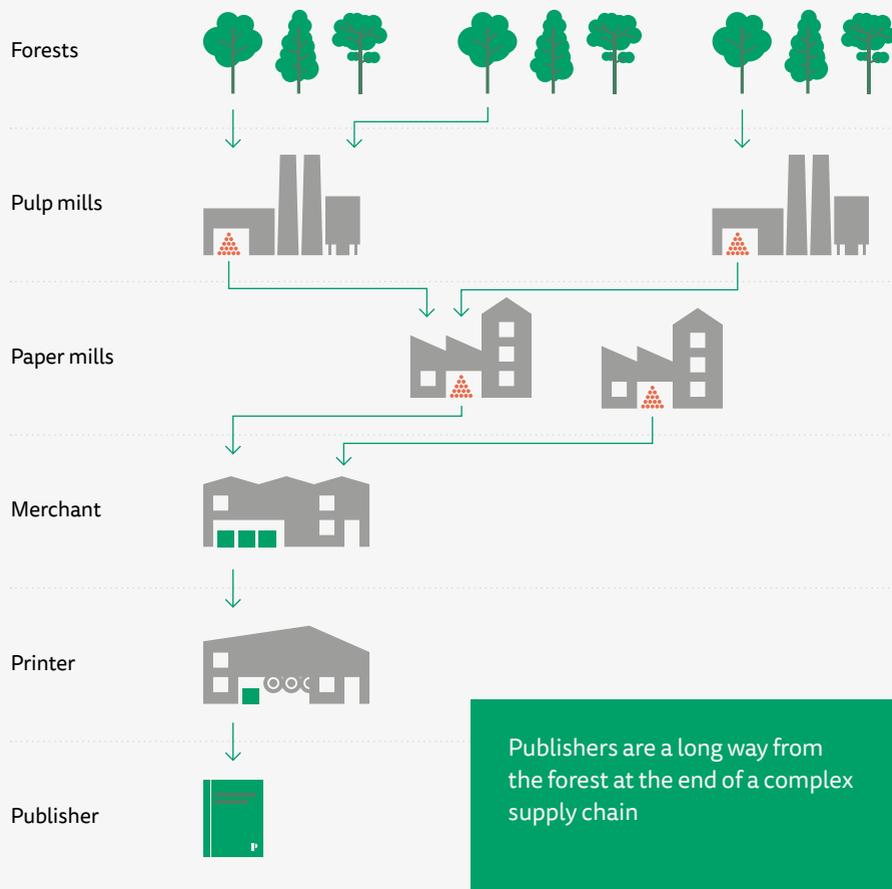
The issue had been highlighted through a Greenpeace campaign, *The Paper Trail*,² which cleverly mobilised the support of leading authors and illustrators.

Their report made the link between deforestation of natural forests around the world, including Indonesia, and the pulp and paper sector.

Publishers, however, were struggling to identify the papers used across their titles, let alone identify the forest sources going in to those papers. In most cases papers were chosen by printers, who in turn bought those papers from merchants, often under their own label to protect their sources.

We can see parallels with other efforts to map raw material sources. Fashion companies struggle to trace supply chains back to sources of cotton as this requires reaching beyond their direct cut and sew suppliers, to fabric mills and dye houses, to cotton spinners, and eventually to the raw material source.

Figure 1

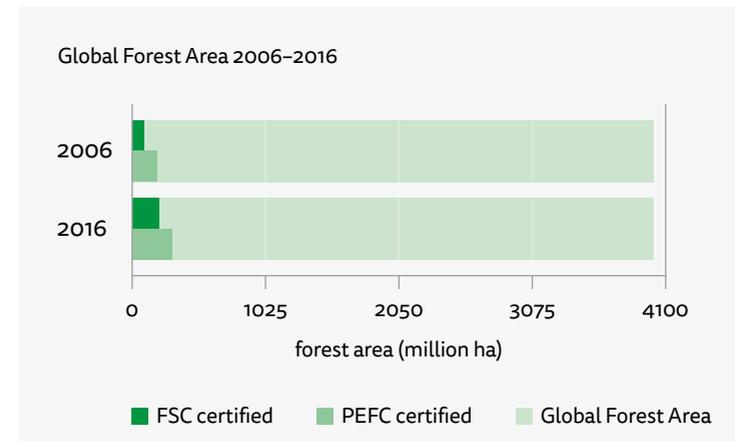


Certification: part of the story

In response, publishers began to track down certified papers and promote certification along their supply chain. By 2006 we were starting to see certified labelled books on the shelves.

However, as figure 2 shows, there simply were not enough certified paper sources or sufficient intact certified supply chains necessary to meet the sector's requirements.

Figure 2



Source: FSC Facts and Figures, PEFC Facts and Figures, Article published 7th September 2015, "Dynamics of global forest area" – Forest Ecology and Management Journal⁹

Strength through collaboration

PREPS began as a direct response to this lack of transparency.

The ten founding project partners recognised the challenge of getting accurate forest information – forest locations and species – via their printers. They instead needed to make direct contact with pulp and paper mills making the product.

The challenge was how to engage these mills with whom they often had little or no direct contact. Their answer was to collaborate and form the PREPS project. Collectively the group began the first arduous task of identifying which papers they were using in their publications, and which mills were making those papers.

The initial thought was that the list of papers would be around 40, but at the end of year 1 we had identified over 100 papers coming from roughly 50 mills.

As we identified each mill we began the slow progress of engagement to get forest source information, and the PREPS database began.

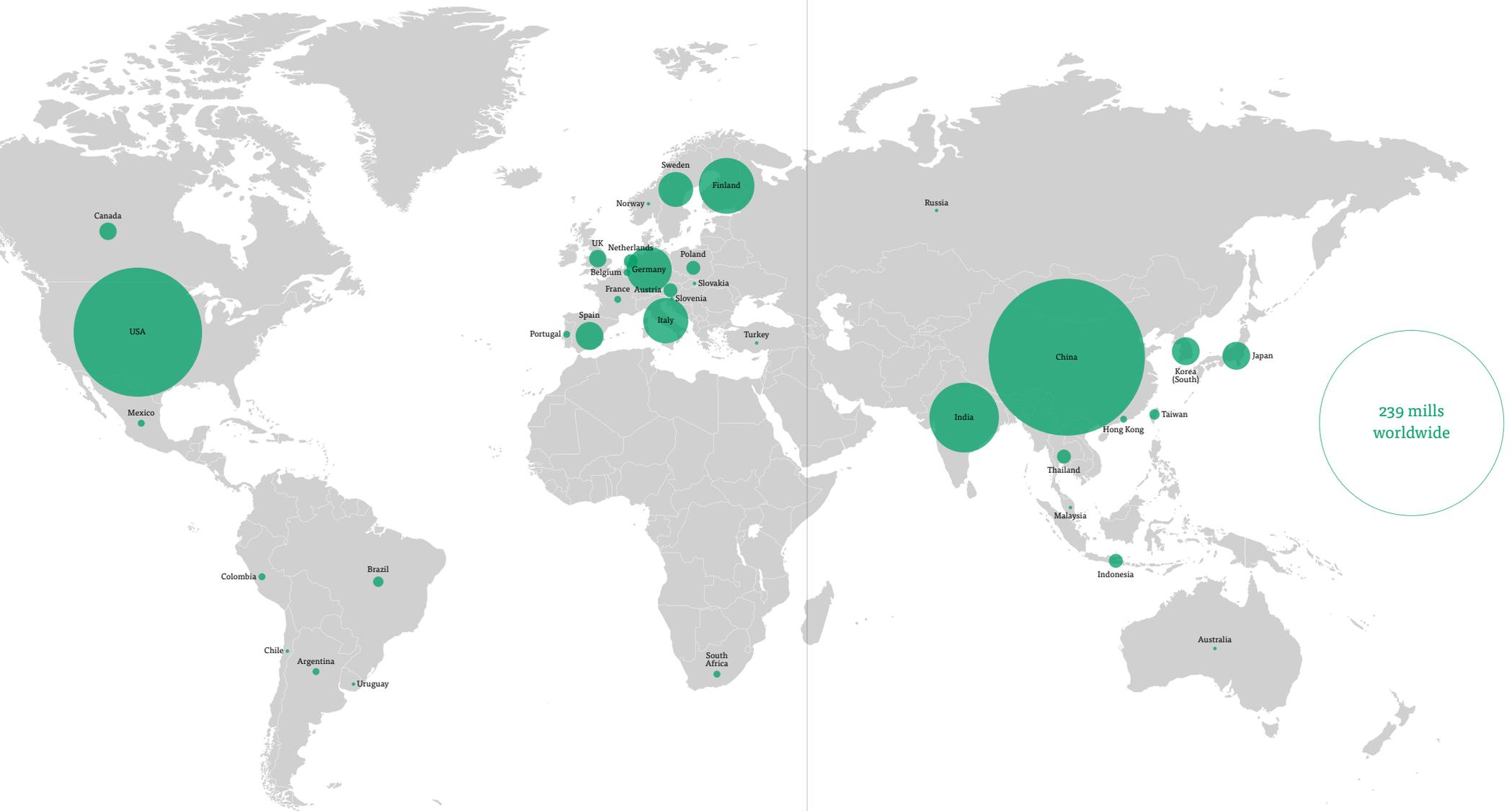
“I believed in PREPS from the start as a pragmatic tool that, in a way, responded to globalisation in the print and publishing paper sector. It made sense of mature, complex pulp and paper supply chains at a time when Chain of Custody certificates were few and far between. It provided answers to the growing number of questions people had on forest risk, and those questions are just as pertinent now as they were ten years ago.”

Jens Kriete, Environmental Manager, Sappi Fine Paper Europe

“Everyone who has contributed to PREPS, from publishers (old and new) and Carnstone, to paper mills and printers, all should be truly proud of this extraordinary collective success.”

Alison Kennedy, former Production Director of Egmont UK

Figure 3

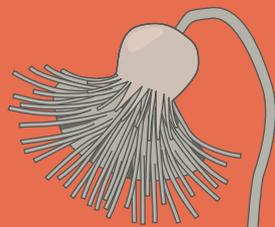


Today, as part of the Book Chain Project, PREPS engages with over 230 mills across the globe, gathering and assessing information on forest sources, and mill environmental performance.

Through our annual seminars in Europe, the USA and China, we engage with NGOs, mills, academic institutions, government agencies and the wider sector to improve our collective understanding of the issues affecting global deforestation.

R.I.P

The printed book is dead! Long live the printed book?



Why do we never see anyone reading a book in a sci-fi movie? Is it because we can't imagine a futuristic world where people would actually want to read a printed book?

Rise of the machine?

Shortly after the PREPS project began, Amazon launched their first e-reader, the Kindle. The product was an instant hit, selling out in hours and struggling to keep up with demand. People predicted it was the end of the physical book.

This wasn't simply about replacing the physical book with a flat digital version. Digital interactivity offered the prize of creating a more inclusive industry by reaching new audiences of previously reluctant readers. As Cally Poplak, Managing Director of Egmont Publishing put it, "Could we reach a new audience with interactive storytelling on a handheld device or through social media?"

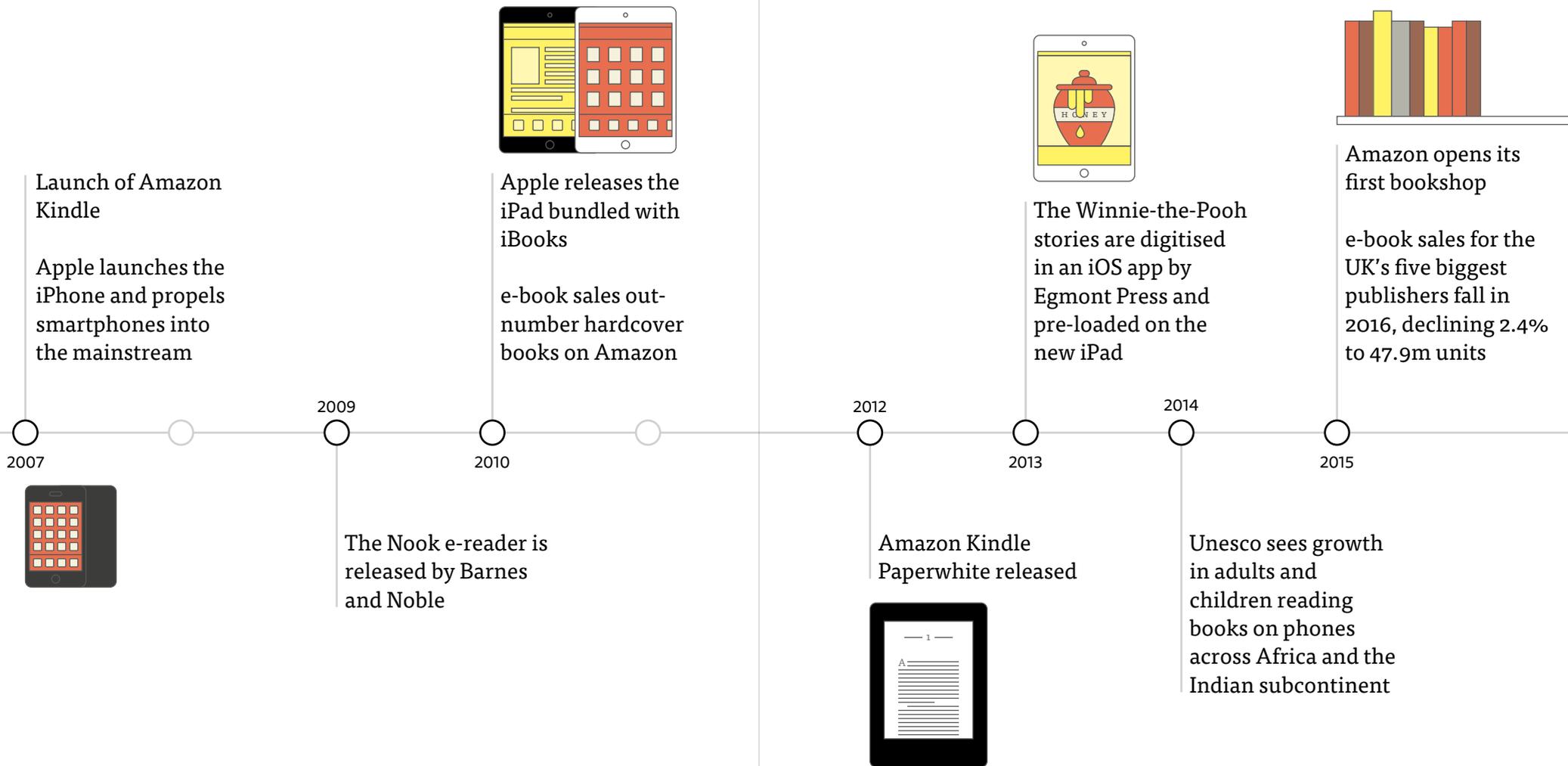
In response, we started to see the development of digital departments within publishing houses, across all book types – trade,⁴ children's, academic and educational – and publishers started to play around with formats.

By 2011, the Pew Research Center reported that 17% of American adults had read an e-book. By 2014, this had jumped to 28%.⁵

In the UK, Nielsen's Book and Consumers Survey reported e-books accounted for 30% of book units purchased in 2014.⁶

The Digital Revolution

Figure 4



“Two years ago print was going to soldier on another 10 years. Now it’s five—or fewer.”

Chris Mimms, MIT Technology Review,
3rd September 2010

Clearly one factor here is accessibility. Whilst the e-reader market penetration has been slow, the rise of other devices, particularly smartphones, has been dramatic.

In a survey carried out by Deloitte in 2014, across 13 ‘developed’ countries, 74% of respondents had access to a smartphone and this figure jumped to 87% for 18-34 year olds. By 2020, Benedict Evans predicts that five billion people will have a smartphone out of a global population of eight billion.⁸

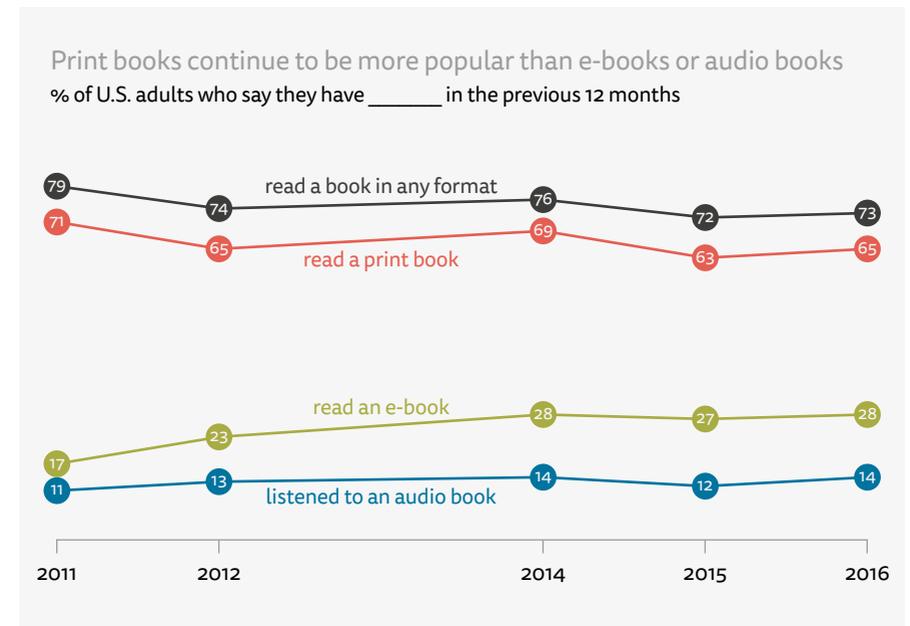
The printed book fights back?

So was the printed book going the same way as the CD? With every passing year, industry watchers pored over sales data of printed books versus e-books to see signs of the emerging dominance of one format over the other.

In 2016, 10 years after the launch of the Kindle, print still dominates and there are signs that the growth of e-books is slowing down.

The Pew Research Center’s *Book Reading Report 2016*⁹ showed that the percentage of adults reading e-books actually fell in 2015 and it only returned to 2014 levels a year later. However, the same report showed a sharper decline in the number of adults reading over the same period, and an even sharper decline in the number of adults reading a printed book.

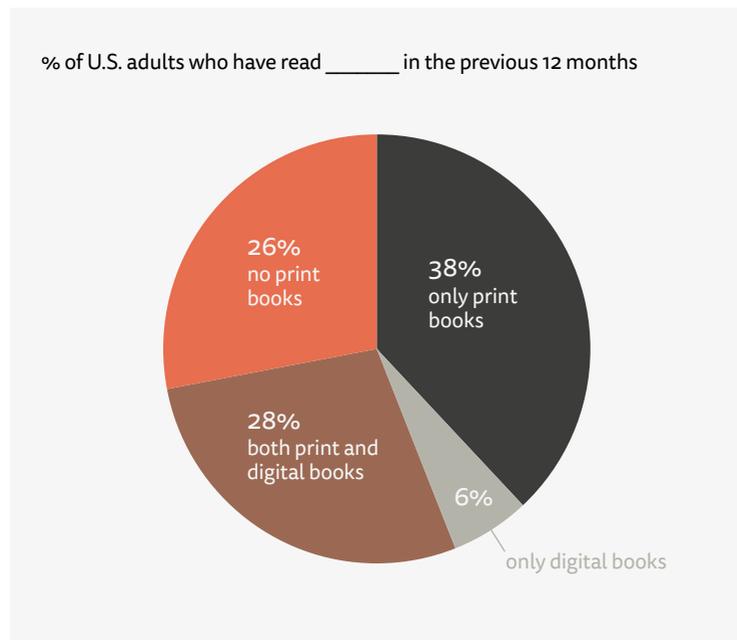
Figure 5



Source: Survey conducted March 7–April 4, 2016. “Book Reading 2016” – Pew Research Center

The Pew Research Center's report goes on to explain that whilst digital sales are significant, only 6% of Americans are digital-only book consumers.¹⁰

Figure 6



Note: "Digital books" includes e-books as well as audio books.

Source: Survey conducted March 7–April 4, 2016. "Book Reading 2016" – Pew Research Center

In the UK, *The Bookseller* magazine reported that in 2016 e-book sales declined, falling by 5.1% compared to the previous year.¹¹

Similarly, the *Publishers Association Yearbook* reported that sales of print books rose in 2015, while digital sales shrank for the first time 'since the invention of the e-reader'.¹² Commenting on the data in the UK's *Telegraph* newspaper, Joanna Prior of Penguin General Books said "Any suggestion that the physical book is doomed can now definitively be refuted".¹³



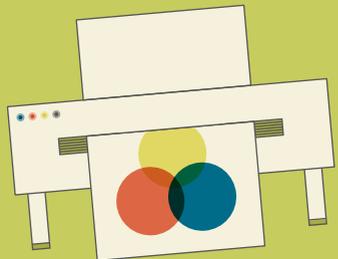
So does this represent a turning point for the printed book or is this simply a temporary respite?

Some commentators have pointed to the adult colouring book craze of 2015¹⁴ – both in the US and UK – as part of the underlying reason for this resurgence in the printed book.

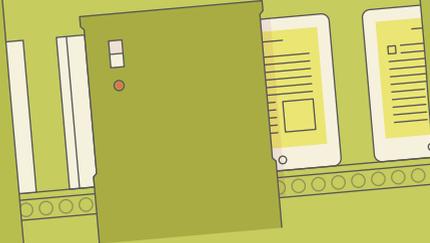
We're more optimistic. While we recognise that some content is destined to 'go digital', we think that there are some underlying stories which will ensure the printed book is here to stay, at least for perhaps the next 10 years.

The stories behind the way we're reading

The Digital Print Story



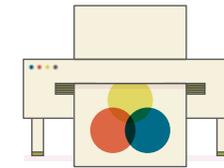
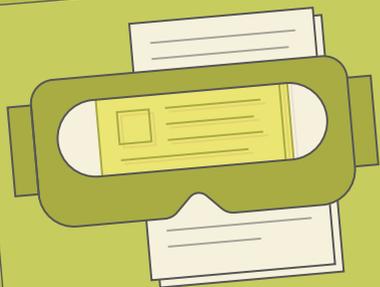
The Digital Conversion Story



The Digital Distraction Story



The Digital Interaction Story



The Digital Print Story

Developments in digital technology mean that more content is being accessed and read on screen, but this isn't the whole story. Digital technology is also having a major impact on the printed book itself. We've called this the digital print story.

The traditional model for printing books has been to use lithograph printing which uses a plate, or other intermediate. Lithograph printing takes time to set up and so requires relatively long print runs to make it economic.

Over the past five years we've seen a growth in digital printing for books. Digital printing prints an entire copy of a book in one go, using either laser or inkjet technology. It is relatively easy to set up and so it is more economic for small print runs.

The choice on whether to use digital or lithograph printing has really been down to two factors. The first is volume: there's a point at which print run sizes become more economic to print on lithograph print machines than digital printing. The second is quality: high production values, particularly for colour, can only be achieved through lithograph printing.

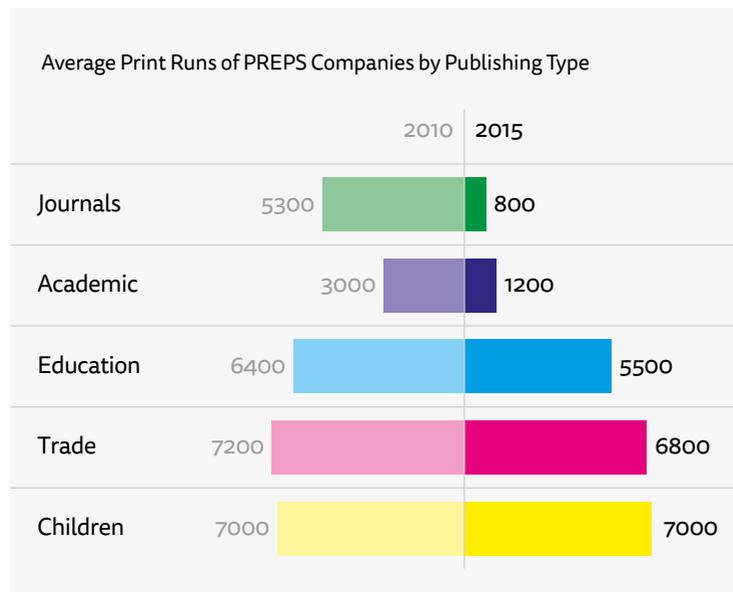
Printing less; printing on demand

Our survey of the PREPS publishers showed that average print run sizes have been falling across all book types, with the sole exception of children's books which went up slightly.

As Figure 7 shows, the most dramatic falls have been for academic publishing, particularly journals.

Digital printing works for journal publications where production requirements are not so demanding. It also allows publishers to print to meet specific demand (known as Print On Demand, or POD). When it comes to academic books, digital printing is increasingly being used but has its limitations: "inkjet printing works for lower resolution print, it's not suitable for detailed diagrams or photographs of the type we need for our healthcare books," Joanna King, Associate Director, Vendor Operations, Journals, Wiley.

Figure 7



Source: PREPS Future Of The Book Survey, 2016

With relatively big initial print runs, lithograph printing remains the most economic choice for PREPS educational publishers. Digital printing is used for subsequent demand on a POD basis. This is having a significant impact on stock levels and waste. Pearson has reduced its warehouse capacity for books by 86% as a result.¹⁵



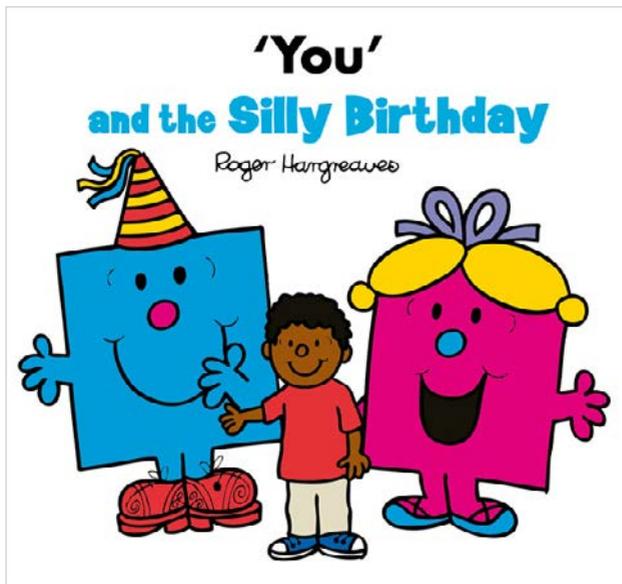
Source: Lost My Name Publishing Company

Bespoke content

Printing on demand digitally not only allows publishers to better manage stocks, it's also providing some new opportunities; one of which is the ability to print bespoke books.

An example of this is the children's book; *Lost My Name* by David Cadji-Newby, a runaway bestseller in 2015.¹⁶

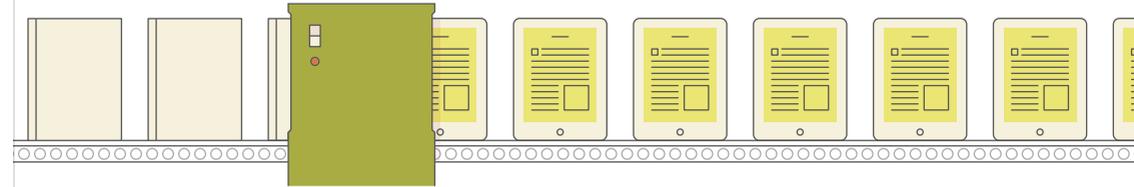
Egmont now offer personalised copies of their *Mr Men Books*.¹⁷ Cally Poplak, Managing Director of Egmont Publishing, sees this as a growing area for children's publishing.



Out of print, back to print

Digital printing has had another important impact. It's allowed publishers to publish physical copies of books that went out of print long ago as they no longer had to justify the large print runs needed for lithograph printing.

By the same measure, digital printing also helps publishers try new or less well known authors: 'the possibility of small print runs has helped us to publish and sell new authors', explains Sally Mortimore of Two Rivers Press.



The Digital Conversion Story

Clearly, companies operating in the academic world see digital as the *modus operandi*, as Joanna King explains, "we've moved to an e-first workflow but still retain print as an option".

RELX, for example, no longer refers to itself as a publisher but instead calls itself a 'leading provider of scientific, technical and medical information'.¹⁸

As Yukun Harsono of RELX explained in a blog post in 2015, 'researchers looking for foundational content used to spend hours in a library sifting through hundreds of pages of scientific data recommended by their peers. It was a linear way of conducting search and discovery'.¹⁹

Digital delivery offered the possibility to take academic research beyond the confines of text based documents, 'while providing high-quality content will always be crucial, it is no longer enough. Our job doesn't end with publishing articles in journals; it actually begins there. Today we must leverage big data applications to add value to that content and develop better, faster, more efficient tools and solutions.'²⁰

Designing the Article of the Future



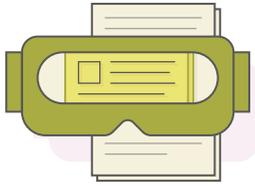
Eye tracking software used to analyse patterns of visual attention²¹

As part of their digital drive RELX developed *The Article of the Future* project to help explore ways of using online journal articles and enriching their content. The project worked with over 150 people from across the scientific community and software and tools, including eye movement tracking technology, to analyse how articles are read. goo.gl/sifCN6

Educational publishing's move to digital seems set but the pace is slower than for academic publishing. "Print still dominates over digital in terms of revenue but the aim is to move increasingly over to digital. The limiting factor is often the requirements of educational bodies that we are producing books for," Steve Jones, International Production Director UK Supply Chain, Pearson.

As with academic publishing, digital content offers new possibilities for educational publishing. "Digital content allows for the measurement of outcomes from learning. Through on-line digital delivery of educational material it is possible to monitor the progress and tailor learning to the individual needs of the student thus empowering teachers," Peter Hughes, Head of Corporate Responsibility, Pearson.

So in both cases, academic and educational, one of the attractions of moving online is the opportunity to collect data on how information is being viewed. With this information, publishers can target content specifically to the reader, be it repackaging existing content from across their publications, external data sources, or new content derived from the very data they are gathering.



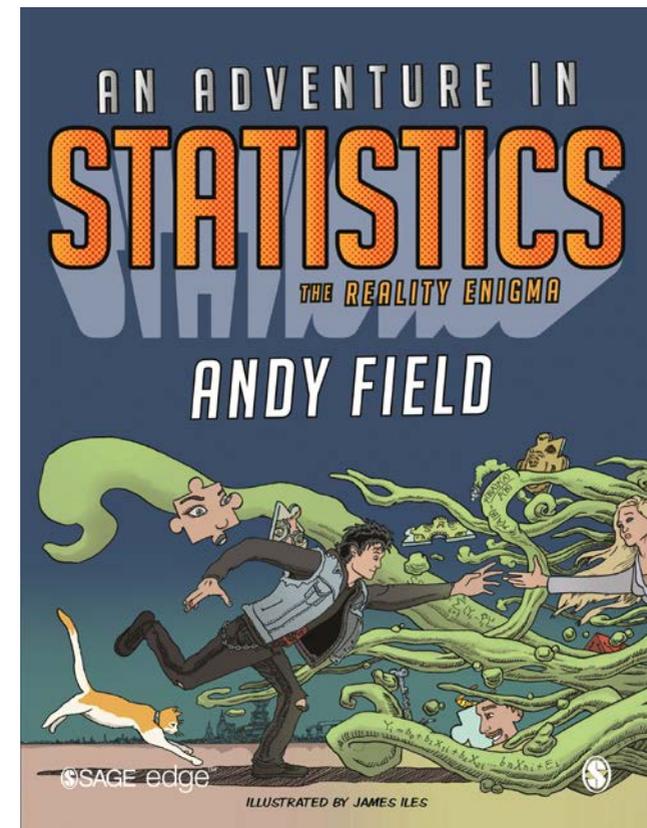
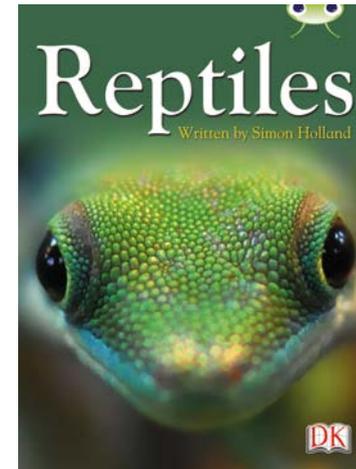
The Digital Interaction Story

Pearson's Steve Jones doesn't see the two as mutually exclusive, instead he sees more of a "blended approach" with digital content and print working alongside. An example of this is Pearson's Bug Club series which uses books alongside digital audio and video content.

Mark Kavanagh, Executive Publisher at Sage, sees a similar blended approach for their higher education publications, with print playing a key role alongside online and mobile platforms.

Mark believes Sage will continue to innovate within the channels that are available to appeal to their readers, and cites their recent publication, *An Adventure in Statistics*²² as a good example of this. This textbook blends the story of a novel with the content of the statistics university syllabus, interspersed with graphic novel style artwork. The physical book has a companion website through SAGE's online portal, SAGE Edge, that holds materials to enrich the learning experience – self-test quizzes, video content, study plans, and revision cards.

At the outset, many children's publishers set up digital teams to see how content might be enhanced. Publishers trialled using QR codes and other digital tags to enhance printed books. Some of these teams have since gone.



“We have lots of books – particularly reference books – that are linked to age-appropriate online content through Usborne Quicklinks, some of which use printed QR codes. It’s digital interactivity, of sorts, that connects the reader to a world of new online content including audio and video to bring the topic to life.”

Garry Lewis, Usborne Publishing

Overall, PREPS children’s publishers saw little growth of digital interactivity. The same was true for adult fiction, and trade publishing in general. Books are being converted to e-books, especially when it comes to simple black and white formats where the cost of development is low, but real digital/print copy interactivity remains low.

Longer-term, is there a place for such interaction or will we find ourselves forced to read one or the other format? In 2014, Penguin created virtual covers on classics such as Charles Dickens’ *Great Expectations* and Herman Melville’s *Moby-Dick* using augmented reality (AR) technology through smart phone applications.²³ This is the same technology used in the 2016 game phenomenon *Pokémon Go*.

Perhaps AR is the future for digital interactivity with printed books. In an article from the Guardian, AR is referred to as, ‘a bridge between video games and books, redefining both in the process’. With the success of *Pokémon Go* as well as the popularity and accessibility of smart phone apps, there is a future for AR technology where even children’s colouring pages can come to life.²⁴



The Digital Distraction Story

In an article in the Guardian in 2014, the novelist Will Self wrote that ‘in the digital age, not only is the physical book in decline, but the very idea of ‘difficult’ reading is being challenged’.²⁵

But what if we imagine that the statistics are not just a colouring book blip, that the printed book is making a recovery, then what might be happening here? In an age of digital saturation, could this resurgence in printed books be a reaction to screen/digital overload?

Parental screen anxiety, or something more?

Children’s publishing is by far the most resilient when it comes to the printed book. As our survey showed, PREPS children’s publishing print runs are more or less the same as they were five years ago, interactivity between the physical book and digital content is low, and e-book sales have remained stubbornly weak.

The numbers of children’s books sold in the UK have outperformed adult books every year since 2012 with significant year on year growth since 2013,²⁶ with that growth coming from print.

“We tried everything, we developed our own digital team, created an award winning app for *War Horse*, produced the *Winnie the Pooh* i-book that was pre-installed on all ipads²⁷ but, after all that, we’ve found that the printed book remains the preferred choice.” Cally Poplak, Managing Director of the children’s publisher Egmont.

“For the theatre the key is the story and the actor, the rest is superfluous. It’s the same for a book, the key is the story and the pictures. The whizzy bits can add to it but only if the story itself is good.”

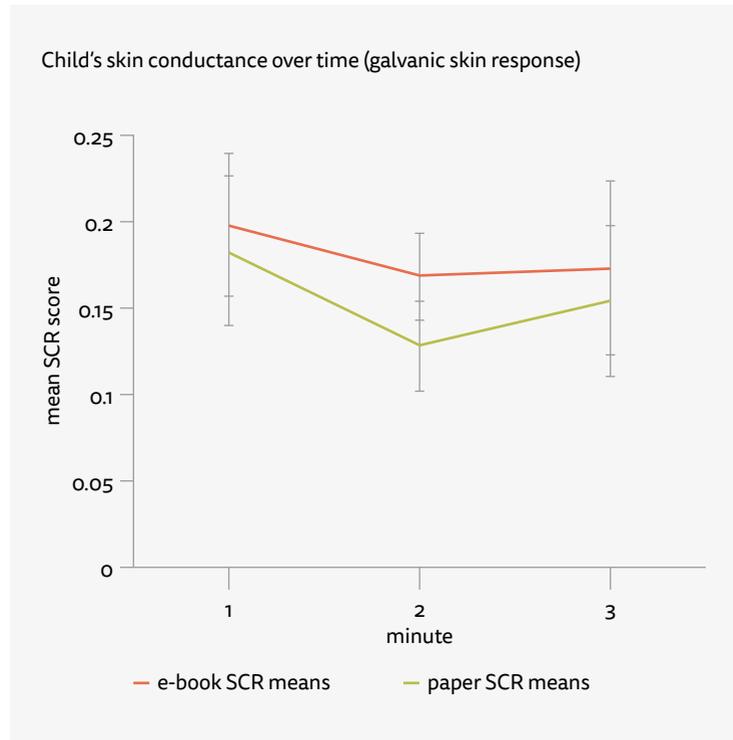
Cally Poplak, Managing Director, Egmont Publishing

In 2016, Egmont published a research report entitled *Print Matters* that looked at parents’ and children’s responses to reading.

The study followed 43 parents and 43 children ranging from two to nine years old to explore responses to reading digitally and in print. They carried out interviews with parents and children, observed parents and children reading together, and measured unconscious physical responses – through galvanic skin response²⁸ – sweating.²⁹

The galvanic skin response results showed that when reading an e-book, children had a slightly higher arousal than with print; however, the arousal declines over time. The test shows a reaction – it could be positive or negative (e.g. excitement or frustration).

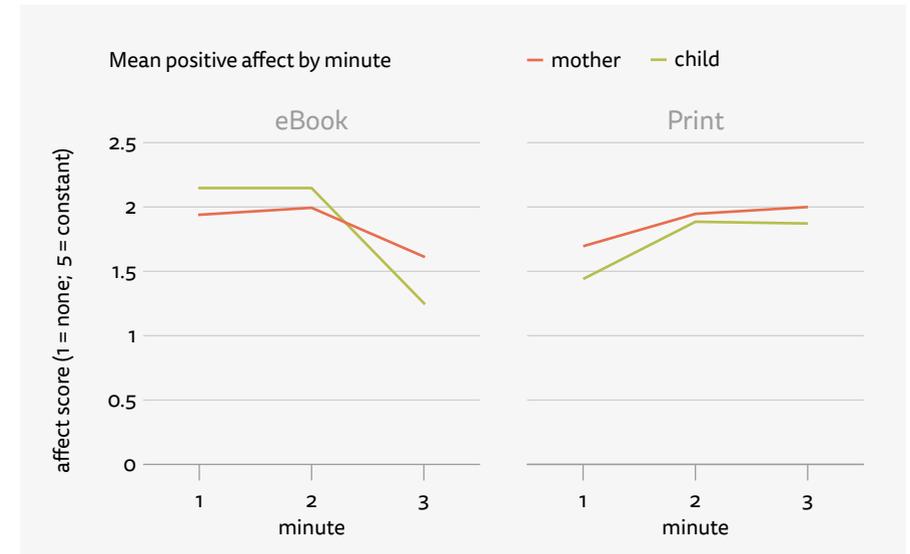
Figure 8



Source: Alison David, Consumer Insight Director Egmont UK, PREPS Seminar Presentation 2016

While galvanic skin response was being measured, ethnographers also observed the parents and children, looking for signs of emotional engagement. They saw clear differences. When reading from a digital device, there was less physical contact and cuddling between parent and child than when reading from a printed book, and the conversation between them was often more about the device than the story (typically, “don’t touch”, “leave it alone”).

Figure 9



Source: Alison David, Consumer Insight Director Egmont UK, PREPS Seminar Presentation 2016

The fact that the emotional affect was greater for the parent than the child might be a response to the anxiety that many parents feel at the amount of screen time that their children have; ‘The very fact that digital entertainment is so prevalent is another reason why printed books and magazines are valued by parents: they provide time off screen and quality time together’.³⁰

So is this really about parental anxiety over the amount of time children spend on the screen? What happens as those children grow up? In 2015, *The Bookseller* commissioned a survey of 16-24 year olds looking at their reading habits. Out of 1,000 respondents, 64% said they preferred print books, 16% said e-books, and 20% said they didn’t mind.³¹ Research conducted by Nielsen on behalf of Egmont showed 75% of children up to the age of 17 prefer reading in print. The Pew Research, *Book Reading 2016*,³² reported that ‘young adults are no more likely than older adults to be *digital-only* book readers: 6% of 18 to 29-year-olds read books in digital formats only, compared with 7% of 30 to 49-year-olds and 5% of those 50 and older’.

Breaking the magic...

Cally Poplak thinks that print's resilience is because reading a book is an immersive experience, "a good story draws you in, lets you build a world where you decide what people look like". Does this explain why the printed book remains popular for children's and trade publishing? Does digital story telling break the magic? Are we all too easily distracted by other content, when trying to read a book on a smart phone or tablet?

There is no shortage of warnings about the negative impact that digital multitasking is having on our capacity to absorb information. A recent article in the Harvard Business Review referred to research from Stanford University which showed that 'people who regularly juggle several streams of content do not pay attention, memorize, or manage their tasks as well as those who focus on one thing at a time. The result is reduced productivity and engagement, both in the office and at home'.

Reading a book on a tablet, enhanced e-reader or smart phone will mean that we are continually bombarded with multiple streams of electronic information, unless we're disciplined enough to switch those distractions off. So perhaps the resilience of the printed book is our way of forcing ourselves to focus on the story and avoid the temptation of digital distraction.

...or, social conditioning?

In a recent Financial Times article titled *Ebooks v Paper: Which do our brains prefer*, Julian Baggini reminds us that our reading habits are influenced by childhood experience. The fact that we're brought up learning how to use pen and paper has an obvious impact on how we view that craft in later years.³³

Baggini thinks that 'habit, fashion and culture also shape our preferences'. When we sit on a train with a book open in front of us, how much has our choice of reading been influenced by our ideas of what a proper book should be like, and how a proper adult should appear in

public'?³⁴ Fenella Bates of Penguin Random House hints at this being a strong factor behind purchases of their imprint Michael Joseph, "for many of our titles the audience is predominantly teenage girls; they see the physical book as a badge of honour, showing that they're a true fan."

Cally Poplak wonders if this might also be behind the purchases of e-books of some teen titles by adults: "are adults buying digital versions of those titles because they want the anonymity of reading them on an e-reader?"

More beautiful books

Perhaps one of the most striking impacts of digital content has been on the design and production of printed books. "Publishers have been very clever... they've repackaged old books with beautiful covers, these are things that you want to have on your coffee table at home. You are now buying something for its aesthetic value as much as the literature inside it," Joanna Prior, Managing Director of Penguin General.³⁵

By designing new covers in collectable formats, and even breaking up existing content into smaller chunks, publishers are finding new markets for printed books, "There's a Penguin Classics edition of Emily Brontë's *Complete Poems*, of which we sell a few hundred a year but by choosing some of the poems, and packaging them for 80p, liberated from the large format, we sold 30,000 copies," Simon Winder, Penguin Publishing Director.³⁶

So what will the future look like? How will these stories really play out?

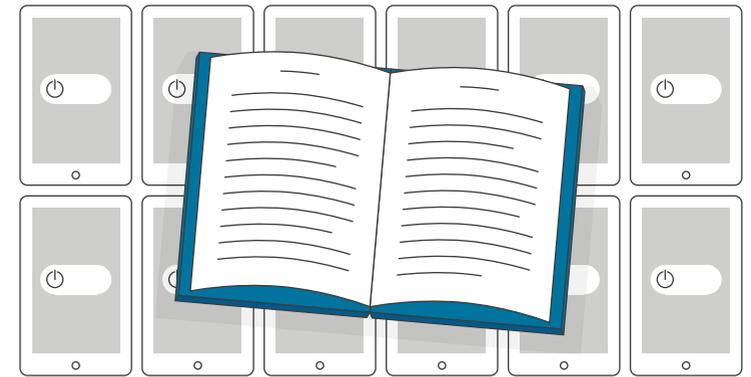
The next ten years and beyond



One publisher famously had a clock in the lobby of its head office counting down to their complete switch to digital. Their deadline of August 2015 has since passed. The clock has stopped ticking but content continues to be printed.

So what is the future of the printed book and what implications might this have for the way PREPS and the Book Chain Project work? Here we make some predictions, and then reflect on what this might mean for PREPS and the Book Chain Project.

Escapism In A Digital World



In an age of digital overload, with artificial intelligence influencing our lives and the content we see, when it comes to reading for pleasure, the printed book will remain in demand.

The printed book will remain strongest in children's publishing where a high proportion of books are bought as gifts, and by parents, but we predict printed books will also remain resilient in adult trade publications, particularly novels.

Digital technology will influence how books are produced. As improvements in print technology are made, we can expect to see more and more printing on demand and local to the market. This will be strongest for simple black and white books for trade and education.

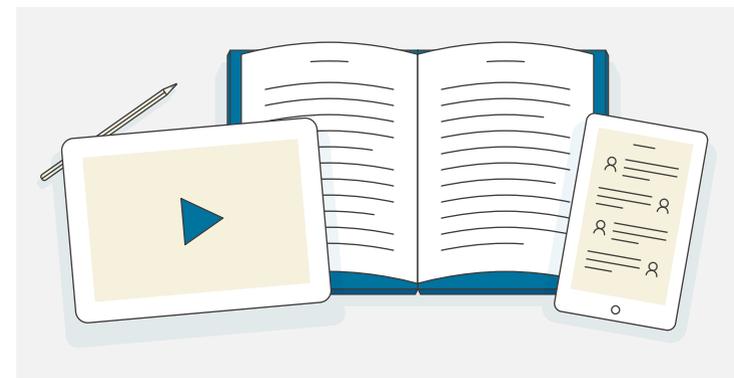
For books requiring higher production values, add-ons, and lots of colour, we can expect to see a continued reliance on lithograph printing. Where publications need complex finishing, printing will continue to take place where labour costs are low.

As digital printing technology improves, we'll see more and more printed books moving to digital printing, on demand, printed close to market.

Longer-term, with the increasing price of raw materials, publishers will want to find ways to close the loop, taking back unwanted titles and recycling them for re-use in new titles. Paper and ink manufacturers will respond with new coated paper types that can easily be deinked and reused for new titles, with books lent out rather than sold.

And beyond this? In his book *The Inevitable*, Kevin Kelly predicts a future one where, "e-ink paper can be manufactured in inexpensive flexible sheets as thin and cheap as paper." With a hundred or so sheets, "bound into a sheaf, given a spine and wrapped between two handsome covers."³⁷ To the reader the experience will continue to be like reading a book but the book itself can take on new content at the flick of a switch.

Digital Cross-over



Digital conversion will continue in the world of academia and education as digital content will keep content up-to-date with videos and online discussions.

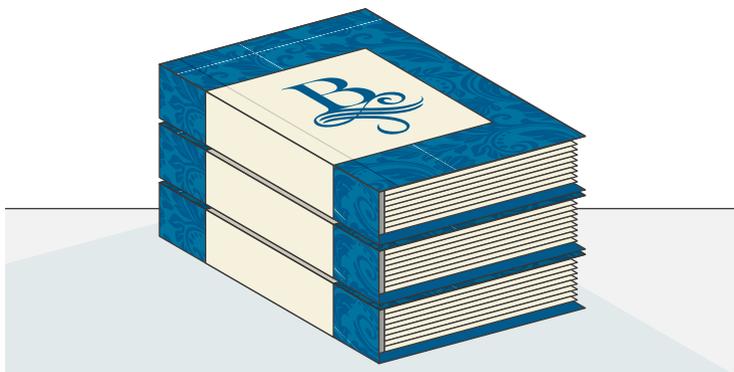
Academic journals will largely cease to exist in print format, and academic books will start to go the same way. Education titles will move increasingly online as educational authorities move to digital classrooms.

For these book types, the model will move increasingly to subscription based learning. Printed books may then become an add on to online subscription content, rather as it is today in the world of journals.

Data will become king, as academic and educational publishers start to capitalise on the huge amounts of data they will be collecting. This data will inform how information is presented to individual readers and provide insights for new content.

But for educational and children's books, digital interactivity will be present through AR technology. With smart phone apps, readers will be able to extend their interactions with the physical book.

Even More Beautiful Books



Some books you'll want to keep. They are beautiful objects in their own right that you'll want to own and show. The trend we already see today will continue with publishers creating ever more beautifully designed books. Beauty will extend beyond cover design to include expensive paper types and skilled book binding.

In an increasingly digital world, beautiful books and the way we display them, will continue to say something about who we are, or at least, who we want to be perceived as being.

So what does all this mean for the Book Chain Project?

As a tool, Book Chain gives publishers the information they need to make responsible purchasing decisions on forest sources, chemical safety, and labour standards associated with their books.

People will always buy books, whether digital or physical, for their compelling stories, useful content, or beautiful imagery. But while sustainability credentials alone won't sell books, there is a growing demand from readers, authors, staff in publishing houses and legislators for publishers to know more about the provenance of their products.

So, if as we predict, the printed book does have a future, publishers will continue to face the same expectations as other sectors; to be able to know and show that their products are being made responsibly.

Advances in print technology will impact how and where books are published. This may lead to more agile printing closer to home, with less waste. Resource scarcity will mean greater scrutiny of how books are being produced, and what happens to the materials once that book is no longer wanted.

The Book Chain Project will need to respond to these changes to stay relevant, ensuring that as new paper types are made we gather and assess their fibre sources; as new inks, finishes and embellishments are used we capture information on their chemical composition; and as new printing sites appear in new regions, we engage with and assess them to our shared standards.

New technology is not only going to affect the way content is delivered and books are produced, it's also going to affect how The Book Chain Project gathers information to make assessments, particularly around forest sources.

Platforms like the World Resources Institute's Global Forest Watch³⁸ are gathering near real time information on changes in forest cover by using satellite data and cloud computing to crunch data from multiple sources.

The Forest Trust (TFT), the international non-profit organisation, has partnered with Airbus Defence and Space and SarVision to develop Starling, a service that combines high-resolution optical satellite and radar imagery to monitor forest cover change.³⁹

What role might this technology play in helping paper mills to manage the impacts of their raw material sourcing? How might the Book Chain Project use this information to assess company systems and forest sources? This will be the focus of our work in the coming years.

Thank you

This report is the result of research conducted with The Book Chain Project's participating publishers, and the content shared at the PREPS Seminars 2016. It is also a product of numerous interviews and conversation with various stakeholders within the pulp and paper industry. We would like to thank them for all their contributions.

Thank you...

Alison Kennedy – Alison Kennedy Ltd.

Cally Poplak – Egmont

Alison David – Egmont

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Fenella Bates – Penguin Random House

Mark Kavanagh – Sage

Jens Kriete – Sappi

Björn Roberts - TFT UK

Sally Mortimore – Two Rivers Press

Garry Lewis – Usborne

Joanna King – Wiley

Endnotes

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Get in touch with the team to find out
more about the Book Chain Project.

info@bookchainproject.com

bookchainproject.com

0207 839 0170

Carnstone Partners LLP

Durham House

Durham House Street

London

WC2N 6HG