



The Perfect Storm

...hits scholarly communication?

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Introduction: the methodological credentials

- Based largely on huge, robust evidence-base of what people actually *did* in the digital space and not what they *say* they did or *wished* they did. People have problems recalling what they did in digital space; also, nobody wants to admit, for instance that they do not read.
- Need methodology, a non-intrusive one, to study behaviour in anonymous, remote virtual space (most scholars do not search in library and many not at work). CIBER obtain data from millions of digital footprints people leave when visiting a website/using a digital service, via smartphone, laptop, personal computer and digital television. This data is then used to power and drive surveys and interviews
- Making sense of these footprints for ten years in media, education, publishing, health and, most recently, in cultural field (Europeana). They all say the same thing but we still have problems convincing people.
- Amassed huge evidence base having studied platforms of Elsevier, OUP, IoPP, T&F, Springer, Wiley etc. Know what information seeking, using and reading behaviour is like. First time.

Introduction: the elements of the storm

- Data says scholarly behaviour fundamentally changed as result of digital migration. Probably never really knew how people searched and consumed scholarly information in past and was a case of wishful thinking
- Probably been ***slowly*** decoupling from your users but been masked by growth of academic sector in Third world, and improvements in access to scholarly information (all scholars now) courtesy of digital transition
- Going to rain on your parade: number of factors combining to make decoupling ***faster*** and signs might be there – use flat-lining, even falling. Saturation point, third-party attrition or signs of Perfect Storm brewing?
- The elements: a) failure to understand how scholars searching and consume information in digital space; b) march of social media; c) advent of mobile platforms; d) implosion of libraries (and your business model!). There is another – data – about which Anthony will speak.

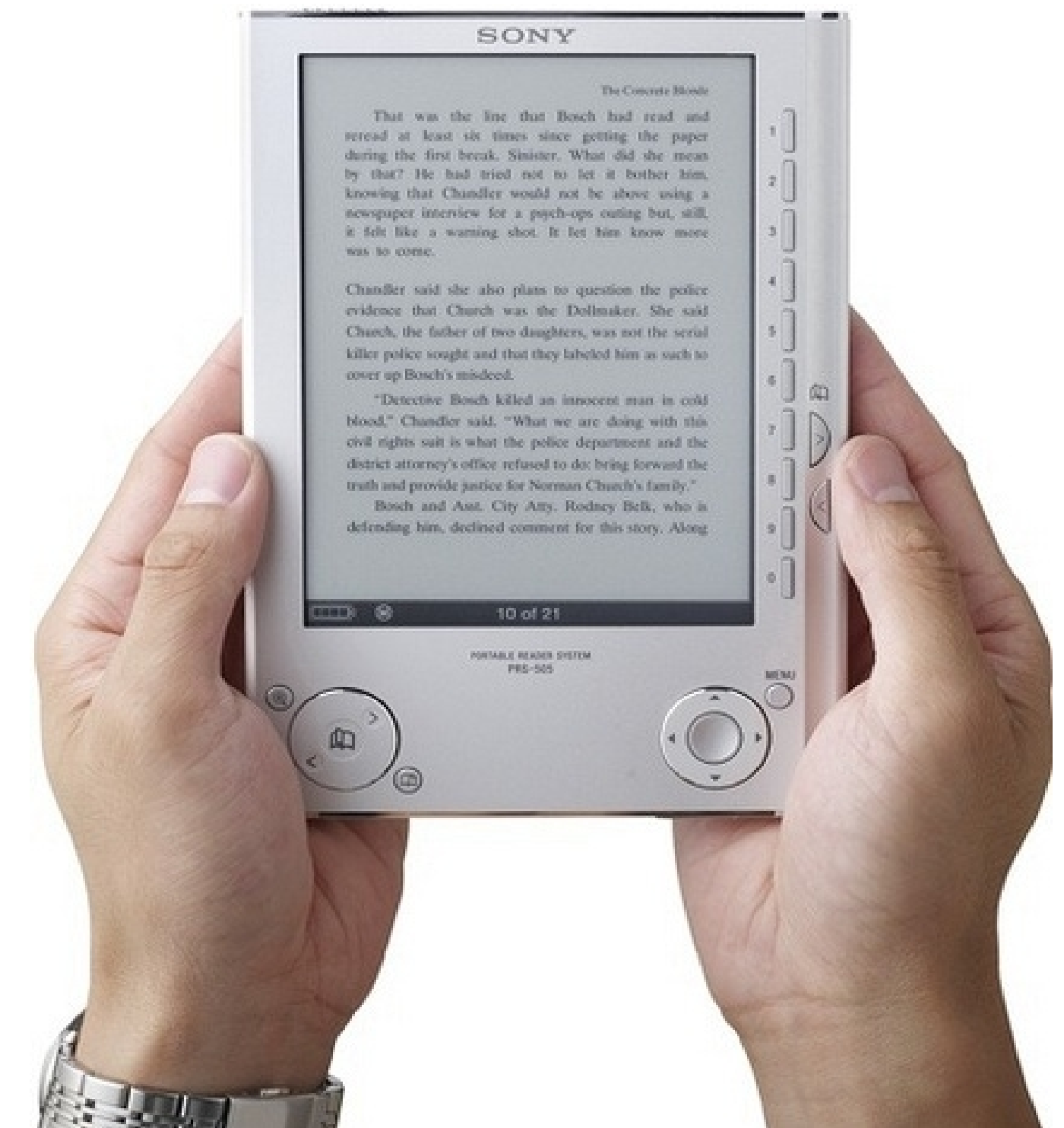


Virtual Scholar and Google Generation projects:
searching and consuming in cyberspace

CIBER Research Group

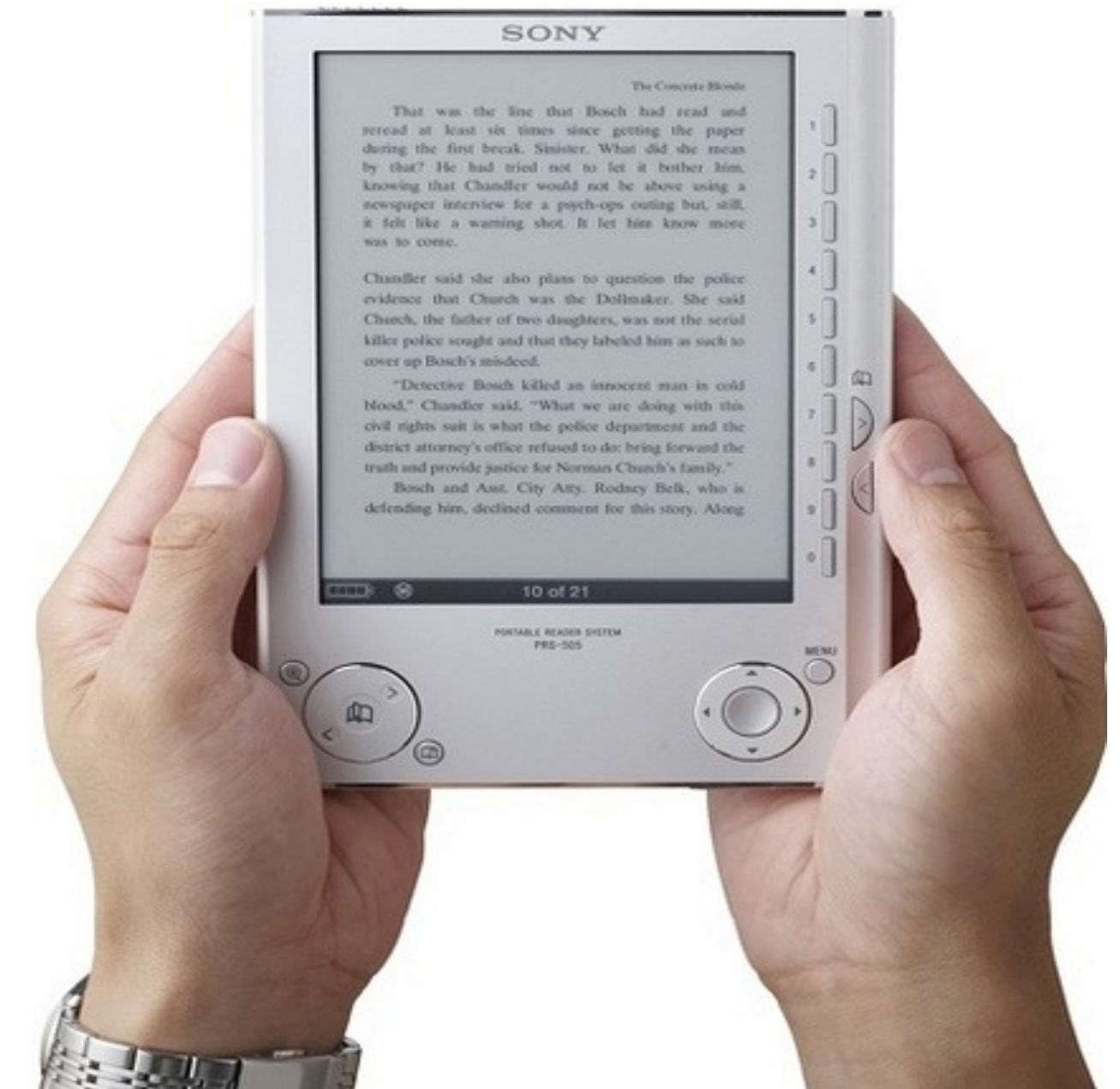
The evidence

- Big shock! Nobody does much reading in virtual space – or certainly not what is traditionally thought to be reading
- Web designers & content providers thought we would dwell
- Logs tell us:
 - a) Most website visits see 1-3 pages viewed & half visitors never come back – promiscuous, preferring to move on;
 - b) Typically, only a few minutes spent on a visit, and 15 minutes a very long time to stay;
 - c) If it is an article then they spend about 3 minutes on it;
 - d) Short articles have much bigger chance of being viewed;
 - e) If article long summary will be read or it will be downloaded & squirreled away for another day



The evidence

- How do we know that reading not undertaken later at a more convenient time and place, or in a more suitable form (on paper)?
1. Because of time, convenience and preference (of young particularly) much 'reading' is done online, and more so with iPads etc.
 2. Interviews disclose that lots of articles downloaded never read; kept as insurance for a day when might need them. digital osmosis!
 3. Surveys conducted by media regulators, like Ofcom in UK, tell us that people's work and leisure time squeezed in today's pressured environment. Spend most of day, when not eating, sleeping, travelling, on computer, on the phone or watching the television; there is very little time left to read, except online!



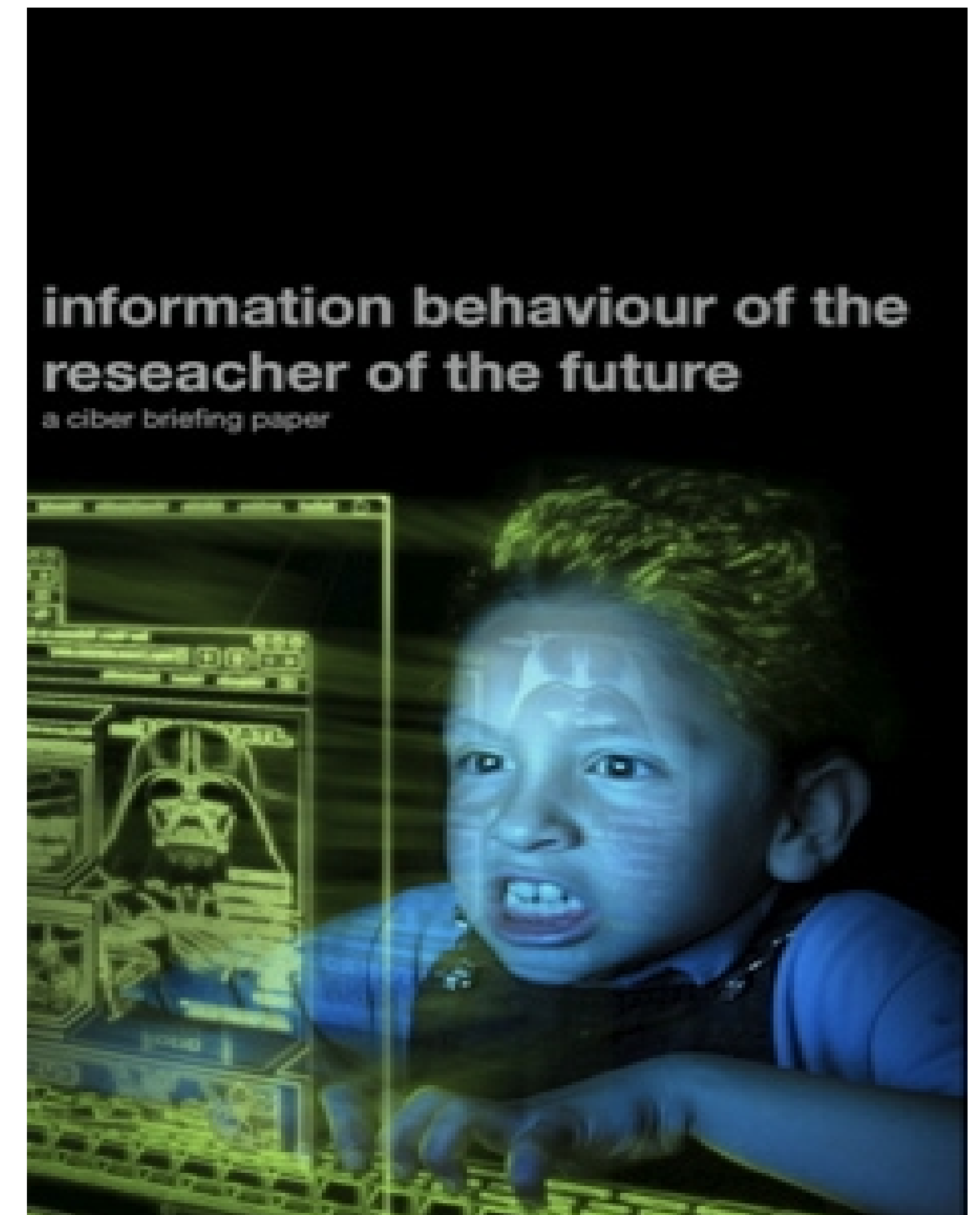
The explanation

- 1) Digital transition resulted in move from vertical to horizontal information seeking/reading; leads to viewing rather than reading
- 2) Best described as bouncing/power browsing/skittering: *moving rapidly along digital surface, with frequent light contacts or changes of direction*. Coping mechanism for massive and interesting choice
- 3) Ability to deep dive and get snippets
- 4) Web a visual platform, like TV in many respects,
- 5) People multitask when online; much prefer it; more interesting
- 6) Conditioned to require fast information (as have accepted fast food)
- 7) E-books increases prevalence of 'lite' reading behaviour and smartphones taking it to another level (seen nothing yet).



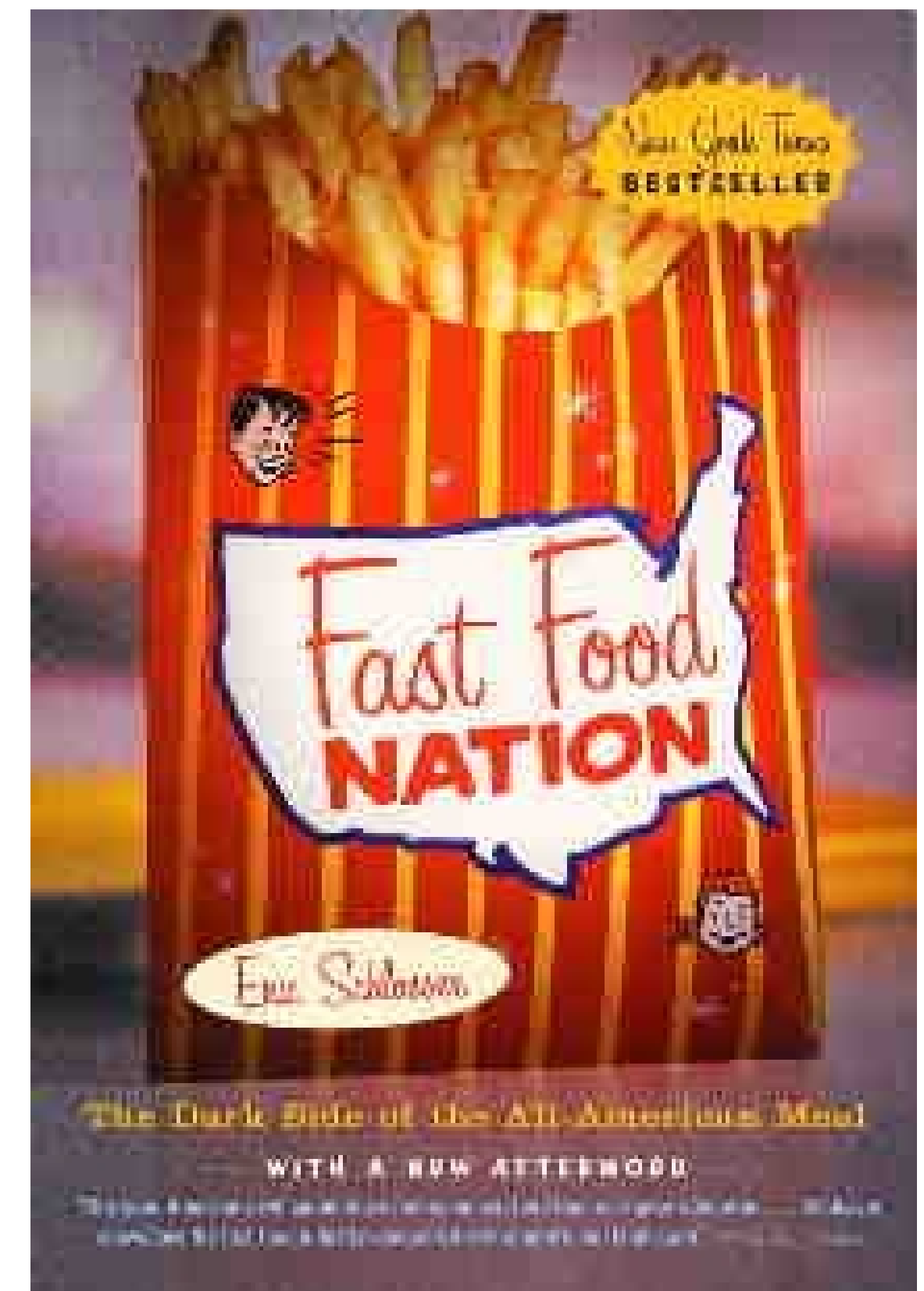
And then there is...the Google Generation

- Those born digital, been conditioned since birth, are those with greatest appetite for fast information and skittering.
- Quickest searchers, spend least amount of time on a question – a fraction of the time spent by adults. By own admission, least confident about their answers. Lack of confidence explained by their behaviour – view fewer pages and domains and undertake fewer searches in answering questions.
- Search statements much closer textually to the questions posed, making them, not just **fast food generation**, but also ‘cut and paste’ generation. As for multitasking, which anecdote has it young excel, they do it a lot but not very well.
- Young fast forwarded from a world where the focus was on knowing one big thing really well to a world where you know many things, but not very well. Web foxes.



Big issues

- Responsibility difficult to establish in digital environment – so many players and brands, so much churn. Don't even know whose information it is!
- Writing been on wall for years about diminution of deep reading but lulled into complacency by sheer amount of 'activity' taking place in cyberspace
- Witnessing death of reading? No, just displacement /marginalisation of deep reading, and emergence of power browsing or reading 'lite'.
- Big question will Google Generation turn out to be fundamentally different from older generations in attitudes, expectations and behaviour when become doctors, politicians, lawyers etc.?
- Need to break stuff up, make stuff more visual, reduce size and make the whole experience more immersive. Speed the user through your site, forget the add-ons. Hard for publishers, you are hard wired to do the opposite. You think this is dumbing down





europæana

connect

Mobiles: culture on the go

Professor David Nicholas, Dr. David Clark and Professor Ian Rowlands

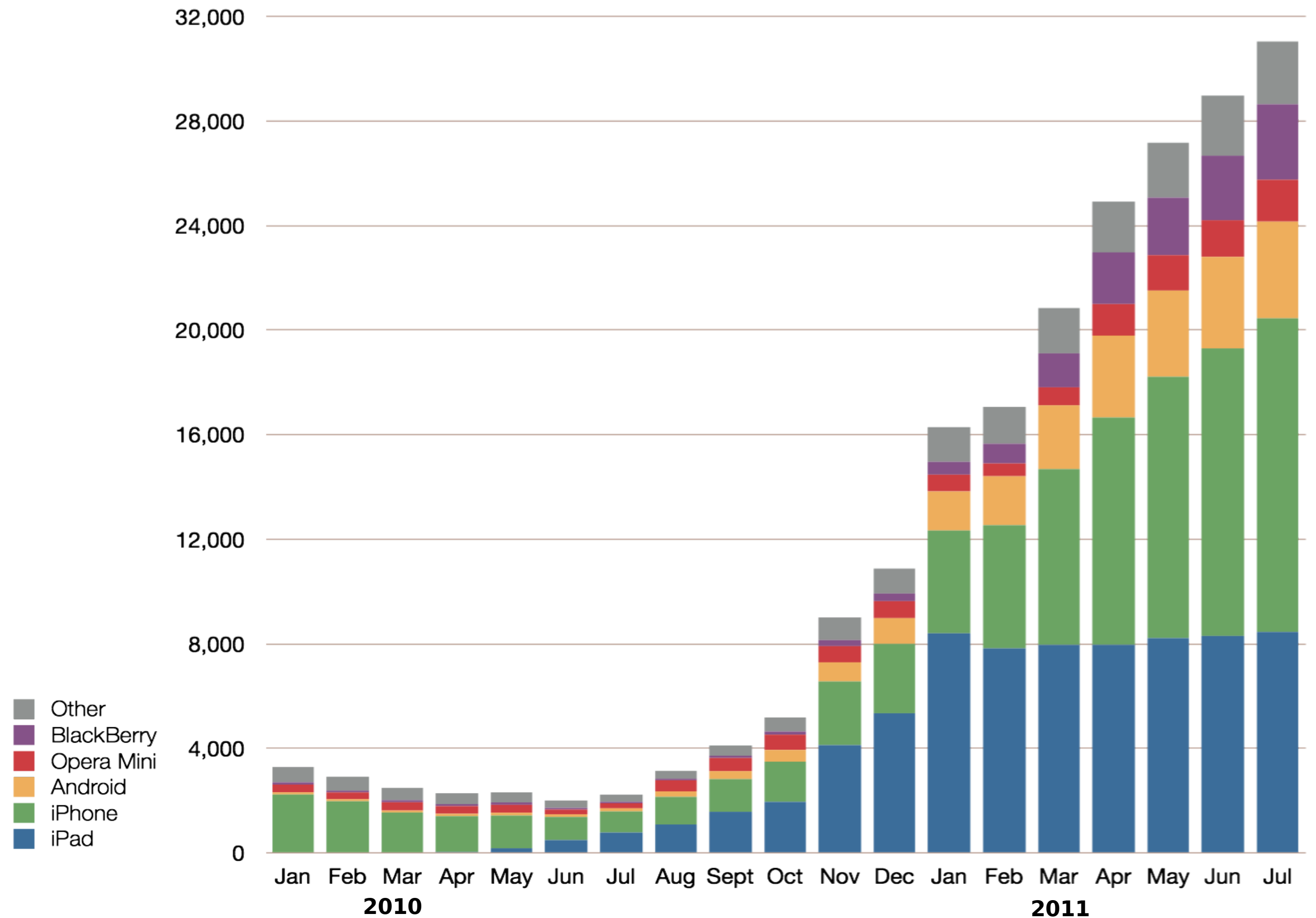
Why mobile access really interesting

Culture on the go

- **Massively popular:** mobile devices used more and more for accessing the Web for information and forecasted to be *the* platform of choice in a few years, so the tail could wag the dog.
- **Cool and social.** So extend the reach of websites and draw in a wider range of people
- Considerably widens access to weekends and **outside of traditional office hours.**
- **No boundaries.** Search on the move, virtually anywhere and at any time – and in the social space
- **People pay to use them.** Mobile consumers used to paying to access information
- **Restricted functionality.** Mobile user presented with a simplified 'lite' interface, without some of the search functionality available to the PC user
- **Not all the same.** Big difference between tablets, smart phones and BlackBerrys
- **The big question.** Clearly then web use via mobile phone & tablet offers a different user experience from the desk-bound PC so will have an impact on information use and seeking behaviour.
- **Ask a young person** about their library and they will point to their phone

Growth in Europeana mobile use

- Chart shows monthly numbers of page views for individual mobile devices and an exceptionally rapid period of growth
- Fastest growth coming from the iPhone (green).
- Mobile visitors fastest growing category of Europeana users and influence will be felt increasingly, and will comprise around 17- 20% of visitors during 2012
- The installed base of internet-ready mobile devices will actually overtake that of desktops and laptops around 2013...then the tail wags the dog

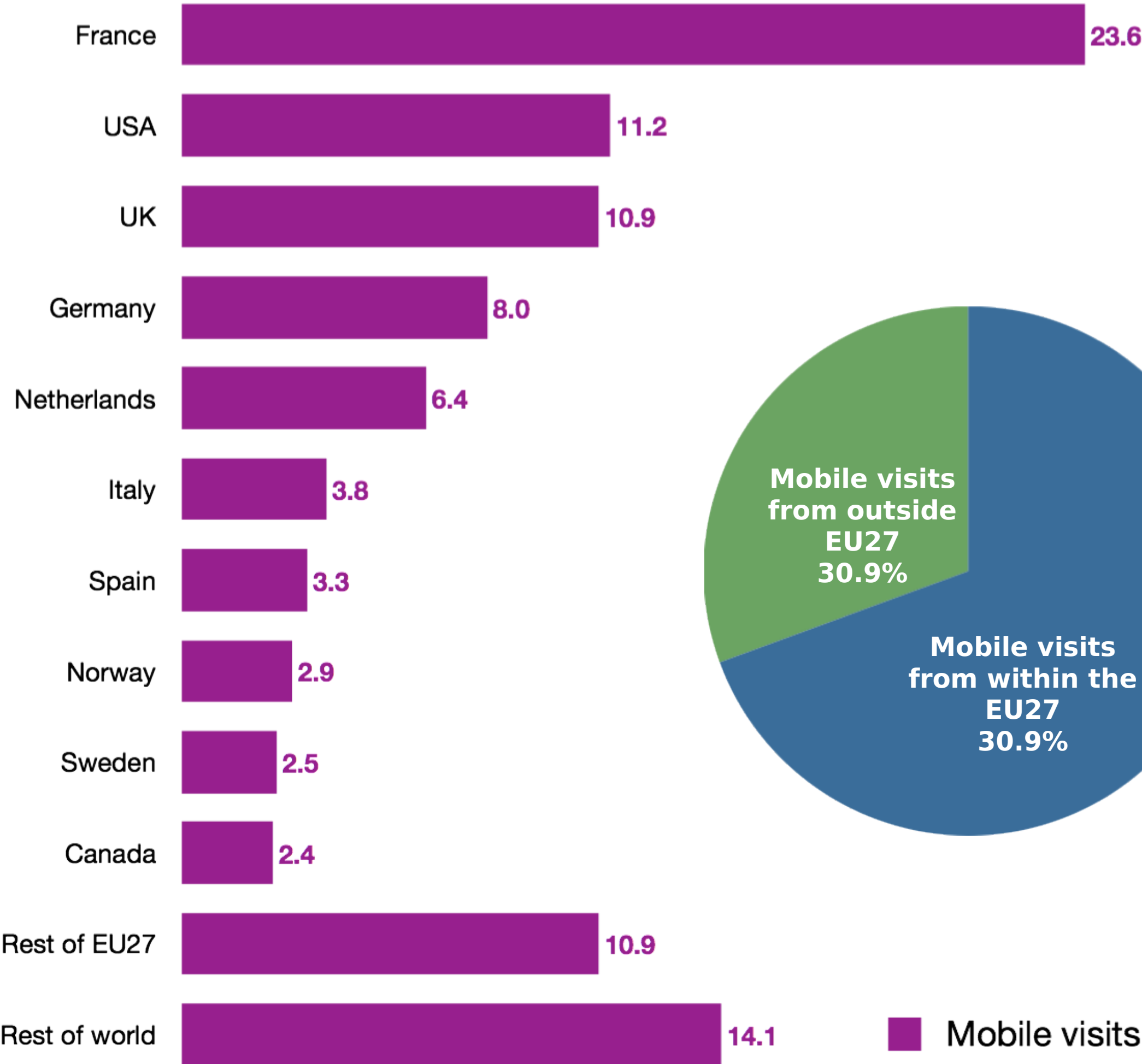
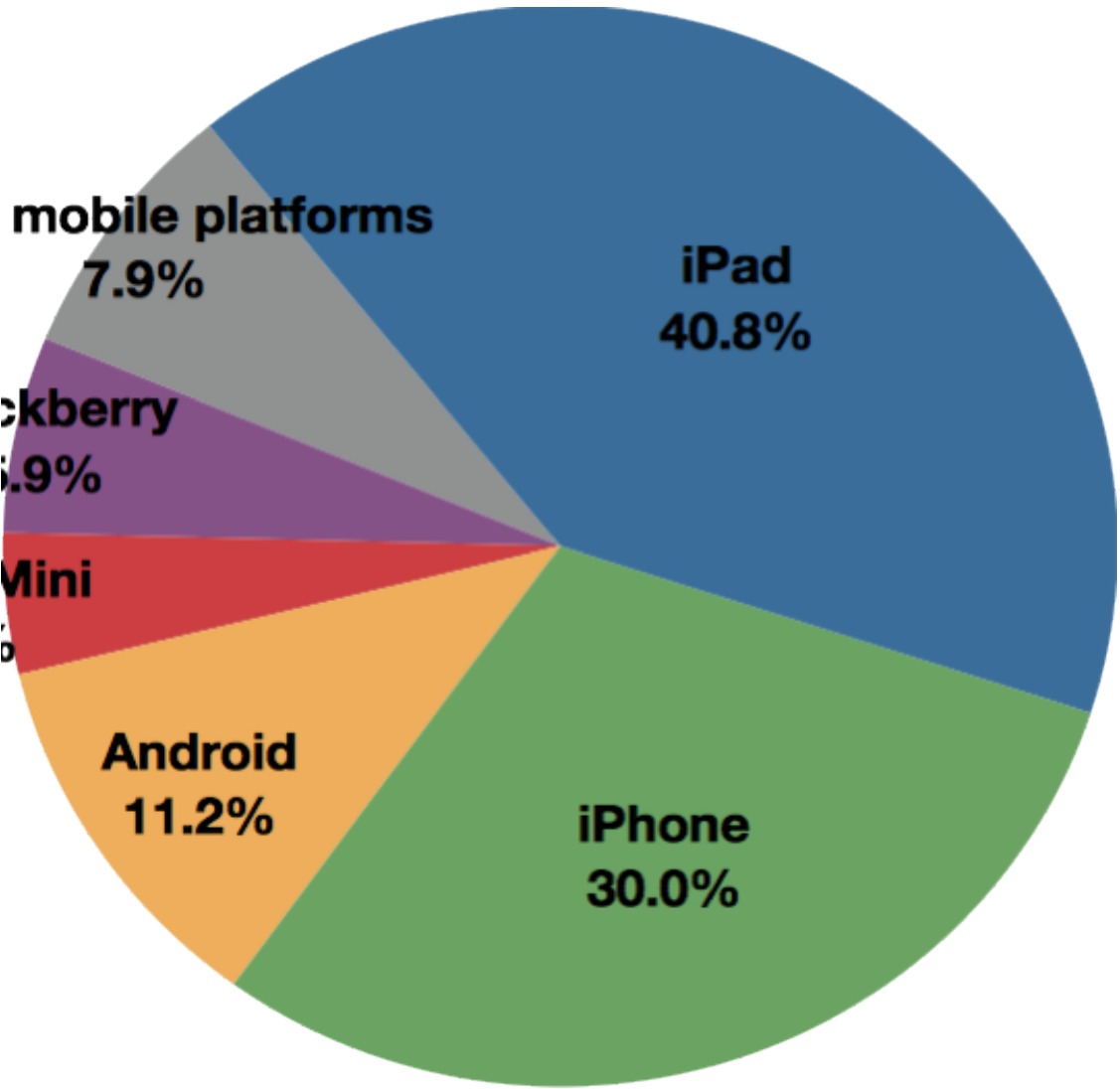


Europeana: Mobile page views by platform
January 2010 to July 2011

Who uses Europeana on the go?

Europeana mobile use and users

- Europeana’s mobile users huge fans of Apple cool, with traffic dominated by Apple’s iPad and iPhone which, in 2011, accounted for more than 70% of all mobile page views. Particularly suited to viewing cultural content because of their very high definition.
- Big country differences. French users dominate the mobile market for Europeana content..

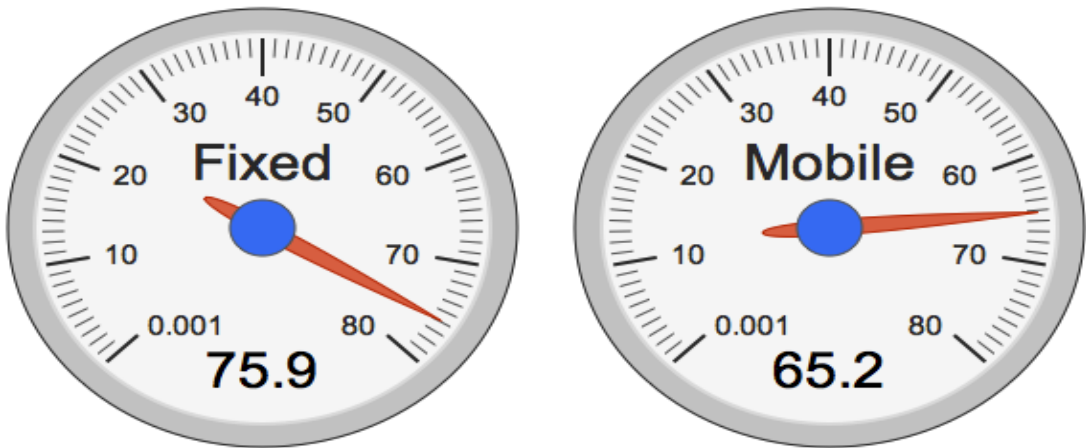


CIBER dashboard: fixed and mobile users compared

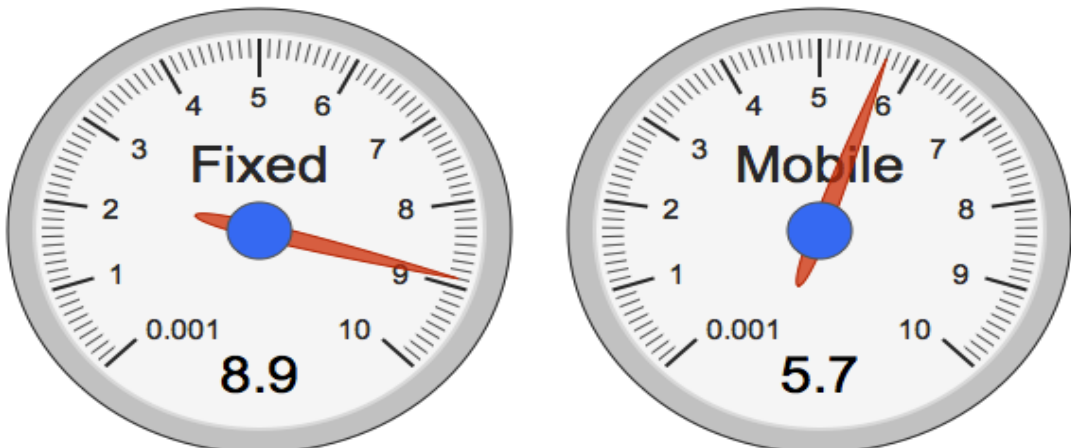
Fast is the future



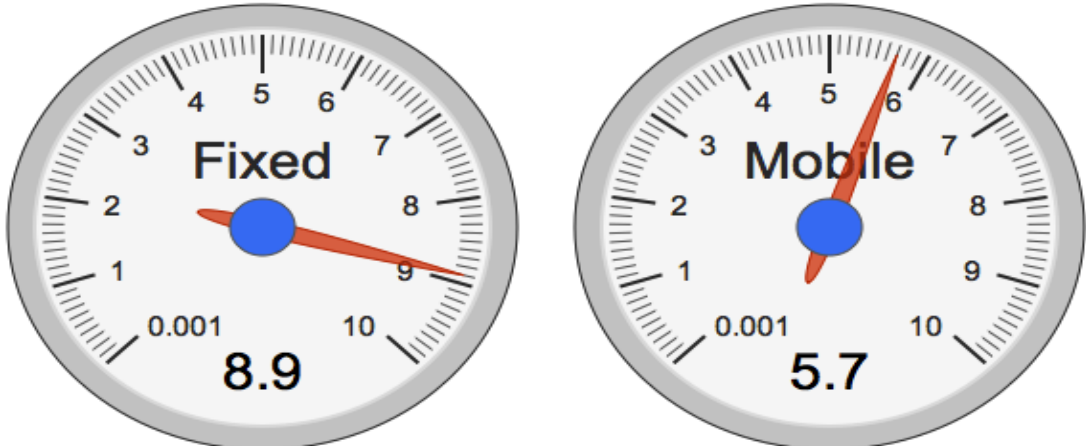
Duration of visit (seconds)



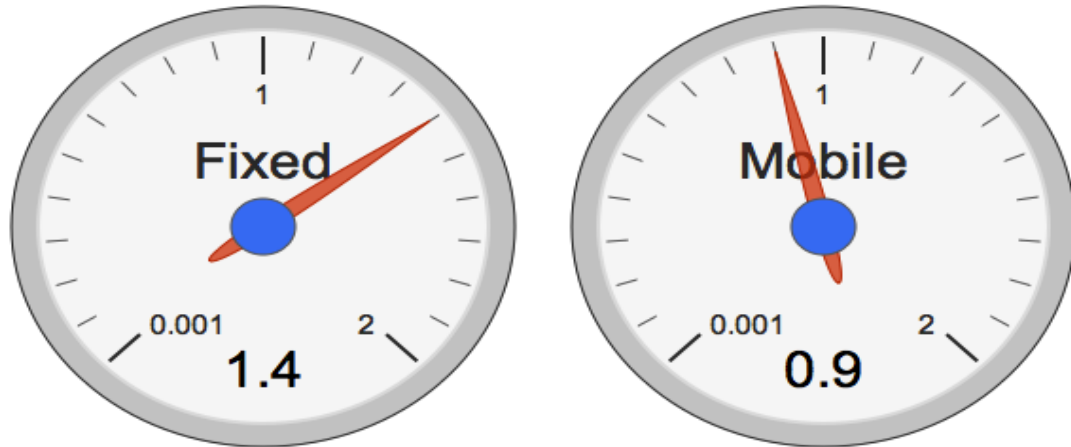
Search page views per visit



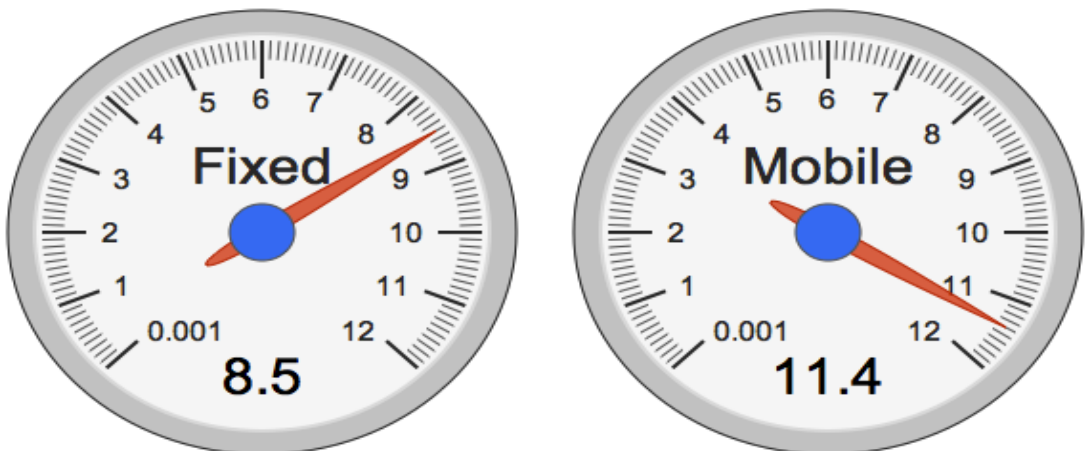
Page views per visit



Queries per visit



Time per page (seconds)



Record views per visit



s from mobile devices much less interactive than those from fixed platforms. Fewer pages are viewed, and fewer searches are conducted. Mobile users spend on average more than twice as long per page, but only to be expected given the relatively slow performance of these devices.

Social media and impact on research process: Charleston Observatory Study

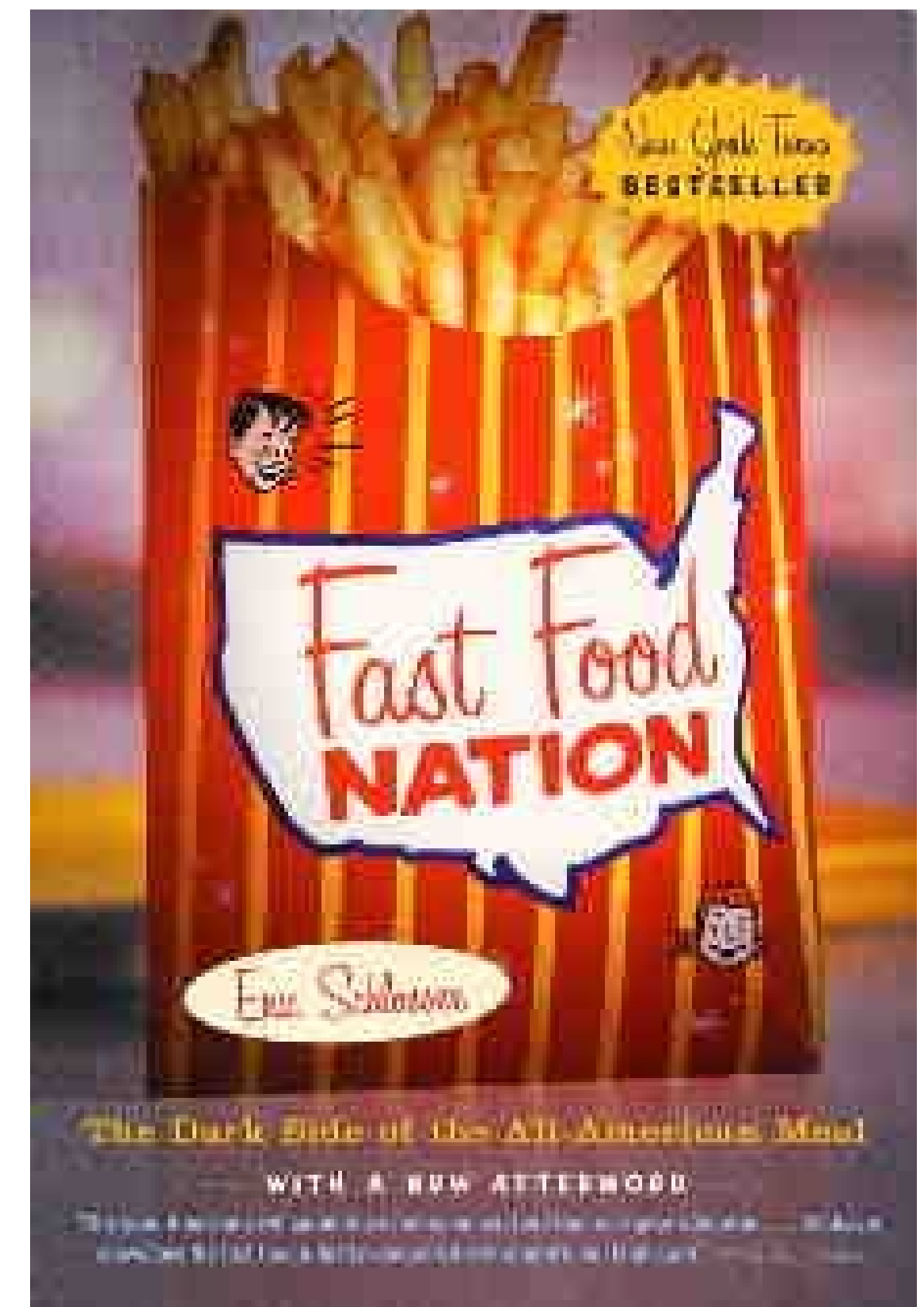
User characteristics

- **Characteristics vs. non social media users**
 - 2.11 times more likely to use an iPad
 - 1.91 times more likely to be innovators or early adopters
 - 1.68 times more likely to use a smartphone or other mobile devices
- **Disciplinary differences**
 - Scientists biggest users. But not long before social scientists/humanists catch-up. Scientists benefit from fast and responsive information/communication systems whereas social scientists and humanities researchers have had, until the arrival of SM tools, to put up with slower, less powerful systems. All want fast information.
- **Not just an age thing.**
 - Age poor predictor of use in research context. Yes researchers under 35 more likely to use at least one social media application than the over-35s, but when looking at specific tools, there are strikingly different patterns of take up by age.
- **Geographical**
 - Take up is patterned by geographic region; it is generally lower in Asia and Northern America and higher in Europe than in the rest of the world.



Use

- **The most established tools** (collaborative authoring, conferencing, and scheduling) were also the most popular
- **Most popular brands** used in research context tend to be mainstream anchor technologies or `household brands`, like Skype, Google Docs, Twitter and YouTube. Researchers largely appropriating generic tools rather than using specialist or custom-built solutions and both publishers and librarians need to adapt to this reality.
- **All round impact.** Social media have found serious application at all points of research lifecycle, from identifying research opportunities to disseminating findings at the end.
- **But researchers cautious.** Social media are adding marginal value around some of the edges of the research process. They are experimenting
- However there was a general sense that researchers **‘ought’ to be using** social media more.



Perceived benefits

- Ability to **cross disciplinary divides** is potentially the killer application, followed by the ability to reach out *across geographical limitations*
- Ability to **communicate** quickly & effectively with diverse audiences, at remote distances.
- All about **building communities**, and alternative networks and outlets. Facebook in particular proving valuable in building research communities from far flung places, and *maintaining* them. Supports the internationality of research, increasing the potential influence of the burgeoning research communities in emerging economies on established researchers and institutions
- Allowing **research projects** to be undertaken that would otherwise have not been feasible, and creating opportunities for non-researchers outside of the academy to become involved
- Creating brand new **data collection opportunities** in some contexts but researchers are wary of the issues around validity and reliability.
- Helps **maximise citation and usage impact**
- Allow (social scientists and humanists) to collect information from **wide variety of sources and to listen to `different' voices.**



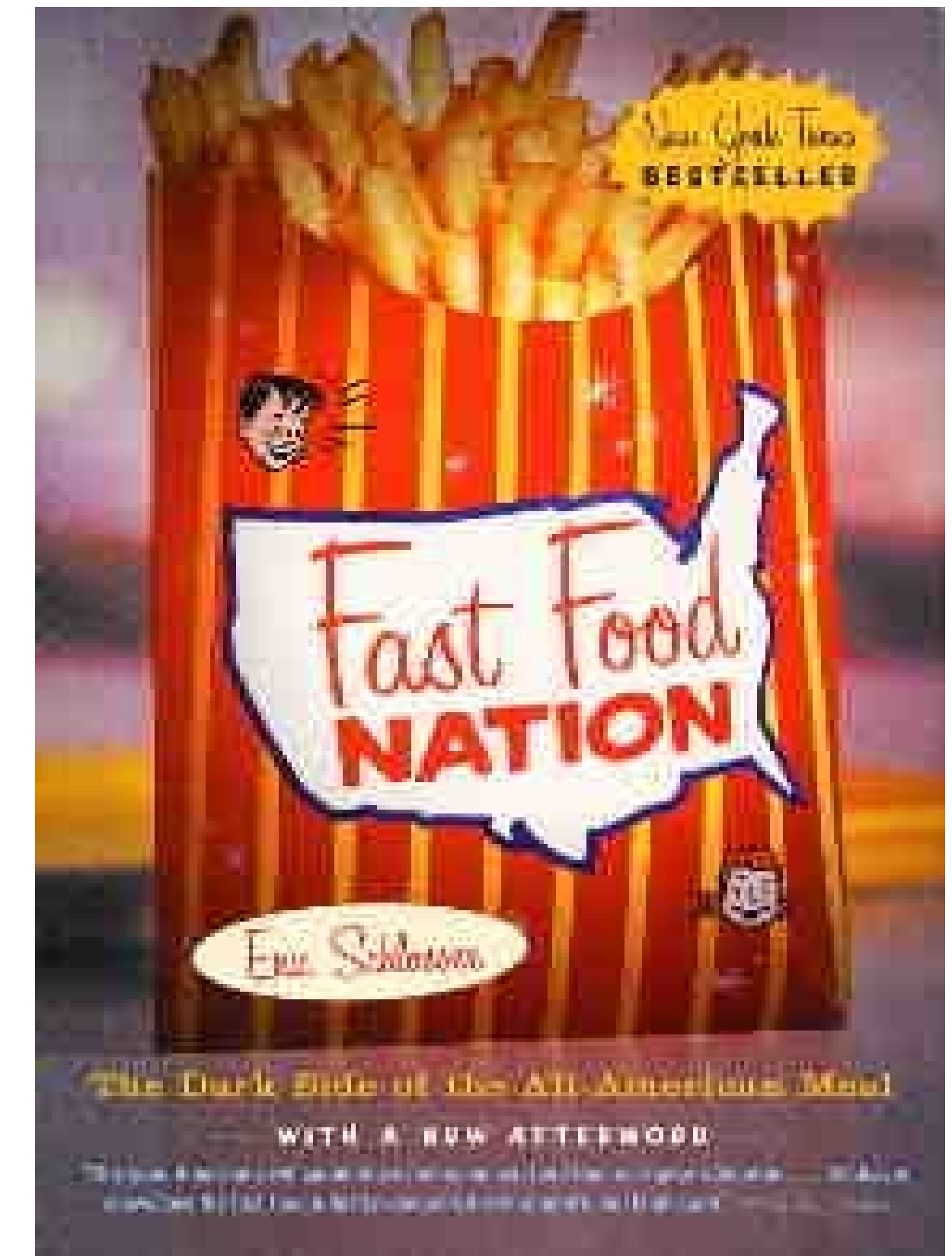
Revolutionary forces at work?

- ...among younger social sciences and humanities researchers.
- Because of the sheer size and huge growth of academe and resultant high levels of competition, younger researchers find it difficult to progress because of difficulty in getting into high impact journals and so obtain necessary citations which will determine their future. Closed shop and peer review polices it.
- Have always moaned but difference now is that there are a lot more of them and that they have other avenues for dissemination and they feel squeezed out.
- Social media provides a research space where they can reach out to other researchers and shine (a parallel scholarly universe).
- Distrust of the anonymity of the peer review process; openness is felt to be more important than ever, and reach and connectivity becoming the new research goals.
- Social media then widens and levels the playing field; it provides a 'healthy' counter balance to the existing system.



Big issues for publishers

- **Loosening the chains.** In UK REF after the next one the real game changer regarding the take-up of social media by researchers, because social and public dissemination, already flagged as important by the upcoming REF, increasingly important with policy makers.
- Publishers focused on making their online services “essential” or “destination” sites. What this research shows is **researchers drawn to anchor services** (Skype, Facebook, Google Docs), because work well, and worth investing time in these mass market tools as research colleagues worldwide are committing to same tools.
- Publishers need to re-evaluate which communities want to be part of, and where the most useful interactions take place for their priority communities. Active participation in communities hosted by Facebook may be more effective than creation of their own branded community spaces.



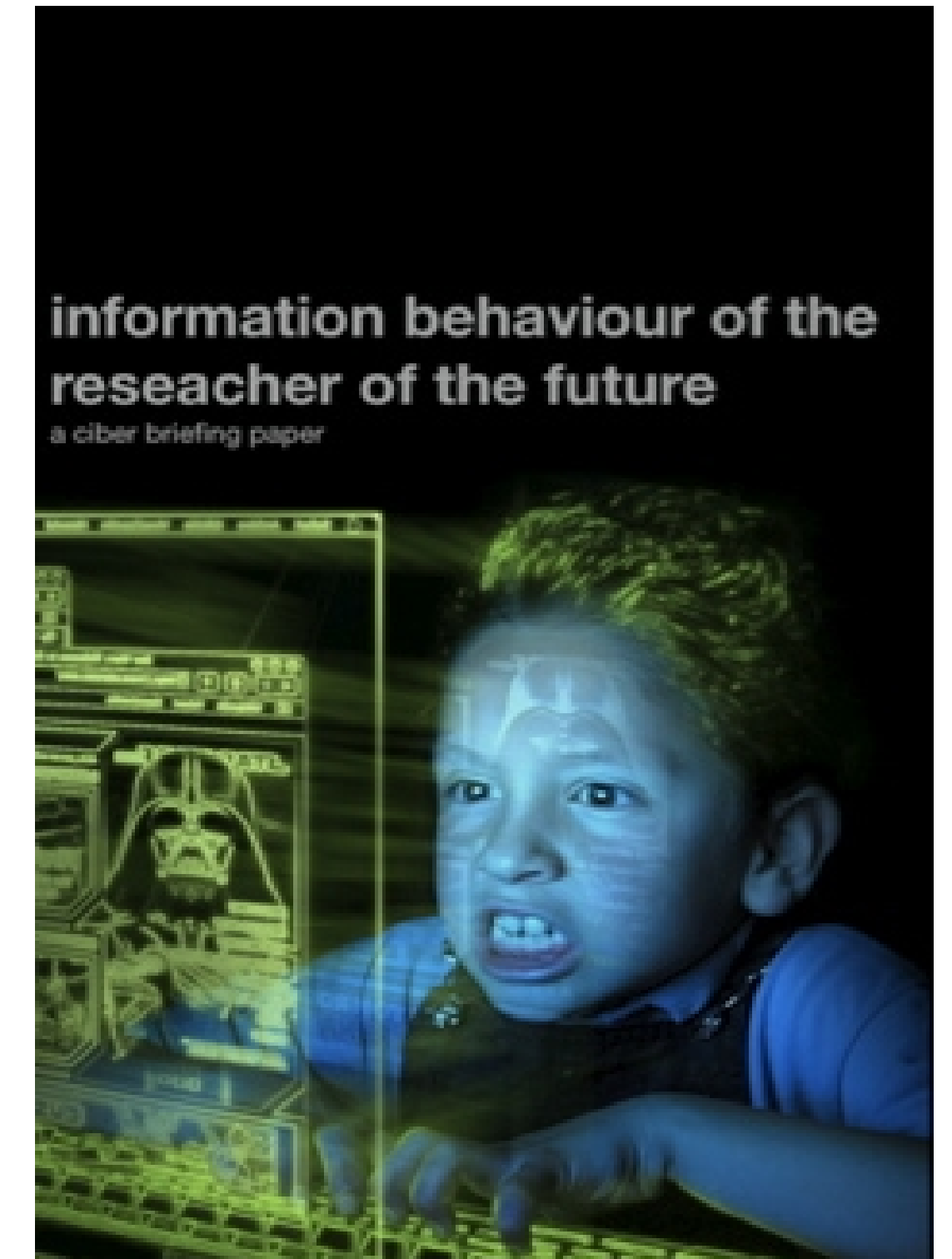
Big issues for publishers

- It's the SM capability of building different research communities that should be a wake up call for publishers
- Publishers like Elsevier have focused hard on researcher workflow in the STM environment. This project suggests that social media has a major role to play in the workflow of all subjects, including social science and the humanities. Publishers need to understand the implications and either develop their services accordingly, or risk being left behind.
- Harness the wisdom of the crowd – make your sites immersive and connected. Otherwise it will be a case of ask a friend.



And then there are the libraries...

- **Tough and challenging times for publishers then!**
- **But spare a thought for librarians**
- All librarians now and connected to big fat information pipe.
- SM introducing another round of disintermediation – researchers see no role for them
- Rise of e-books responsible for massive migration to digital world; humanities scholars, public library users and undergrads have been in slow lane of digital transition. E-books carry more people with them than e-journals. Academic libraries smack in firing line.
- Gateway services replaced library website as the main source of discovery. Plus Google Scholar, Mendeley and CiteULike create new value proposition by providing citation and other metrics so researchers can form their own views on quality
- Libraries trusted but *incomplete* sources of information & researchers do not trust librarians to make critical decisions on what is and what is not in walled garden on their behalf
- Professional membership in UK falling at 6% a year and been doing so for last 5 years now. By 2020 CILIP membership will be half of what it is now
- Publishers the new (digital) librarians...their users treading your space



Advice

- Remember an internet year is just 7 weeks and you are going to have to monitor, monitor and innovate, and then monitor again
- Lines between books and journals in digital world blurred
- AND think of new business models – you are going to need them! Especially for those outside the wall and for everyone when the wall falls down

