WORLD PRESS PHOTO

Visual Storytelling in the Age of Post-Industrialist Journalism

A research project by Dr David Campbell

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Project Overview

Between July 2012 and April 2013, World Press Photo, supported by the FotografenFederatie (Dutch Photographers' Association), undertook a research project to review issues around, and map the global emergence of, development of multimedia in visual storytelling, especially photojournalism.

The research was conducted under the auspices of the World Press Photo Academy, and the project was directed by Dr David Campbell. One of the objectives of the World Press Photo Academy is to initiate and publish research into issues that concern the photographic community and to feed the outcomes back to the community. This project is the first initiative that fits this ambition. It has been carried out independently and not directly connected to the annual World Press Photo multimedia competition.

The project began from the premise that the global media economy is undergoing profound transformations. Hastened by the disruptive power of the Internet, the disaggregation of traditional news forms is taking place. Audiences for online platforms and digital formats are growing while the circulation of established newspapers and magazines in Europe and North America is, with few exceptions, declining.

In this context, there is a general sense amongst photojournalists that multimedia formats are becoming increasingly important. Although the term is imprecise, the research started with the premise there is an emerging consensus that, while not a replacement for other approaches, presenting a story through a combination of images, sound, and text offers a number of advantages. Stories can be provided with a greater context, their subjects given a voice, and they can be easily distributed through new digital channels (the web, apps) that are no longer constrained by the limited space of print publications. However, one of the major challenges is to see how the production of quality content through these means can be supported and expanded.

This project examined these issues through a comparative study that looks at multimedia trends in three parts of the world: the USA, Europe, and China. In each of these locations, the study was organized around five questions:

1. How is multimedia being produced?
2. How is multimedia being financed?

3. How is multimedia being published and distributed, and who is publishing/distributing multimedia?

4. How are viewers consuming multimedia?

5. Which types of multimedia attract the most attention, and what are the criteria of success?

These questions are answered in the report's first six sections, and they guide the implications for practitioners detailed in Section 7.

Methodology

The research was conducted in three ways. Secondary literature on multimedia and the new media economy from academics, research organisations, the media and the photojournalism community was reviewed.

Three research seminars with invited participants were held in Amsterdam (28-29 September 2012), New York City (2 November 2012) and Guangzhou (3-4 December 2012). The seminars were conducted in terms of the Chatham House rule, with information provided confidentially and cited only with permission.

In January 2013 questionnaires were distributed to 25 international media companies asking for their assessment of the current state of the field, with 15 organisations responding, most requesting their information was not directly cited. Some individuals from organisations were interviewed in person. Details on the project director, seminar participants and questionnaire respondents are available in Section 8.

Data collection relating to "multimedia" is difficult. Given the commercial basis of most media organisations, and the experimental phase we are in, much relevant information is considered too sensitive to share. Request for information about app downloads, revenue and web traffic were regularly met with polite apologies declining disclosure. Nonetheless the public record was mined for evidence of new developments, with the identification of overall trends as one of the major objectives. There will always be individual cases or examples that seem to buck new trends, but they are unlikely to invalidate conclusions based on those trends.

The information derived from the secondary literature, the research seminars and the questionnaires was reviewed and analysed by Dr David Campbell, who wrote this report and is solely responsible for the interpretation and conclusions. If you see any errors, or wish to contribute new information for future updates, please email david@worldpressphoto.org.

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Report Structure

Following the Executive Summary are seven sections providing the argument and evidence to support the summary, with footnotes containing detailed information about sources.

In Section 1 the report looks at the concept of "multimedia" historically, its relationship to photography and photojournalism, and why we should now speak in terms of "visual storytelling".

In Section 2 the report analyses the news people desire, the means they now use to access this information, and how the traditional platforms that previously supported photojournalism have been disrupted.

Section 3 examines the rise of multimedia in online news to date, the forms it has taken, and the direction it is moving.

Section 4 outlines the disruption that characterises the new media economy, how this has definitively changed the environment in which news and information is produced, and the way those changes have led to the disaggregation of conventional forms in which visual stories used to be conveyed.

Section 5 looks at the new creative possibilities for visual storytelling emerging from the disruption and disaggregation, and how the new forms are being deployed.

Section 6 explores media economics after the disruption to see how the new forms of visual storytelling are, and can be, financially sustained.

Section 7 offers a general conclusion and lists some implications of the analysis for visual storytellers.

Section 8 records acknowledgements, participants, and the research director's biography.

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Executive Summary

- "Multimedia" cannot and should not be defined as a single genre. It involves a combination of images, sound, graphics, and text to generate a story, and it appears in multiple forms ranging from online photo galleries where pictures are combined with text captions, to audio slideshows, linear video (both short-from and long-form), animated infographics, non-linear interactives, and full-scale web documentaries and broadcast films.

- The digital revolution has been a defining development in the emergence of "multimedia," but the overlapping histories of photography and cinema show that that the boundary between still and moving images has been a blurred one from the beginning.

- We are now seeing a new media space in which communities of practice coalesce around the concept of "visual storytelling." Photojournalism, videojournalism, documentary film, cinema and interactive storytelling intersect, not to create a new visual genre, but to combine their respective strengths in image-oriented reportage, in many forms and across multiple platforms.

- Changes in the technologies of image capture and circulation have coincided with long-term structural changes in the media economy giving us "post-industrial journalism," a period of widespread disruption and new possibilities. Taking advantage of these possibilities requires the photographic community to understand the dynamics and logic of disruption.

- Disruption is a product of more than competition alone, and occurs when technology transforms the economy. Although not the sole cause of printed media's long-term decline, the Internet has produced a new ecology of information, dominated by the screen that affects everyone in journalism and storytelling. As a result there is no such thing as "the traditional media" any longer, although the organisations formerly known as newspapers, television or radio networks are still important players.

- In the new ecology of information the relationship between scarcity and abundance has been transformed. As gatekeepers who controlled broadcast

and print distribution, traditional media companies profited from an artificial scarcity that required advertisers to pay substantial amounts in order to reach consumers. Advertising subsidised journalism, which has never been a viable, stand-alone product, and users never paid directly for the stories they consumed. Collapsing advertising revenue has brought a financial crisis to journalism, and the economics of journalism depend on finding new sources of subsidy.

- The audience for good journalism is large. We may think modern culture has become celebrity obsessed at the expense of news, but international survey data indicate a strong appetite for domestic and international news among all age groups, and that people still like to read. The news appetite has moved away from the printed page and is increasingly satisfied online, making the screen the primary access point.

- Users encounter multimedia as they move online for information, with linear video and photo slideshows the most common and popular formats. Although multimedia journalism is still a relatively small component of news organisations' output on the web, online video is the fastest growing format.

- The global spread of mobile technology is a driver of growth in digital news sources, and is increasing both overall news consumption and engagement with long form stories. This applies equally to video, where there is no strict correlation between video length and popularity, with viewers staying with the stories if they feel engaged and their specific needs of background, breadth, context, and depth are met.

- The new ecology of information has disaggregated traditional story containers into a stream of content. This gives us a unique opportunity to experiment with how information is presented, rethinking what an 'article', 'page', 'magazine', or 'book' might be in the age of screen dominance, and asking whether native apps or responsive web design is the best way to proceed.

- Most contemporary multimedia is being produced by well-known media organisations using in-house production teams. This means that the market for freelancers and independent producers is small but that the editorial opportunities it offers are worth pursuing. Those working outside media

organisations exhibit great creativity and they need to diversify revenue from indirect sources, capitalising on the new relationship between scarcity and abundance to leverage the structure of the open web in order to fund their stories.

- Taking advantage of the new media economy requires visual storytellers to consider some practical steps in how to present themselves, and how to train, report, innovate, collaborate, partner, connect and diversify in the service of their stories.

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1. "Multimedia," photojournalism and visual storytelling

What is "multimedia"? Although this project began with this term in place - partly because it is widely recognised by media organizations, we did not seek a definition and do not think any single definition is productive. As a famous philosopher once observed, only something with no history can be defined, and "multimedia" has a long and complex history.[1]

At its most basic, and for the purposes of this report, "multimedia" signifies some combination of images, sound, graphics, and text to produce a story. In different realms of practice people speak of "cross media," "transmedia" or "mixed media," and although there is much common ground each usage also comes with its own inflection. In photojournalism, "multimedia" has often been first understood as "photography, plus…", principally the combination of still imagery with other content. Nowadays we see it in multiple forms ranging from online photo galleries where pictures are combined with text captions, to audio slideshows, linear video (both short-from and long-form), animated infographics, non-linear interactives, and full-scale web documentaries and broadcast films.

When we consider those multiple forms, it seems that the digital revolution has been a defining development in the emergence of "multimedia" that blurs the boundary between still and moving images. As will be detailed below, the impact of digitisation cannot be underestimated. But even a brief consideration of the history of image making shows considerable overlap between still and moving images. Close-ups and freeze frames are moments in which cinema employs the still image, and photo-stories and sequences testify to the influence of cinema on photography.[2] Famous photographers like Man Ray, Paul Strand and Gordon Parks were all involved in filmmaking and films like Chris Marker's "La Jetée" (1962) and Agnes Varda's "Salut Les Cubains" (1963) were based on still photographs. Ken Burn's creative use of archival pictures in "The Civil War" (1990) was so powerful it gave rise to an effect now immortalised in video editing software. Modern television is not averse to deploying stills in either opening credits (as in David Simon's "Treme") or in news broadcasts, when a slower pace is needed to underline the significance of the event (the terrorist attacks of September 11, 2001 and the invasion of Iraq being two such cases), or when video is unavailable.

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The roots of "multimedia" go deeper still. In the media history of photographic images, prior to mass reproduction of images in print becoming possible, pictures were displayed to the public with the help of technological devices such as the magic lantern (as well as the gloriously named phenakistiscope, zoetrope, praxinoscope, mutoscope, etc.) that created the perception of moving images in theatrical settings. In 1897 Alfred Stieglitz recognized the significance of these technologies in his article "Some Remarks on Lantern Slides," where he analysed the importance of the slide show in camera clubs, noting that their quality derived not only the photographic image but also control of the atmosphere created through projection.[3]

Moving forward again, we can recall other photographic projects in which images were entwined with other forms of content. Nan Goldins' famous "Ballad of Sexual Dependency" was originally shown in the early 1980s as a constantly evolving slideshow with music. Pedro Meyer's "I Photograph to Remember" (1991), Rick Smolan's "From Alice to Ocean" (1992) and "Passage to Vietnam" (1994), and Tim Hetherington's "House of Pain" (1996) were all on CD-ROMs and it was speculated that CD-ROMs might replace books as the chosen platform for photographic presentation. Gilles Peress' "Bosnia: Uncertain Paths to Peace" (1996) was an interactive photo essay, while Ed Kashi's "Iraqi Kurdistan" flipbook style production (2006) closed the circle by deploying a nineteenth century technique on a twenty-first century platform.

Photography is, to say the least, a broad church, encompassing a wide variety of styles, practices and purposes.[4] This report is mostly concerned with what we call "photojournalism." Here, photojournalism refers to the photographic practice in which someone tells a story about some aspect of their world, where this story is compiled first using lens-based imaging technologies that have a relationship with that world. This encompasses what is called documentary photography or editorial photography, but excludes works of visual fiction and those produced with computer-generated images. It also means that what counts as photojournalism is no longer dependent on its association with print publications.

Beginning with *The Illustrated London News* in 1842 and the first mechanically reproduced photograph in *The New York Daily Graphic* in 1880, photojournalism has been profoundly influenced by new technologies and the modes of story telling they make possible. The arrival of small 35mm cameras in the 1920s, combined with the emergence of picture magazines in Germany, France and the United States in the

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1930s, meant photo stories were more easily produced and published.[5]

It did not take long, however, for the commercial constraints of these media outlets to grate with photojournalists. In the 1960s, as newspapers and magazines in the US began losing both audiences and advertisers to television, some photojournalists, who had started out working for magazines, took advantage of reduced printing costs and ventured to bypass periodicals by publishing books. This was "the moment when the form began to outgrow its origins. A creation of the press, the photojournalist was beginning to claim a role beyond it."[6]

New technologies are once more having a major impact on photojournalistic practice. The arrival of DSLR cameras with video capability – the Nikon D90 in August 2008 followed shortly thereafter by the Canon 5D Mark II – have again highlighted the relationship between still and moving images, providing practitioners with dual image capability in a single camera body. As Section 2 makes clear, this development has coincided with a widespread disruption to photojournalism's historical paymaster and to its traditional mode of distribution (the newspaper and news magazine). The reporting and storytelling function of photojournalism must now engage with the new modes of information, distribution and support that make up the contemporary information economy.

What is the significance of this history? It confirms that any attempt to strictly define "multimedia" would exclude more than it includes. And it demonstrates that what we need is not a restrictive definition of one genre, but an expanded understanding of "the photographic," especially the long-standing and complex relationship between still and moving images.[7] It is possibly what Tim Hetherington meant when he spoke of a "post-photographic" world.[8] It is not a world in which one visual form has died, but a world in which multiple visual forms are alive and stronger than ever, in part because the screen has become the dominant access point for content.[9] Seeing how central photography is to social media and how it can increase engagement, we know that the visual possesses considerable social power to command attention.[10] But given the current proliferation of means of storytelling, we cannot be limit ourselves to one form over and above all others. As Hetherington observed when asked for advice to aspiring practitioners:

> I encourage them to look at many different forms. Not to say, 'I am a
> photographer," but to say: "I am an image maker. I make still or moving images

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in real-life situations, unfiltered and un-Photoshopped. I am going to look into how I can put this into different streams for different audiences; maybe some on the Web, some in print.[11]

This is why this report speaks of "visual storytelling". It opens up the field to different communities who share a common purpose in image-oriented reportage. It is the zone in which the routes of photojournalism, videojournalism, documentary, cinema and interactive storytelling have the potential to intersect. This does not create a new visual genre, but it constitutes a space in which photojournalists can bring their aesthetic abilities and commitment to reporting, and learn from those operating outside of photography.[12] It creates a market in which communities and organisations can take control of their own story and produce their own content, and if they lack the skills and ability to do so, they can outsource the image making and journalism, giving skilled practitioners new opportunities.[13]

We have arrived, then, not at a point of "convergence", nor in a place where a single new form replaces all others (none of this leads to the conclusion that all forms of print are passé). Instead, we have arrived at a place where image making is important to storytelling, and storytelling encompasses many forms across many platforms. We have arrived at this point both because technological changes have made new things possible, and because the way old practices were supported has been fatally undermined.

The purpose of this report is to see, given this open understanding, what audiences are looking for, what producers are making, how their work is being sustained, and how all this affects the global community of visual storytellers, many of whom understand their practice in terms of photojournalism.

Taking this wider context in the media economy into account, and looking at the current trends, is absolutely essential for anyone who cares about news and information and wants to understand what works and why. We live in a period of "post-industrial journalism."[14] Where previously journalism was physically proximate to the printing presses that created its platform, and while journalism still appears in print, its practice is now distributed across and through new networks. This has caused widespread disruption and opened up new possibilities. To appreciate how to take advantage of those possibilities, it is necessary to understand the nature of the disruption.

2. Accessing information, from print to online and mobile

Photojournalism has often relied on print publications for funding. Newspapers and magazines have been its editorial paymasters, who commissioned or reproduced work to support the production of stories. While the practice of photojournalism remains vibrant, its print platforms are in crisis. There are some national variations, but newspaper circulation in Europe and the United States has been in decline for a long time.

COMPARISONS, 1950-2010

24. Total daily newspaper paid circulation as % of households, Canada, USA, and Great Britain's national dailies, 1950-2010
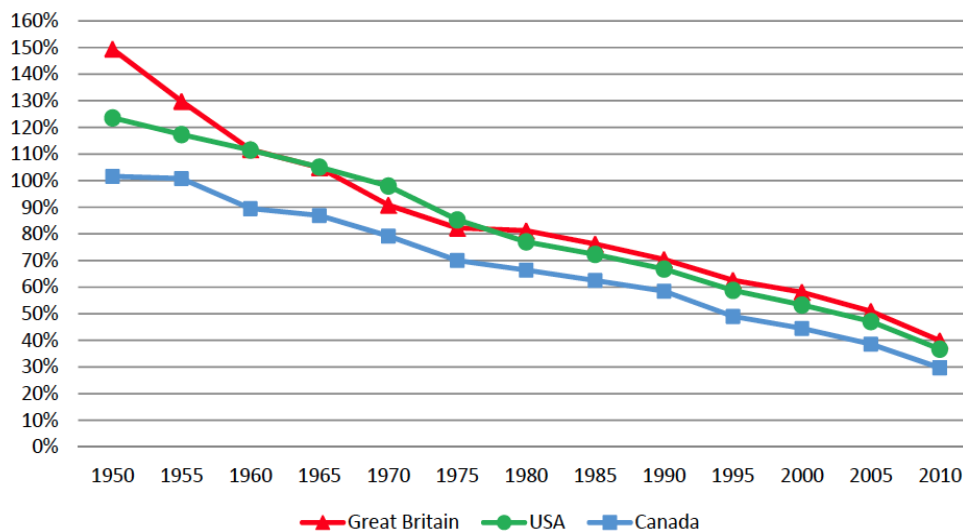
(Source: Communications Management Inc., *Sixty Years of Daily Newspaper Circulation Trends 1950-2010 Canada/United States/United Kingdom: Numbers, Trends, Public Policy, Will There be a Plateau?* 6 May 2011, 24).

Focusing on the United States (for which we have the best data), it is clear that the proportion of Americans who read news on a printed page continues to shrink. In 2012 just 23% said they had read a print newspaper the previous day, down only slightly from 2010 (26%), but less than half the number in 2000 (47%).[15] Magazine readership has also declined over the same period (26% in 2000, 18% today), with news magazines the hardest hit.[16] Even successful publications in this category, such as *The Economist,* believe they have reached the peak of their print circulation and foresee only decline.[17]

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Global newspaper circulation is also struggling. While WAN-IFRA reported a slight increase in 2012 – with growth in Asia offsetting declines in other regions – the International Federation of Audit Bureaux of Circulation (IFABC) reports that "printed newspaper readership is now declining in almost all major economies," including China and India.[18]

If the American experience is a guide, the fall in newspaper and magazine readership is not indicative of people turning off reading print per se. Overall, "Americans enjoy reading as much as ever – 51% say they enjoy reading a lot, little changed over the past two decades." And, significantly, there has been no decrease in the number of people reading a book on a typical day (c. 30%), although a growing proportion of book reading (c. 20%) is via an electronic or audio device.[19]

Nor is there a diminished popular appetite for news. Although conventional wisdom has it that modern culture has become celebrity obsessed at the expense of news, data from the Reuters Institute demonstrates that news remains sought after, even in the UK where daily access of news is less frequent than in other countries.
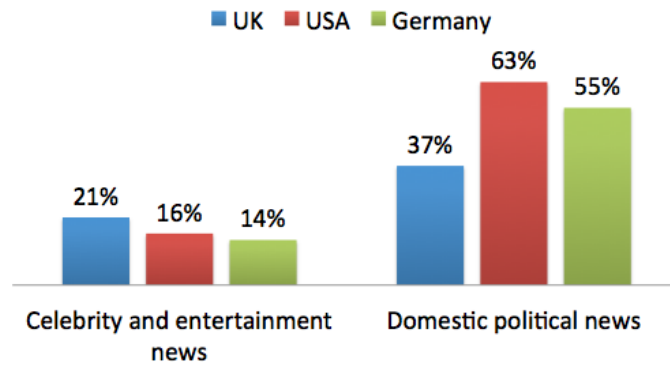

1.1a.   Daily news access by country
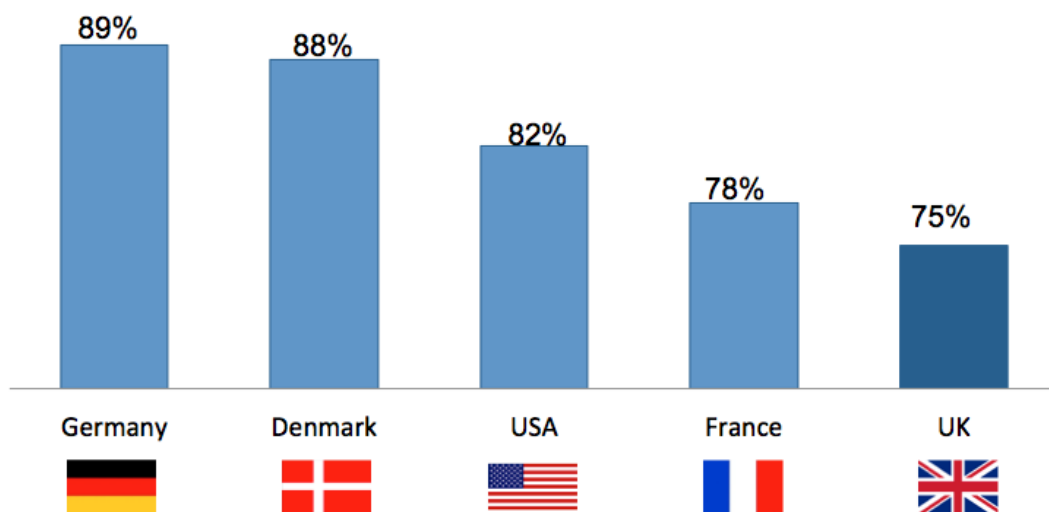
Q1c Typically, how often do you access news. By news we mean UK, international, national, regional/local news and other topical events accessed via radio, TV, newspaper or online?
Base UK (n=2173) Denmark (n=1002) France (n=1011) Germany (n=970) USA (n=814)

© The Reuters Institute Digital News Report 2012 - polling by YouGov

(Source: Reuters Institute for the Study of Journalism, *Reuters Institute Digital News*

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Report 2012: *Tracking the Future of News*, edited by Nic Newman. Oxford: Reuters Institute, 2012, 21).

1.4b.   Interest in politics vs interest in celebrity: How the UK compares

■ UK   ■ USA   ■ Germany

Celebrity and entertainment news: UK 21%, USA 16%, Germany 14%

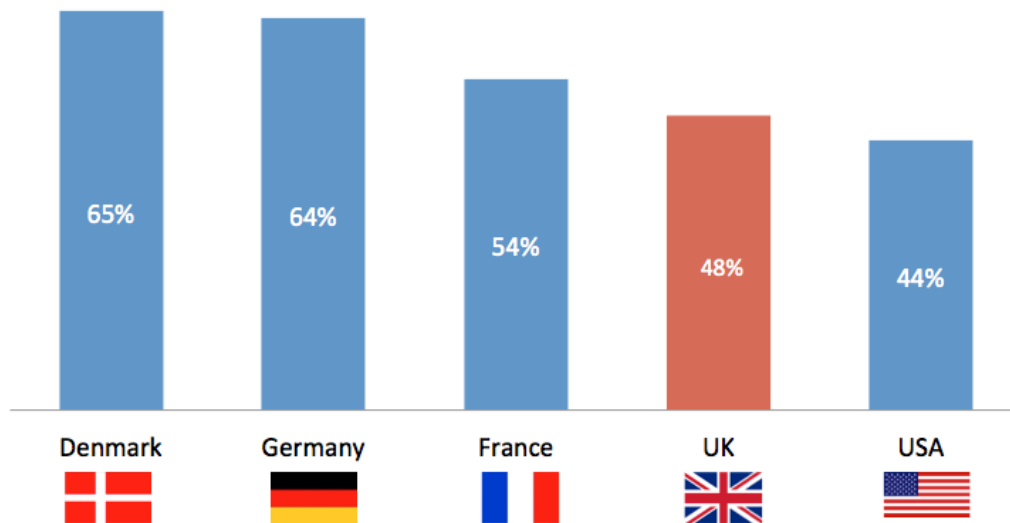Domestic political news: UK 37%, USA 63%, Germany 55%

Q2 **Which of the following types of news is most important to you?**
Base *UK (n=2173) Germany (n=970) USA (n=814)*

© The Reuters Institute Digital News Report 2012 - polling by YouGov

(Source: Reuters Institute for the Study of Journalism, *Reuters Institute Digital News Report 2012*: *Tracking the Future of News*, edited by Nic Newman. Oxford: Reuters Institute, 2012, 32).

Although not as popular as domestic news, international news – frequently a topic of interest to photojournalists – retains a significant audience:

Interest in international news by country

Denmark 65% | Germany 64% | France 54% | UK 48% | USA 44%

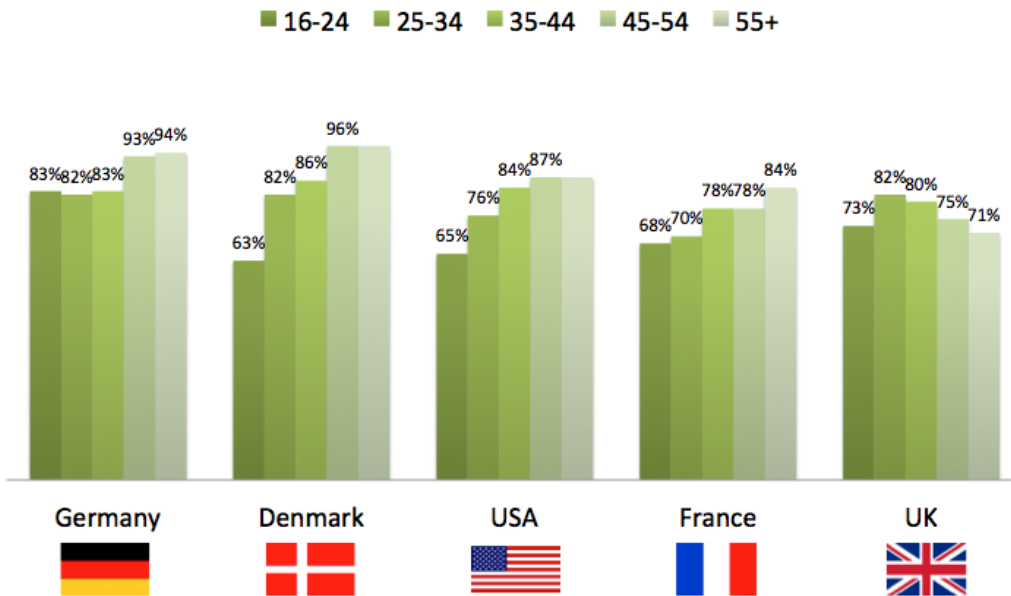Q2 **Which of the following types of news is most important to you?**
Base UK *(n=2173)* Denmark *(n=1002)* France *(n=1011)* Germany *(n=970)* USA *(n=814)*

© The Reuters Institute Digital News Report 2012 - polling by YouGov

(Source: Reuters Institute for the Study of Journalism, *Reuters Institute Digital News Report 2012*: *Tracking the Future of News*, edited by Nic Newman. Oxford: Reuters Institute, 2012, 57).

Another common view is that interest in the news is shifting proportionately with age, with the young today less interested than the old, and thereby suggesting that the future for news producers is grim as uninterested consumers grow older. Some American reports highlight the fact that "a sizable minority [c. 29%] of young people continues to go newsless on a typical day,"[20] but at least two-thirds of the 16-24 age group remain interested in the news, which suggests the future is not indisputably bleak:

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1.1c. Daily news access by age

■ 16-24   ■ 25-34   ■ 35-44   ■ 45-54   ■ 55+

Germany: 83% 82% 83% 93% 94%

Denmark: 63% 82% 86% 96%

USA: 65% 76% 84% 87%

France: 68% 70% 78% 78% 84%

UK: 73% 82% 80% 75% 71%

Germany   Denmark   USA   France   UK

(Source: Reuters Institute for the Study of Journalism, *Reuters Institute Digital News Report 2012*: *Tracking the Future of News*, edited by Nic Newman. Oxford: Reuters Institute, 2012, 21).

Declining print consumption in the context of a strong appetite for news in Europe and the United States leads to online sources becoming increasingly important for news consumers. A US graph shows this:

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1-digital grows again as a source for news

Digital Grows Again as a Source for News

Percentage of Respondents Who Got News "Yesterday" From Each Platform
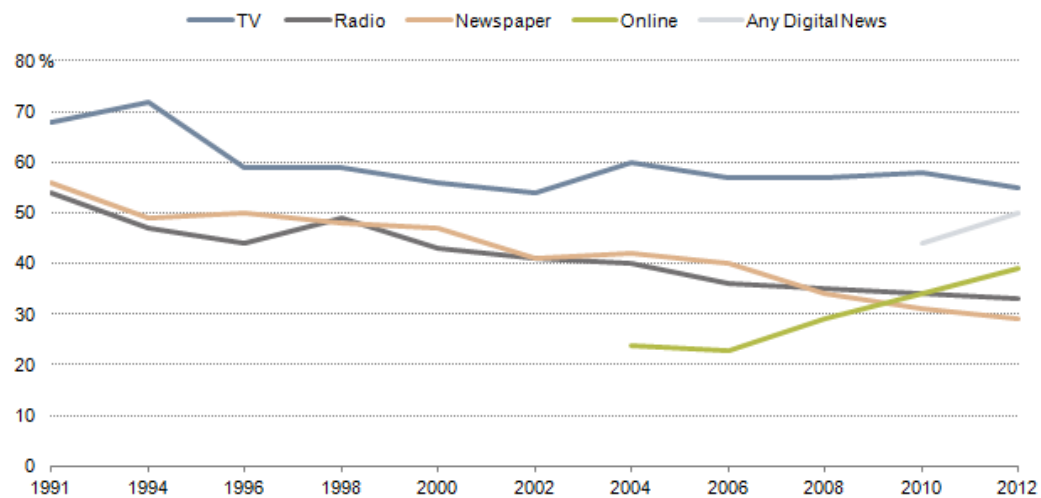
Source: Pew Research Center

PEW RESEARCH CENTER
2013 STATE OF THE NEWS MEDIA

Online sources were the only category that showed growth in the US.[21] There has, however, been little change in the websites people use, with traditional players like Yahoo (mentioned by 26% of online news users) and other established brands the top destination.[22] It is likely that people who consume news at work fuel this popularity, because they make regular and quick visits to sites throughout the day. Such consumers tend to favour short text items, making live-blogging one of the most popular news styles in the UK.[23]

A key driver in the growth of digital as a news source is the global spread of mobile technology. By 2017 there will be 5.2 billion mobile users worldwide. According to a Cisco executive:

> By 2017, global mobile data traffic will continue its truly remarkable growth, increasing 13-fold over the next five years, to reach an amount more than 46 times the total amount of mobile IP traffic just a few years ago in 2010. With such dramatic adoption, we are rapidly approaching the time when nearly every network experience will be a mobile one and, more often than not, a visual one as well.[24]

In the US, smartphones have outpaced almost every other technology in the speed of mainstream adoption, and the proliferation of devices for accessing the web enables

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multiplatform consumption.[25] Instead of one technology killing off and totally replacing another – although print seems to be in irreversible decline – people are now getting their news through a combination of different new devices and traditional sources. Nearly all media organisations produce mobile content, and those like *The Guardian* and *The Wall Street Journal* are seeing one-third of their readers coming in via mobile devices and the number is growing rapidly.[26] Related to the growth in mobile is the number of Americans – not just the young - who access news via social networks, which increased from 9% in 2010 to 19% in 2012. In the UK, social networks are equally important, with the Reuters Institute reporting that they provide the gateway to news for 20% of users.[27]

5-more people getting news on social networks
More People Getting News on Social Networks
Percentage of Respondents
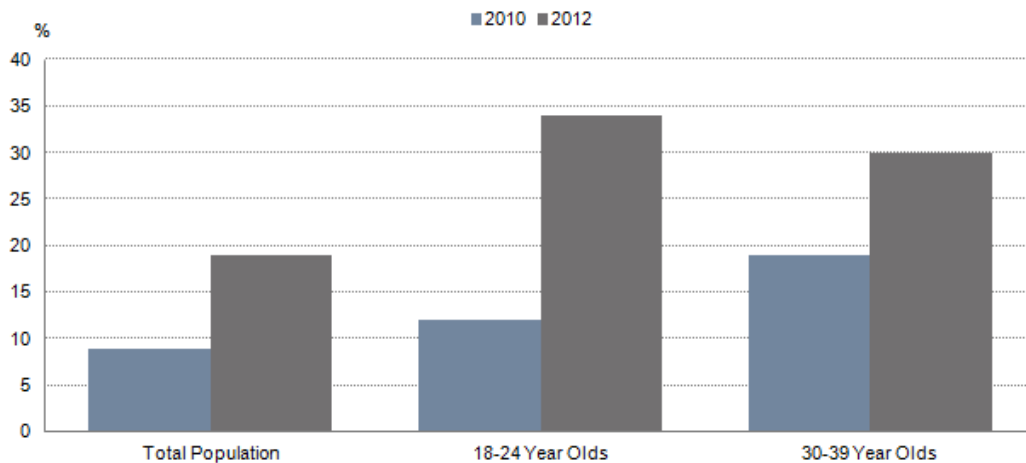
Source: Pew Research Center

PEW RESEARCH CENTER
2013 STATE OF THE NEWS MEDIA

Consumers say that news is one of their main interests when using mobile devices (tying with email and games as the favourite activity), and that mobile access is increasing their overall news consumption – "more than four in ten mobile news consumers say they are getting more news now and nearly a third say they are adding new sources."[28] And it is not just headlines and summaries they are interested in - many also read longer news stories – 73% of adults who consume news on their tablet read in-depth articles at least sometimes, including 19% who do so daily. A full 61% of smartphone news consumers at least sometimes read longer stories, 11% regularly."[29] Raju Narisetti of *The Wall Street Journal* noted that engagement through their iPad app was very high: "people spend as much time as they do with the paper, which is in the

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high 40-50 minutes on it."[30]

Interestingly, although mobile devices enable people to get news anywhere, most consumers use these devices in their home rather than on the move. According to Pew, when they are accessing news they favour the web browser over native apps, a trend that is increasing (60% of smartphone users prefer the browser, 28% use apps, and 11% use both). Reporting on UK habits, the Reuters Institute recorded higher numbers for apps – while browser use was significant, 57% of smartphone users relied on apps for their main mobile news access. In the US, those who use apps, alone or in combination with the browser, are more engaged with the news content.[31]

One of the features of the mobile market that storytellers need to consider is the proportion controlled by different operating systems. In the third quarter of 2012, Android had outpaced Apple massively, with a 72% global market share to 14% for iOS. In China, Android's dominance is even greater, at 90% of the market. However, data on the browsers used for mobile web access show that Apple's Safari dominates (increasing recently to 61% of traffic), which indicates that the capacity of many Android smartphones is not fully used.[32] And in terms of monetization, according to Raju Narisetti, iOS is more important:

> I think we have cracked neither the experience nor the pay models in Android mobile devices. We have naturally gravitated towards iOS because people are showing a willingness to pay. But the world growth in mobile is increasingly happening, especially outside the U.S., on Android. I really think we need to both provide amazing experiences and monetize that better.[33]

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3. The rise of multimedia in online news

As people have migrated online for news they have also increasingly encountered "multimedia." From at least the mid-1990s, news websites have employed different modes of reporting that utilize digital technologies. MSNBC.com and Sweden's Aftonbladet.se were early starters, the BBC News website has been hosting "News in Video" and "News in Audio" since its launch in 1997, and *The Guardian* website has offered audio and 'interactive guides' – which combined multiple media in clickable Flash movies – from 2000 onwards.[34] That was also the year *The New York Times* began publishing stories categorized as "multimedia" on nytimes.com.[35]

One of the issues with these early forays was the relationship to the dominant, traditional mode of reporting. Was multimedia content delivering something new, or was it seen as additional to established practice? In one of the few detailed studies of multimedia content of a news site, Jacobsen analysed the content on nytimes.com between 2000-2008. She found 25,000 packages that had been published, of which 479 (1.9%) were evaluated in detail. Jacobsen concluded "most packages were produced as sidebars to stories published in the newspaper, suggesting that multimedia was used as an extension of the written word, not as a primary storytelling format."[36]

Between 2000 and 2008, *The New York Times* divided multimedia packages into four distinct categories: Video, Audio, Slide Show and Interactive Features. The Audio-only presentation dried up around 2004, and photo slideshows with audio (distinct from slideshows with images only) were then classified as Interactive Features.[37]
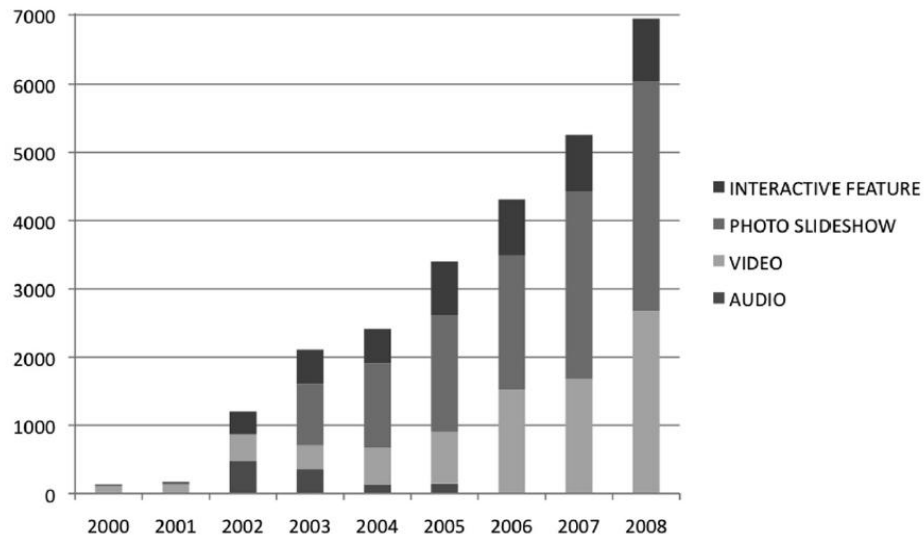
Figure 1. Total number of multimedia packages published on nytimes.com 2000–2008, based on results from the multimedia search option on nytimes.com.

(Source: Susan Jacobsen, "Transcoding the news: An investigation into multimedia journalism published on nytimes.com 2000−2008, *New Media Society* 14 *(*2012), 872).

The popularity of video and photo slideshows at nytimes.com is indicative of a trend that continues with other media organizations to date. Although there is widespread experimentation with different formats, according to respondents to our questionnaire, linear video and photos slideshows remain the most common and popular formats (though the majority did not provide specific numbers). The number of packages being produced varies greatly, from just a few each month to 25 per week. Even at the upper end of that spectrum, in terms of the higher numbers reported by organisations like *The Daily Telegraph* in the UK, multimedia content at present remains a much smaller component of a news web sites than text articles.[38] One of the obstacles to increased use of multimedia content are the legacy content management systems and workflow of many news organisations which make simple tasks like embedding video on home pages surprisingly difficult.[39]

Online news video is currently the fastest growing multimedia format. Online video in general is exploding, with YouTube (which only launched in 2005) hosting more than 40% of all online video, and recording 1 billion visitors a month, 70% of whom originate outside the US.[40] While such macro data only indicates the potential audience for all forms of content, news is a popular category on YouTube, with news events the most searched for items in four out of 12 months in 2011. The most popular news videos in that period were a mix of raw and edited footage, with 39% of those uploaded by "citizens". Of the 51% carrying news organisation logos, many included "citizen"

footage. This is evidence of a change in the ecology of news:

> The data reveal that a complex, symbiotic relationship has developed between citizens and news organizations on YouTube, a relationship that comes close to the continuous journalistic "dialogue" many observers predicted would become the new journalism online. Citizens are creating their own videos about news and posting them. They are also actively sharing news videos produced by journalism professionals. And news organizations are taking advantage of citizen content and incorporating it into their journalism. Consumers, in turn, seem to be embracing the interplay in what they watch and share, creating a new kind of television news.[41]

Significantly, there was no strict correlation between video length and popularity. The length of YouTube's most popular news videos was fairly evenly distributed — from under a minute (29%), to one to two minutes (21%), two to five minutes (33%) and longer than five (18%).

Media organisations that are increasing their online presence are producing more and more online video. Brightcove, a professional video distribution platform, reported in the third quarter of 2010 that newspapers using their service streamed more (but shorter) video than TV broadcasters:

> Newspapers saw significant growth in the number of titles uploaded (51% growth) and surpassed broadcasters in total minutes streamed for the first time this quarter. This is an interesting development, and suggests that newspapers are rapidly adopting and producing video content for what was once a print business. This data also bears out the distinct differences in the content between the two verticals: broadcasters have fewer but longer titles, while newspapers are producing many more, but shorter titles on a more regular basis.[42]

The New York Times and *The Wall Street Journal* are among those expanding video production for their sites (although smaller US papers are reducing their commitment because of cost). Video has been part of the *Times* multimedia armoury since at least 2005, and it now produces about 3-5 videos on a typical day, totalling some 120 videos per month. According to ComScore, the *Times* had 561,000 viewers and 1.6 million video views in June 2012.[43]

The Wall Street Journal has been involved in video since 2009 and regards itself as "probably the largest generator of web video for any newsroom in the world outside of television." It produces about 1,600 videos a month, amounting to 120 hours of video viewing.[44] *WSJ Live* is the organisation's video hub, where many of the stories are very short (maximum 45 second) on-camera reports by their journalists, who use the Tout video app and upload their videos to a dedicated section called *WorldStream. The Wall Street Journal* says its video viewership totals 30-35 million streams per month, which according to ComScore represented 1.3 million viewers in June 2012.[45] With video drawing this large an audience, *The Wall Street Journal* is using advertising to support its business model. Even though half of the video views occur as embedded viewings on other platforms, it works for them, as the pre-roll commercials are built into the presentation.[46]

In China news organisations are also using video extensively. The *Southern Metropolis Daily* (*Nanfung Dushi Bao*) in Guangzhou entered the multimedia realm in 2008, and news and documentary video is part of their output. Each week they produce four five-minute and one 24-minute news and documentary videos, and three five-minute videos on entertainment stories. The newspaper sometimes collaborates with local TV stations, and sells its video content to other outlets for additional revenue. The long form videos are part of their "Deep Breath" documentary strand, which has more than 3,650,000 views on Youku, and nearly 9,000,000 views and shares on Weibo, in addition to the 50,000 views on their own website. Yange Entze's story "Dreams on Freewheels" – a winner in the 2013 World Press Photo Multimedia contest – was a "Deep Breath" production, and reached 20,000 views on Youku and more than 10,000 views on Weibo.

Other Chinese media organisations are also occasionally producing interesting long form stories. The Shanghai *Oriental Morning Post's* (*Dongfung Zao Bao*) production "On the Wheel," covering motorcycle riding migrant workers who made a 1,350km journey home for the New Year festivities, is worth mentioning, even if the newspaper has not followed with other productions. A team of five reporters followed two individuals and produced an eight-page story with infographics, various videos (including a 13-minute version for Youku and a 55-minute version for broadcast TV), and also ran a live micro-blogging stream on Weibo. Costing 60,000RMB (c. US$10,000) above and beyond the journalists' salaries – and supported in part by corporate sponsorship – the Yukou version achieved 3.34 million views.

These examples underscore the fact that there are variable audiences but no strict correlation between video length and popularity. If viewers are interested they will watch. Ooyala streams 1 billion videos a month for companies like *The Daily Telegraph* in the UK, and, according to their analysis of the viewing habits of nearly 200 million unique viewers in 130 countries, long form (over 10 minutes) video was very popular.[47] While this does not mean viewers will spend an equal amount of time watching every long form piece, it is clear that people are prepared to give their attention and time to video when it engages them.
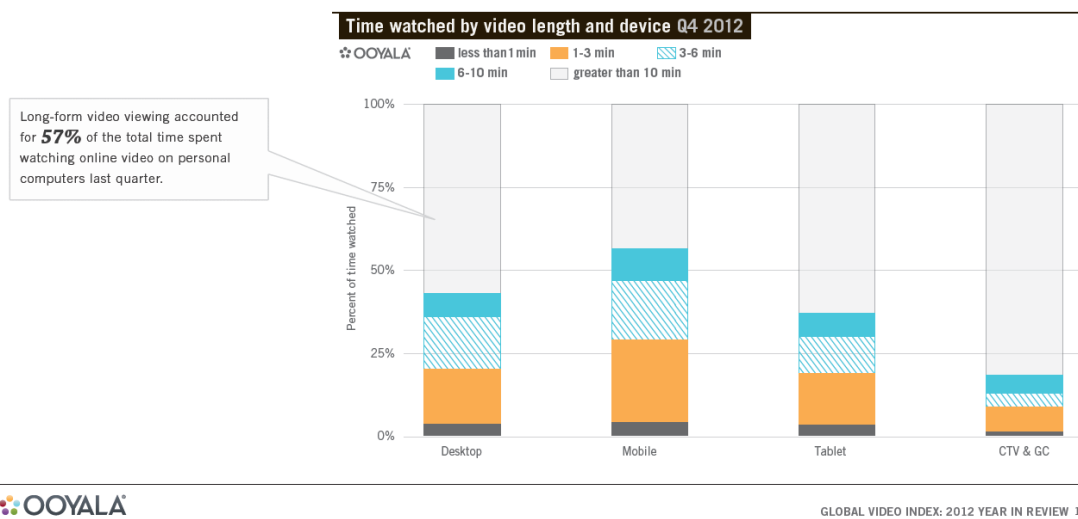
This conclusion is supported by data from MediaStorm. They have found very large audiences for their stories (which they call "publications"), with users viewing them years after the original release date, thereby demonstrating that high quality storytelling has a very long afterlife on the web. (Panos Pictures has also noted the importance of this afterlife: they have seen an initial two to three week peak period of high level viewing immediately following release which then declines to a long tail of lower viewing numbers that nonetheless does not significantly fall over time. Later viewing peaks, again of two to three weeks, will occur each time a story is embedded somewhere else).

A good-sized audience can also be achieved quickly. For example, with distribution partnerships in place, Walter Astrada's "Undesired" attracted a six-figure audience in the first week of its release. Online audience for a story like Danny Wilcox Frazier's "Driftless" can at the outset be twenty times as large as for a print publication, and have the potential to replicate print run numbers on a daily basis. Importantly, people seem

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to be undeterred by the length of some of the stories. More than half, and often two thirds, of those viewing MediaStorm publications online stay with them to the end, even with running lengths up to twenty or more minutes.

The shift to online news sources, the growth of mobile platforms, the rise of multimedia and the expansion of video output are both cause and effect of the fact that the screen has become the dominant access point for much news and information. A 2012 study (probably overstating the numbers but still pointing to an important trend), found that 90% of media interactions by Americans were screen based. Screen devices were used both sequentially and simultaneously, and the study concluded that smartphones were the backbone of daily media interactions, the most common starting point for activities, and the most common companions in sequential use.[48]

This section has answered some of the study's key questions about who is producing multimedia, and how it is being published and distributed. The largest producers are the organisations formerly known as newspapers, television or radio networks, many of whom have made a significant move to online video. At the same time, "citizens" have become major producers, contributing nearly four out of every ten news videos on YouTube. Work by creative individuals is readily found on sites like Vimeo.[49] Finally, there are the production groups (including, but not limited to, Bombay Flying Club, Chewbahat, duckrabbit, Frog in a tent, Honkytonk Films, MediaStorm, Panos Pictures, Story4, StoryMineMedia, Straw Hat Visuals, Upian). They are perhaps the best known within the photographic community, but it is very difficult to quantify the contribution of the creative individuals and the production groups. It is in any case considerably smaller in output than that of either media organisations or individuals. The largest publishers and distributors of multimedia are the organisations formerly known as newspapers, television or radio networks, but as publication and distribution is overwhelmingly web based, they are also actively employing social media platforms that they do not own and control.

Up to this point, the analysis could seem to suggest that online sources are distinct and separate competitors of traditional media organisations. But as the next section will make clear, and we need to understand the depth of the revolution now taking place, we have seen a fundamental change in the media environment rather than just the introduction of a new player to the field.

4. Disruption and disaggregation in the new media economy

> Change is hard. Dealing with disruptive technologies left and right requires a lot of energy, a lot of imagination. And every institution like ours deals with it. Just as we've mastered the Web, we then are faced with a completely new environment in which people are getting information on their phones. Tablets are now creating their own different types of use cases and consumption. Social media came out of nowhere. If you and I had this conversation four years ago, we wouldn't be talking about Twitter. Maybe we'd be talking about smart phones, but we wouldn't be talking about tablets. The pace of change gets faster and faster. The disruptions come more quickly.
>
> *Jim Roberts, The New York Times[50]*

Disruption is not just competition. Disruption is when a field or an industry sees "a new class of competitors created when technology enables new players to compete with incumbents on terms the incumbent isn't used to."[51] There is no question that the Internet, especially given the exponential growth in global IP traffic, is fuelling disruption.[52] The Intel graphic on 'what happens in an Internet minute' attempts to visualise what goes on in an instant of that global IP traffic, all of which has led to deep and profound disruption across many sectors. However, we should not overlook the fact that Internet penetration is unevenly distributed both across the globe and within countries, making disruption a global but not universal phenomenon.[53]
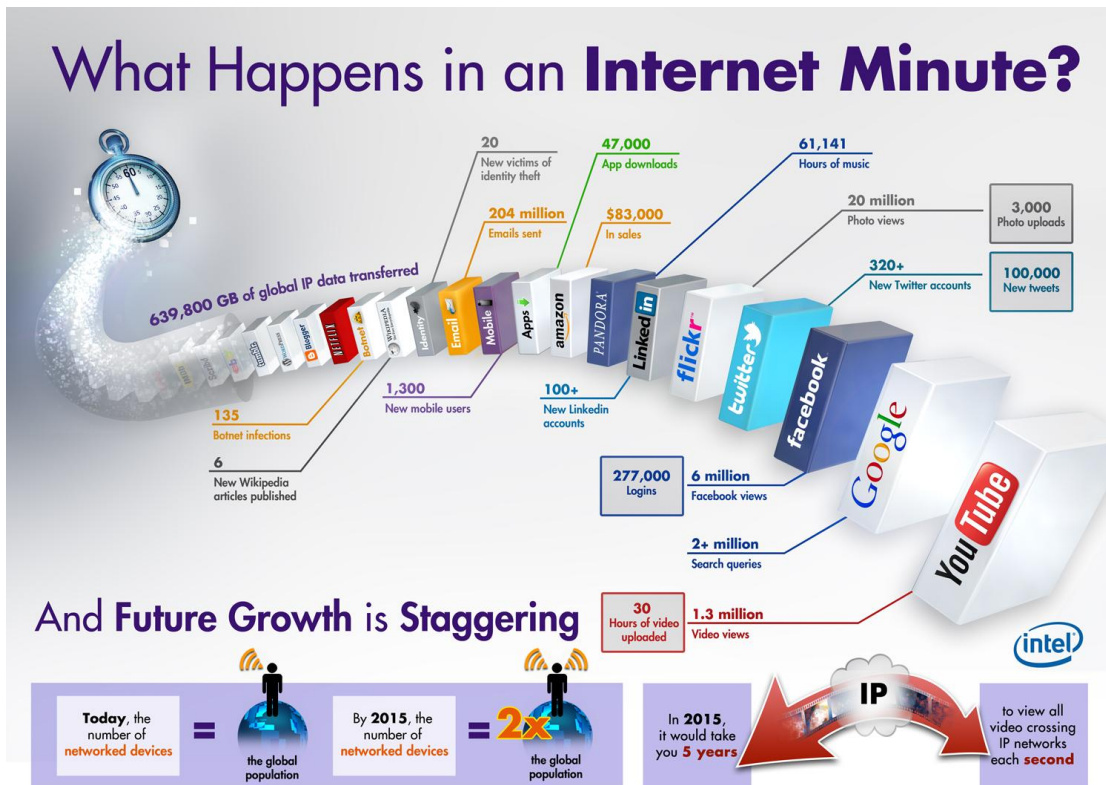
(Source: Krystal Temple, "What Happens in an Internet Minute," 13 March 2012, http://scoop.intel.com/what-happens-in-an-internet-minute/)

Disruption in the media economy has changed the playing field because "the arrival of the internet did not herald a new entrant in the news ecosystem. It heralded a new ecosystem, full stop."[54] The Internet – and more specifically, the web and the digital space that is built on the Internet – is therefore not a competitor that stands separate from the traditional media institutions. Its dynamics have created something new that encompasses all who exist in the news ecosystem, including the traditional institutions. This means that it no longer makes sense to speak of a traditional, print based media opposed to a digital competitor. There is no such thing as traditional media any longer, even if print remains a mode of distribution for some.[55] This repositioned understanding is the foundation upon which new models in the media economy have to be built.

The metaphor of the ecosystem and ecology is important here because it reflects the way the media economy is made up of networks through which news and information is produced, distributed and consumed. How can we understand the impact disruption has had on the ecology of news? The defining characteristic of the new media economy is "the separation of information from its means of distribution."[56] This means:

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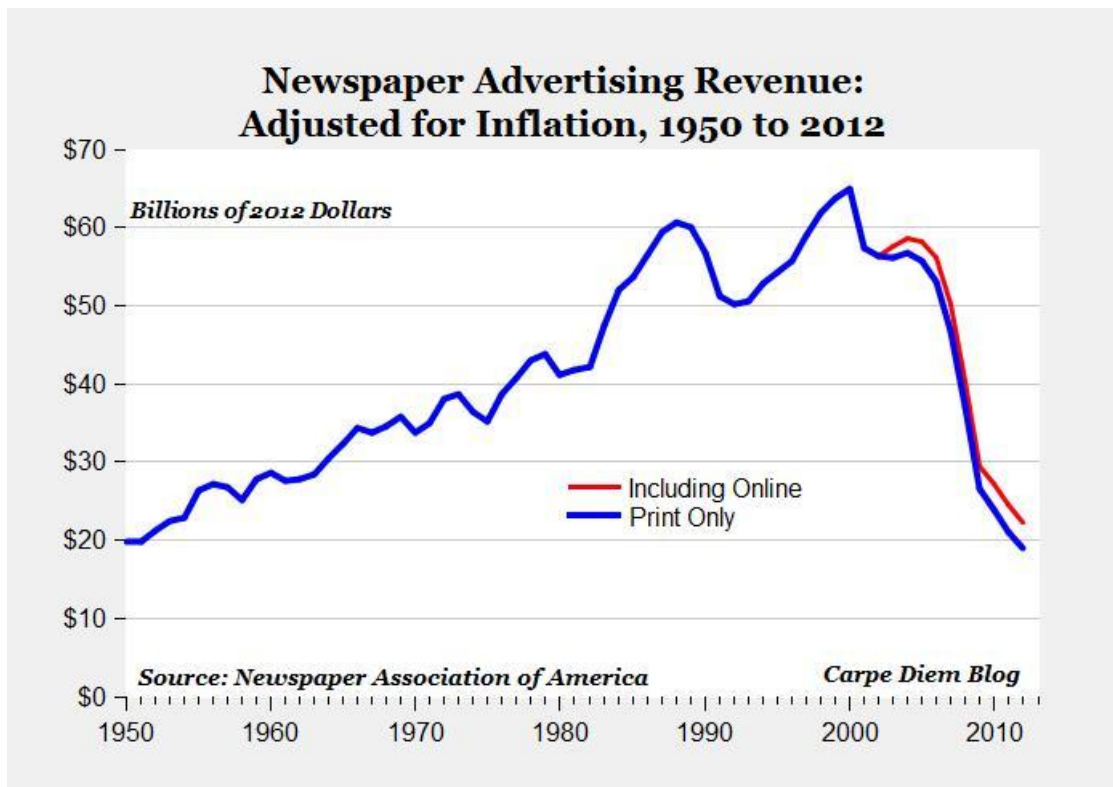
Everybody suddenly got a lot more freedom. The newsmakers, the advertisers, the startups, and, especially, the people formerly known as the audience have all been given new freedom to communicate, narrowly and broadly, outside the old strictures of the broadcast and publishing models. The past 15 years have seen an explosion of new tools and techniques, and, more importantly, new assumptions and expectations, and these changes have wrecked the old clarity.[57]

These changes have also produced new understandings about the past that are pivotal in charting a better course for journalism now and in the future. The first new understanding relates to how we used to pay for journalism. With the exception of state media, paid for and directed by governments, media organisations have always operated in some form of market. In the market, most private media organisations have operated as businesses, but they have not been in the business of journalism. Rather, they have been in the business of advertising. The mass media model has focused on two sources of revenue – small cover charges or subscription fees from the audience and the sale of advertising space. Advertising has been the most significant, accounting for upwards of 80% of revenue for most newspapers. That revenue has then funded the journalism, although the cost of providing journalism has never been the main expense for mass media companies. Legacy organisations spend only 15% of their budget on news, with the remainder consumed by the management and operation of the distribution model.[58]

This means that, firstly, journalism (the reporting, the stories, the pictorial coverage) has never been a viable, stand-alone product. In the mass media model it has never paid for itself directly and its users have never directly paid for all of it. Secondly, and as a result of the above, the journalism that so many rightly want to protect and make prosper has always been subsidised by indirect sources. As the *Post-Industrial Journalism* report concluded, "good journalism has always been subsidized; markets have never supplied as much news as democracy demands."[59]

It is the indirect subsidy via advertising that created the culture of "free", the expectation of free access to daily news that many now believe imperils journalism. While this culture is regularly claimed to be solely a by-product of the Internet and adhered to by those who have grown up with it, it is the traditional media institutions themselves that have promulgated the relationship with free. It is the newspapers that

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relied predominantly on advertising for revenue and charged only a nominal cover price, and it is the radio and television broadcasters styled as "free to air" or "free to view" providers, who did not charge users at the point of consumption, effectively hiding the cost of journalism from consumers. If one set of data symbolises the financial crisis in the media economy, it is the collapse of advertising revenue in the US:

Newspaper Advertising Revenue: Adjusted for Inflation, 1950 to 2012

Billions of 2012 Dollars

Including Online
Print Only

Source: Newspaper Association of America   Carpe Diem Blog

(Source: Mark J. Perry, "Free-fall: Adjusted for inflation, print newspaper advertising will be lower this year than in 1950," 8 April 2013, http://www.aei-ideas.org/2013/04/free-fall-adjusted-for-inflation-print-newspaper-advertising-in-2012-was-lower-than-in-1950/)

If we date the start of the continuing decline of newspaper circulation in the 1950s and the collapse of advertising revenue from 2000 onwards, it becomes clear that the Internet cannot be the sole source of traditional media's disruption. However, the migration of various functions to the web has put further pressure on the media's economic base. As the web is a structurally open system – meaning anyone can for very low cost publish and distribute information – it has altered the parameters of the media economy from scarcity to abundance. This has been well described by Nicholas Carr:

> As the Internet becomes our universal medium, it is reshaping what might be called the economics of culture. Because most common cultural goods consist of words, images, or sounds, which all can be expressed in digital form, they

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are becoming as cheap to reproduce and distribute as any other information product. Many of them are also becoming easier to create, thanks to the software and storage services provided through the Net and inexpensive production tools like camcorders, microphones, digital cameras, and scanners….The shift from scarcity to abundance in media means that, when it comes to deciding what to read, watch, and listen to, we have far more choices than our parents or grandparents did.[60]

Of course, this does not directly address important issues around the credibility, legitimacy and quality of cultural goods produced in abundance, but neither should we assume the new economics of culture automatically mean a reduction in quality. There are many non-professionals who are producing excellent journalism, and many professionals whose journalism leaves something to be desired. As the Columbia University report argues, "the reality is that most journalists at most newspapers do not spend most of their time conducting anything like empirically robust forms of evidence gathering. Like the historical fallacy of a journalistic 'golden age,' the belief in the value of original reporting often exceeds the volume at which it is actually produced."[61]

Traditional media institutions have depended upon the structure of scarcity that is now being undermined. The capital costs of print production and broadcast, combined with the regulatory controls that limited access to the airwaves, meant that media companies operated in a context of artificial and protected scarcity. They were the intermediaries – the only intermediaries – that could connect advertisers and consumers through the attraction of editorial content.[62] As such they could charge very high rates for advertising, but once the structure of scarcity is replaced by an ecosystem of abundance - once the Internet serves to change market relations by removing the power of intermediaries (the dynamic of "disintermediation") - that capacity falls away.

The role of media as intermediaries in a market based on scarcity shaped the form in which journalism appeared. Attracting the highest number of readers generally depended on offering the widest range of content in a "balanced" or "objective" way, so newspapers became a "bundled" or "packaged" product and journalism found its home within those bundles or packages.[63] As well as disrupting the economic base of media, the move from scarcity to abundance has disaggregated the forms of media. As a 2009 *Economist* article on the state of the news declared:

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A newspaper is a package of content – politics, sport, share prices, weather and so forth – which exists to attract eyeballs to advertisements. Unfortunately for newspapers, the internet is better at delivering some of that than paper is. It is easier to search through job and property listings on the web, so classified advertising and its associated revenue is migrating onto the internet. Some content, too, works better on the internet—news and share prices can be more frequently updated, weather can be more geographically specific—so readers are migrating too. The package is thus being picked apart.[64]

This disaggregation lies behind the rise of online news sources. But disaggregation has also affected the structure and process of information in all sectors. It is changing what have been called the "atomic units" of established modes of information, and unbundling traditional modes of distribution. We are seeing the disaggregation of formats we have taken to be natural
:

- the disaggregation of newspapers and magazines to stories that can be circulated or linked to individually;
- the disaggregation of albums to individual downloads in music;
- the disaggregation of broadcast stations and fixed schedules to personal streams that can be consumed anywhere and anytime.

The idea of the "stream" is significant here. It emphasizes the process rather than the product, because, once disaggregated, content can be updated. However, disaggregation does not mean that things dissolve into a formless universe. They are re-aggregated, and it happens increasingly through social networks.

The disruption and disaggregation of traditional media offers new opportunities to media organisations that want to ask what they can do for news consumers. Businesses regularly develop strategy by thinking about the market for their product by correlating product sales or service with the attributes of the purchaser (such as age, gender, income level, and education level). There is, however, a different starting point that involves looking at what people actually do, how they use goods and services, and then asking what they actually want? Getting at what they want involves thinking about the jobs people want done.

Derived from Clay Christensen's thinking, and recently applied to US news media, the basic idea of this approach "is that people don't go around looking for products to buy.

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Instead, they take life as it comes and when they encounter a problem, they look for a solution—and at that point, they'll hire a product or service."[65] In the context of journalism, questions that different news consumers might pose at different times include "how can I be informed in my 10 minute break," or "how can I be intellectually stimulated on a long flight," or "how can I find out what is really happening in X"?

Some of those questions are answered by reviewing, as in Section 2 above, how people access information. The next step in this thinking is to review ethnographic research (which uses qualitative methods rather than survey data to closely examine how people use media). Two reports commissioned by the Associated Press in 2008 and 2010 provide some revealing insights. Following the move to online news sources, the AP assumed "people probably wanted more short blasts of news because that's what all the Internet tools were built to deliver." What they found was that, firstly, old models for packaging and delivering news were not connecting with younger audiences; secondly, "subjects were overloaded with facts and updates and were having trouble moving more deeply into the background and resolution of news stories", and; thirdly, people wanted more breadth, more context, more depth and were trying to find it.[66]

This desire was evident in two other studies. An analysis of what teenagers wanted from news sites echoed some of these concerns. Instead of diluting the news, the recommendation was to be bolder, taking into account three things: stories with photo illustrations that explained what was going on and why it mattered; visual enticements to go deeper; and story-level pages that would richly supplement the news with background material and other insights, "all displayed in manageable chunks with multiple entry points and plenty of visuals."[67] An analysis of competing digital story formats found similarly that "Topic-Organized Facts and Links," providing access to background and context, was by far the favourite approach of those we tested."[68] A number of EyeTrack studies over the years, most recently involving tablets, have established that while people scan both print pages and web sites, they often are drawn to stories through a dominant, graphic element, especially a photograph.[69] And the Deloitte study on news video found respondents liked video because of the depth it added to online news stories.[70]

Together these analyses offer an encouraging response to the question of what people want from their information. The next section looks at how we new story structures enabled by the new media economy can potentially respond to these desires.

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5. New story structures

With the disaggregation and unbundling of traditional story forms, and thanks to the proliferation of new storytelling platforms and technologies, we now have a unique opportunity to rethink how information is best presented and distributed on and for digital screens. We can experiment with what an 'article', a 'page', a 'magazine', or a 'book' might be in the new ecology of information.

Adding text to images is perhaps the most obvious and basic form of "multimedia" and is hardly novel. But the incorporation of text into images to provide context can now be achieved in new ways, and it builds on the concept of "hyperphotography" developed by Fred Ritchin.[71]

Hyperphotography is a "paradigm shift into another medium, or more precisely into an interactive, networked multimedia, which distances itself from conventional photography." It means, "an entire photograph can…serve as a node, a hyperphotograph, an ambiguous, visual, uncaptioned, tantalizing segment of a developing conversation leading, if the reader is willing, to other photographs, other media, other ideas."[72] Hyperphotography has practical implications for how information can be embedded in images, offering viewers the option of deciding which links they follow in a non-linear fashion:

> a new photographic template for the digital environment could be devised in which information is hidden in all the four corners of the image so that those interested could make it visible by placing the cursor over each corner to create a roll-over. The bottom right corner might contain issues of authorship and copyright; the bottom left could contain the caption and amplifying comments by the photographer; the upper right could give information as to how the reader can become involved, help, learn more, by providing web addresses and other guidance.[73]

Although they don't follow the idea of hyperphotography in detail, some features of the World Press Photo 12 Contest app (with icons taking you to captions, photographer interviews, and technical information), and the Reuters *Wider Image* app (with its expanded captions and image map), manifest some of its suggestions. Stipple, a commercial plug-in, is very close to these ideas with the capacity to make images interactive, linking to other content.

Slideshows (with either images or audio) sometimes get a bad rap within media circles – "out-dated" is what one of our questionnaire respondents called them. But they remain very popular amongst news consumers and continue to attract considerable traffic to news sites. The 2005 release of *Soundslides* – originally cheap Flash based software that is now iOs and HTML5 compatible – was one of the earliest basic multimedia production tools that required little training to use.[74]

The e-book (in either its epub3 or iBook format) offers new scope for visual storytelling. Examples include "Voices of Haiti," which was recognized as one of the best e-books of the year by Pictures of the Year International Awards (POYi), Robert Leslie's, "Stormbelt," and D J Clark's *China Daily* projects.[75]

Long form narratives can also be produced in other new formats. New publishers like *The Atavist* – which can incorporate multimedia elements – or *Byliner* are testament to how the move to digital has helped long form narrative grow as a genre, presented in variable lengths (5,000 – 30,000 words) that sit between traditional articles and books. As Evan Ratliff of *The Atavist* notes:

> It's remarkable how things have changed just over the past two or three years. When we started, the idea that people wanted to read longform online was assumed to be dubious, if not ludicrous. Really, someone is going to sit at a computer and read a 5,000 word story? Almost no major outlets were doing digitally-original longform work. But the trend in the opposite direction started with the Kindle, accelerated with the iPad, then really took off with read-it-later services like Instapaper, Pocket and best-of selections like Longform. Now that you could read something in your hands, it changed the perspective on whether anyone would read something longer than a couple paragraphs, digitally.[76]

Magazines were quick to experiment with tablets, hoping to recreate scarcity in the digital realm. Sometimes their apps were little more than PDF replicas of the print versions, thereby ignoring the interactive capacity of a tablet.[77] In photography, the iPad version of *The British Journal of Photography* has been successful in terms of downloads, *Inquire* offers strong visual content, but *Once* lasted only twelve months despite having several thousand subscribers, in part because its publishing software made it difficult to redesign content for other mobile platforms.[78]

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Established magazine publishers with well-known titles have also struggled to build mass circulation for their apps. *Wired* magazine, which has a digitally savvy readership, had 33,237 digital-only subscriptions by December 2011, representing just 4.1% of the 812,434 subscribers overall. (*Wired* presents circulation figures differently, claiming 108,622 digital subscribers, but that includes the 68,380 print subscribers who have activated free digital access). *The New Yorker* had 26,880 digital-only subscribers among its one million total subscribers.[79]

Part of the reason behind the relatively low take up of magazine apps is the fact they are limited to specific digital platforms when being able to publish easily across platforms would make more sense. As designer Craig Mod (formerly of Flipboard) argues:

> The whole promise of tablet publishing is to be able to produce your content in one place, and then be able to say 'hey, I'm going to push it out everywhere.' And the nice thing about reading, about text, about magazines, about a collection of articles is that the UX doesn't have to be complex...It's something a publisher shouldn't have to worry about. As a publisher, I don't want to think, OK, I'm pushing out to iOS with one set of rules, and now we have to redesign something and push out another app for Android. You just want one place to build and send your article, send your data, and have it look great on all platforms. That's the dream. We'll be there, soon.[80]

Photojournalists have also experimented with apps for tablets to varying degrees of success. Kadir Van Lohuizen's "Via PanAm" has had more than 3,000 paid downloads and is at the more successful end of the spectrum, while the uptake of Ed Kashi's "Photojournalisms" has left him disappointed and frustrated.[81] But these numbers are small compared to Fotopedia's Wild Friends app, which has been downloaded more than 887,000 times. It offers nature photography for free, creating revenue because it is designed as a gateway to other purchases. However, whether native apps are the best approach for smartphones and tablets is now open to serious debate.

Interactive story telling has a long history outside of the photography world, and offers inspirational techniques for thinking about how information can be presented on the web. Jonathan Harris's "The Whale Hunt, " Upian's "Thanatorama," Katerina Cizek's "Highrise," and "Powering a Nation" from the University of North Carolina at Chapel Hill are notable examples.[82]

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Many of these interactive projects rely on high-level coding skills that, at the very least, would require visual storytellers to collaborate with other experts. Recently, however, a series of new packages make template-based construction of interactive stories possible for those without advanced coding skills – these packages include 3WDOC, Galahad, Klynt, Korsakow, Meograph, Popcorn Maker, republish, Storyplanet, and Zeega. Al Jazeera English are planning a number of future projects using Popcorn Maker, and Storyplanet was selected for Christian Aid's "Big River Rising" and Loonibha Tuladhar, Parmod Karki, and D J Clark's "Sangharsa."[83]

One advantage of these new storytelling packages is that most of them – at least those based on HTML5 - can be accessed across the full range of web interfaces and mobile devices, and thus take advantage of the link economy that is the hallmark of the open web. Native apps run either on Apple's iOS or Google's Android operating system. They are distributed through app stores, the markets are controlled by the owners of the platforms and content can only be viewed on devices running those operating systems. As noted above, Android currently dominates the global market, although iOS punches above its weight because of the likelihood of its users to pay. In both systems, native apps have the advantage of coming with one-click purchase options already built into the mobile platforms, while HTML5 apps will likely have to be supported through advertising, due to the less user-friendly payment systems. HTML5 seems poised to overcome the restrictions that flow from choosing one "walled garden" over another, although that promise is some way away from being fulfilled, as native apps are still more versatile than HTML5 apps. Many believe HTML5 apps will get better, but perhaps not as fast as some HTML5 advocates think.[84]

The contention between native apps and HTML5-powered web apps is part of a larger discussion about the future of the open web. As is often the way in tech commentary, hyperbole rules, and small shifts are read as the birth of one thing and the death of the other. This perhaps explains why *Wired's* Chris Anderson and Michael Wolff argued in that the rise of native apps meant the web was dead, while a few weeks later the *MIT Technology Review* published an article on HTML5 declaring that "the web is reborn."[85] Some major media players are now proceeding in terms of the latter position. *The Financial Times*, which developed native iPhone and iPad apps, has switched to an HTML5 web app optimized for the full range of devices, and can now introduce improvements easily. It then killed its native apps in May 2012 in order to avoid paying Apple its 30% cut for everything sold through the App Store.

Renewed faith in the open web is also advanced by the idea of "responsive design" (sometimes called liquid design") that aims to address the challenge of the growth of the mobile and the resulting proliferation in the number of access points to the web. Responsive design covers a range of means by which the mobile experience is enhanced – web pages can be resized, lower resolution images can be loaded, and multimedia content can be queued until required. The design recognizes specific devices and customized pages or versions of stories can be offered allowing for particular connection speeds. Sites using responsive design – such as *Quartz*, the digital business site from *The Atlantic* – use some of these capacities to deliver content differently for each device.[86] This is important, because as *The Guardian's* Andy Hume has declared:

> The diversity of the web as a platform is only growing…There's real divergence of devices at the moment, we're talking about hundreds of Android devices, a new tablet introduced almost every week. That long-tail of devices is growing very, very fast and I think the only way to deal with that practically is with a responsive design approach, rather than trying to target these individual platforms.[87]

The media industry is only now starting to think about designing for mobile, and it affects story structure as much as it involves technical issues, something that is referred to as "responsive information architecture."[88] Long form narratives that are easy to read across several print pages become a struggle on smartphone screens, even allowing for 'read-it-later' services. For example, *The Washington Post* found that one of its investigative stories took 46 Blackberry screens to read, something only a few would do. Stories formatted for mobile might require a more prominent lede or summary, along with a suggestion to read the full content on a different platform.[89]

All this points to a serious challenge for visual storytellers, the constantly changing technological field. When Apple released the iPad in 2010, the possibilities for new ways of presenting information were tempered by the fact the iPad did not support Flash. Flash has powered a great many creative projects in the past, but it is no longer an option for projects that wanted to be future proofed. In fact, the rise of iOS killed Flash and has, by some accounts, set storytellers back by a decade. Achieving some sort of technological stability for the infrastructure that powers story presentation – while still staying open to creative possibilities brought by new developments – has to be a goal for those interested in making access global and as easy as possible.

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At the same time, it is essential for visual storytellers to pay attention to the latest developments in story presentation. *The New York Times*' "Snow Fall" is a much cited and lauded presentation that embodies some of the conceptual issues around disaggregation. It uses different formats for different devices, and points to a possible future direction.[90] There are other related examples from *The Guardian* and *The Washington Post,* while *The Brunei Times* used a commercial web template to achieve a similar style.[91]

In its first six days online "Snow Fall" achieved 3.5 million page views from 2.9 million visitors, each of whom spent an average 12 minutes on the site.[92] This shows both the power of a compelling story and its novel presentation. "Snow Fall" embodies disaggregation because it frees content from the idea of a web "page" and eliminates pagination in favour of scrolling, thereby creating a stream.[93] The need to click in and out of pages in order to get to additional content is removed, thereby reducing points of friction that might lose readers. The non-textual content (audio, photographs, video etc.) is located within the narrative as presented, ensuring that appropriate technology works in service of the story and increases viewership for its best features.[94] Access to "Snow Fall" was further enhanced, and the mobile reading experience improved, by elements of responsive design, which selected individual story elements to load to particular devices, which meant that mobile access points on slower connection speeds were not overwhelmed by large file sizes.

The New York Times is extending some of the features and lessons of "Snow Fall" in a major re-design of its digital presentation that will go live in the autumn of 2013. The key feature will be a continuous vertical scroll for each story. According to the *Times'* Rob Larson, "we've found that the levels of engagement in terms of time spent and depth of reading increase when it's on a single page."[95] Using responsive design for different screen sizes and optimizing navigation for touch, it will be a stripped down, relatively uncluttered design for the post-PC era that offers an immersive "structure that will make it easier to integrate a wider range of graphics, pictures, video and other rich media experiences."[96]

These experiments with story structure and presentation help point the way forward for multimedia journalism, but how they can be funded sustainably is an important issue.

6. Media economics after disruption

How to pay for the new modes of storytelling in the new media economy remains the most challenging issue. Good journalism has always required subsidy and readers and viewers have never paid directly for all the news and information they consume. Advertising has been the primary source of subsidy for journalism, and the collapse of print advertising that has crippled the traditional business model for large media organisations continues apace, particularly in the US.[97] As the Columbia University report concludes, "what is clear is that the model long adopted by the majority of news outlets—a commercial entity that subsidizes the newsroom with advertising dollars—is in trouble."[98]

Digital advertising is growing, but its benefits are not readily available for news organisations. Good rates for print advertising have depended, as discussed above, on scarcity. But as digital platforms become more important, advertising rates are reduced because "the fundamental trade on scarcity of space cannot hold value in abundant space."[99] While in America digital advertising has grown slowly, and now comprises about 15% of total newspaper ad revenue, the growth does not come close to compensating for losses from print advertising. In 2012 16 print ad dollars were lost for every digital ad dollar gained. That ratio of decline is going to continue because the huge range of new places to advertise – now including sites like Facebook and Twitter – will continue to expand.[100] These are developments that also affect markets beyond North America. It all adds up to a simple conclusion: journalism has to find new sources of subsidy.

To this end, media organisations have turned most commonly to readers and viewers for payment, a strategy often discussed in terms of "paywalls." Many have cited the apparent success of *The New York Times* "meter" which allows readers to access 10 articles/month before asking them to subscribe, and on a couple of measures it has worked well.[101] Digital subscribers have increased quickly to 640,000, and the organisations circulation revenue "now exceeds its advertising revenue, a sea change from the traditional revenue split of as much as 80% advertising dollars to 20% circulation dollars."[102] However, that sea change says as much about the collapse in advertising revenue from more than US$ 2billion in 2007 to US$888 million in 2012.[103] When the organisation has been able to report a profit overall, the figure has been

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achieved through a combination of cost-cutting (including laying off 30 newsroom managers) and asset sales.[104]

Direct reader fees for digital properties are unlikely to exceed 3-5% of overall web users. This low take-up leads a number of people to argue this is a moral issue, although this is not necessarily the most helpful approach for developing a business strategy.[105] While media organisations would unquestionably be better off if more web users subscribed more readily, we need to understand the dynamic behind the low conversion rate from the multitude of web users to a small numbers of subscribers.

The answer lies in the fact that not all web users consume information in the same way, and we need to distinguish between "casual" and "power" consumers of information.[106] More than three-quarters of the traffic to the top 25 American news sites came from casual users who visited just once or twice a month. In most cases they arrived via a link or a search result, read one piece, and moved on to another news source. In contrast, "power users" – people who came to the same news site more than ten times each month, spending more than an hour each month on the site – comprised on average only 7% of the total web readership.[107]

In other words, because of the way people access information online – moving quickly amongst diverse online resources – the loyal, engaged audience is only a very small component of the mass audience.[108] This is another instance of a "power law" on the Internet.[109] People who are willing to pay can be found within such a loyal, engaged audience, and while their money will be a welcome addition to the balance sheet, the income is not enough to reverse the decline in overall revenue.[110] This also means that photojournalists or multimedia producers, who wait for direct reader/viewer fees to enable large media organisations to return to their role of beneficent editorial paymasters, are going to be severely disappointed.[111]

The relationship between casual and power web users is important background for thinking about what counts as multimedia's criteria for success, which includes the issue of analytics. In print media that is usually discussed in terms of circulation and readership of the newspaper or magazine as a whole, with the nature of print consumption making collective data on engagement with individual stories difficult to gather. The web offers greater potential for detailed tracking of how audiences behave, and most media organizations are pursuing a range of metrics to understand how people use their platforms and stories, although there is widespread reluctance to

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share this information publicly. Our questionnaire respondents employed services like Chartbeat and Google Analytics to gather quantitative data including clicks, devices, page views, unique visitors and unique browsers. There are also measures like time on site, video completion rates, and qualitative analyses of commentary and social sharing that followed the publication of a story. Respondents indicated varying degrees of attention being paid to these measures in determining criteria for success, but as one person wrote, "It's hard to quantify how effectively you've moved, informed or entertained your audience, but that is ultimately the goal."

With regard to the economics of journalism, the news is not all bleak. From *De Correspondent* and *De Nieuwe Pers* in the Netherlands, to *Mediapart* in France, and *ProPublica*, *Matter* and *The Magazine* in the US, there is no shortage of experimentation with new ways of producing and funding good journalism.[112] To this end, a global study of 69 profit-making journalism start-ups analysed their business models to see what was working for them.[113] They found that sustainability came, not from some previously unknown, magical revenue stream, but from the way the successful enterprises had diversified their income by connecting existing sources with other resources in new ways. The study concluded that "the five most common mechanisms in use for revenue were…advertising, paying for content, selling data and technology, events, freelancing or consulting." This is illustrated in more detail in the graphic below that offers a comprehensive summary of options adaptable for different realms. However, "there was no single, one-size-fits-all solution but each news provider has to rely on a combination of revenue sources in order to grapple with fragmented media markets, social connectivity and the internationalization of news production."[114]
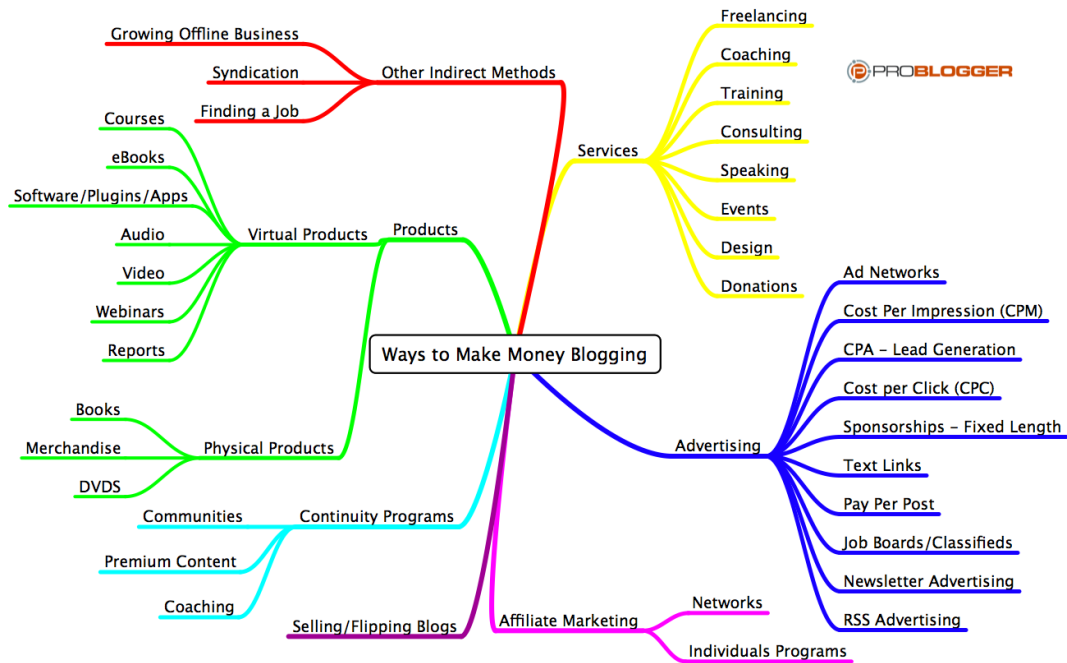
(Source: "Can You REALLY Make Money Blogging? [7 Things I Know About Making Money from Blogging], 28 November 2012, http://www.problogger.net/archives/2012/11/28/can-you-really-make-money-blogging-7-things-i-know-about-making-money-from-blogging/).

Diversifying their income through indirect sources of revenue in order to keep subsidising journalism is also practiced by a number of major media organisations. For example, *The Atlantic* operates a successful events business, using its brand name to run conferences in Washington, DC, New York City and Aspen. This revenue stream has been growing 30% annually; events now make up 16% of *The Atlantic's* revenues, with the prospect of increasing to 20% next year.[115] This has worked on a smaller scale for IDFA DocLab, as well, with live screenings of interactive documentaries. While it might seem counterintuitive to ask people to pay to watch producers show their online projects, sizeable audiences have done so and made these events popular and successful. This demonstrates that when something is scarce and non-fungible (i.e. the live presence of the producer) there is a demand for it.

How do these experiences and examples relate to the all-important question of how to fund visual storytelling?

Diversifying income is not unfamiliar to the photography world. Looking at some of the independent multimedia producers operating today – Bombay Flying Club and

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MediaStorm among them – they succeed through a mix of client commissions (including commercial, foundation, NGO, and media customers) training workshops and materials, software provision, and licensing editorial projects. Partly through choice, NGO and other non-profit sector clients provide the largest revenue stream, often paying more for a project than editorial clients.[116] Producers in some countries, like Canada and France, can profit from government cultural subsidy programmes and institutions to get back large projects.

Editorial clients are still looking for high quality work, and in rare cases, producers have gained up to a third of their income from them. However, the editorial market represents a much smaller revenue stream for most independent producers. At our seminars, a number of them confirmed that only a small part their work (10% or less) was commissioned directly by established media organizations. When such commissions were undertaken, the media organizations had approached individual image-makers directly.

The low level of editorial commissions stems from the fact media organisations overwhelmingly chose to produce their content using in-house salaried staff teams. Most organisations responding to our questionnaire said that 90% to 95% of their work was internally produced, with two organisations reaching a ratio of 70:30 for internal to /external productions. This approach seems likely to continue. Even a magazine like *The New Yorker* has hired a video editor/producer, and when *The Atlantic* outsources productions, they hire a specific company like NowThis News to produce short stories in their distinctive style.[117]

This modus operandi means the freelance market for multimedia is small and specific. When media organisations use freelancers they are tasked to produce assets (audio, video etc.) that are then edited internally. Of course, there are exceptions. There are individuals who are regularly contracted by major news organisations to produce complete stories, the *[GlobalPost](...)* relies on freelancers, and *[Storyhunter](...)* functions as a clearinghouse connecting professional video journalists with global digital publishers.[118]

Freelance rates are generally low. Both *The GlobalPost* and *Storyhunter* pay around US$1000 for a completed 3-5 minute news video, which can increase a little if different versions are reedited for other outlets. Taking the time needed to shoot and produce a story, as well as the lack of a publication guarantee, a freelancer is unlikely to gain a viable monthly income from this level of pay. Participants at our seminars confirmed

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that they were generally offered as little as US$700-800 to license their work, indicating that, except for a very few, the mainstream editorial market is insufficient as their sole source of income.

This means that editorial work has to be pursued differently. Editorial work is an essential element in a freelancer's portfolio and supports a strategy of diversified sources of income. Editorial stories are often high quality work that showcase a producer's ability, and function as an indication of the sort of stories new clients can expect. Editorial stories can also indirectly drive revenue if related content can be purchased. For example, Magnum in Motion found multimedia packages on photographers like Paul Fusco were driving increased book sales.

Finally, the greatest editorial opportunity is to look for editorial work beyond the traditional editorial market. That involves, firstly, thinking about how photojournalism might report and produce stories for television broadcasters or public radio networks.[119] Secondly, it means seeking out organisations (either commercial or non-profit) that are taking charge of their own story and want to produce content but need to outsource the visual journalism.

Offering users the opportunity to pay for unique, high quality content directly is now possible. The power law dynamic that means engaged users are a small fraction of the overall number interested in stories suggests this is unlikely to be a large revenue stream initially, but as mechanisms to ease the friction of paying come into being, new opportunities will emerge. For online video, YouTube subscription channels, Vimeo-on-Demand, Vimeo's Tip Jar, and personal video on demand through Distrify – are existing options.[120] MediaStorm's "pay per story" model did not generate significant income, but it showed a subset of their audience was willing to pay to watch MediaStorm stories.

Making content, especially online video, embeddable without charge on other people's sites is a viable strategy if the embedded content can generate revenue to the creator. In this context, MediaStorm's custom video player is an interesting development (especially as it means the production studio has also become a software company). It allows MediaStorm to distribute their stories across the web and to benefit from others hosting and reframing MediaStorm's content (for example, through being playable on Facebook). The player's features include advertising and transaction capability that travels with the embedded video. This makes it possible for MediaStorm to monetise

what would otherwise be unpaid distribution. [VII The Magazine](#) (which uses iFrame to place its content on its media partner's sites) is another example of digital distribution where the creator gets to keep the revenue. They both use the free distribution capacity of the web to get their stories placed where the audience is while earning revenue off that placement. And as Panos Pictures has found, videos that are freely embeddable across the web receive approximately five times as many hits as those that are not embeddable.

It will take considerable experimentation to develop new revenue streams than can subsidise visual storytelling. Whatever is going to work, it will rely on the ability to leverage the web's ecology: understanding the relationship between scarcity and abundance, without confusing it with the relationship between value and price. Many content producers price their work on the assumption that it is scarce and has unquestionable value, and inefficient modes of distribution have supported that. But because the web has made many things abundant, charging scarcity prices is not easily sustainable even for things that are still perceived to have value.

This brings us back to the importance of fungibility. Something is fungible if it can be substituted by something else. A breaking news story is fungible because there are a number of credible sources that can be substituted for each other. A music track or a specific story is not fungible because if you are a fan who wants only a track by a particular band, or a story on a particular subject, they cannot be replaced by music or a story from others or about others.

Scarce items are not fungible. Abundant items are. If you produce something that is unique and not found elsewhere, you can resist the inevitable free endpoint. If you produce something that is abundant and can be replaced by something else, then you will not be able to charge scarcity prices for it. People pay readily for online content that is not fungible, when it has value for them, and can be accessed easily. Daily news or spot news does not fall into that category because of the presence of credible global news sources that can be relied on to provide content at no direct cost to the user. Other forms of news, information and stories, when non-fungible and scarce, have the potential to be purchasable. In the end, quality is the most important precondition for success.

7. Conclusion and Implications

No sector of the "traditional media" remains untouched by the disruption in the new media economy. In China, Europe and North America the "traditional media" is no longer a relevant category for understanding the production, distribution and consumption of news and information. In the new media economy all media is multimedia, social media, and it is increasingly mobile. While print distribution will not become extinct, the screen is the primary access point for information, and our conception of "the photographic" has to be expanded to incorporate all modes of visual storytelling. This is not the result of convergence of different types of media, but the development of an ecology of information that effects us all, here and now, for "much of journalism's imagined future is now its lived-in present."[121]

This is the "post-industrial" ecology, and its features are applicable to photojournalism and visual storytelling:
- Journalism matters;
- Good journalism has always been subsidized;
- The internet wrecks advertising subsidy;
- Restructuring is, therefore, a forced move;
- There are many opportunities for doing good work in new ways.[122]

What we called "multimedia" at the outset is caught between the incredible opportunities for production and distribution, and a media economy struggling to come to terms with how to make them viable. Should we be optimistic or pessimistic about the foreseeable future? Optimism springs from the great creativity evident in the original stories that are produced today, and in the new experiments in journalism that are underway. Economic issues seem to invite pessimism, but only if we fail to understand the dynamics of the new media economy. Sensible strategies depend on foregoing mythological understandings of photojournalism's past while paying attention to what is working in the present. Above all else,

> If you believe that journalism matters, and that there is no solution to the crisis, then the only way to get the journalism we need in the current environment is to take advantage of new possibilities.[123]

Whether a photojournalist wishes to embrace the new modes of visual storytelling is a personal choice. No one is arguing that all print publication has become obsolete – the photo book remains an important tangible object and the gallery exhibition can be a significant public event. Some will even be able to pursue their careers maintaining analogue modes of production and distribution. But not even they will be unaffected by the new media economy. Indeed, material objects like self-published photo books are on the rise in part because of the opportunities the new media economy offers.[124]

The new modes of visual storytelling offer numerous advantages. Storytellers can have a stronger sense of authorship, stories can have a greater context and their subjects a voice. They can be easily distributed through new digital channels (the web, native apps, eBooks etc.) that are no longer constrained by the limited space of print publications, and once online they have an extended life after the original release date. Above all else, the advantage of this approach is that these stories can be located and viewed by the widest or the most engaged global audience.

Understanding the dynamics of the new media economy and how they can enable storytelling practice is a priority. What does this mean in practical terms? Many are already working in this way. For others considering it, here are some general and sometimes obvious suggestions that grow out of the analysis:

1. PRESENT – have your own digital space, a web site that is responsive, compatible for all devices and operating systems (i.e. not exclusively Flash), kept fresh with regular new content, and optimised for search engines with metadata and relevant text accompanying all audio, video and photographic content;

2. TRAIN – learn how to use some video editing software. Even if you are only shooting stills on film you need to be able to output at least some your work in video files to be able to distribute and embed it on the most popular websites, while retaining control over its presentation;

3. REPORT – learn how to conduct and record audio interviews with subjects, even if you only plan to use the material for written captions in an exhibition. When you spend the time developing and pursuing a story, think about what information you can gather in the reporting process using different types of media (audio, data, interviews, and both still and moving images) so that you don't have to go back later and fill in gaps during post-production. Make sure you gather material for all the ways your story can be produced or distributed,

even if you don't plan to do so immediately. You can make a book from the material you have collected for a potential film, but you cannot make a film from material designed solely to be a book.

4. INNOVATE – explore new ways of packaging and presenting your stories, thinking about which format is the best for reaching your intended audience, how the story works in different formats, and how those different formats combine and link together to produce the larger story. If you have a great story, how can you make it available to the widest possible audience, some of whom will be on YouTube or elsewhere on the web, while others use native apps? It often takes months or years to shoot and edit a long form story, but only a few days to create different versions of it once you know the options. That said, when striving to reach your audience, don't get too far ahead of what they might prefer in story formats (e.g. linear video and slideshows) even if you think they do not make the sexiest packages.

5. COLLABORATE – find people with specific skills to work with, as there are not many individuals who can research, interview, write, record audio, shoot video, make photographs, and design web formats - all to the highest quality - on their own.

6. PARTNER – whether it is funders, sponsors, media organisations, or other distribution vehicles, look for partners who want to share and support your vision of storytelling. Have your work hosted on as many platforms or sites as possible, especially on YouTube, Vimeo, Metacafe and other video channels, and upload at least excerpts or trailers to attract an audience to your digital space.

7. CONNECT – create or expand your chosen social networks (Twitter, Weibo, Facebook, Instagram etc.) as these are becoming increasingly important to disseminate and promote your work and help you find people to collaborate with and organisations to partner with. But remember that social media is about dialogue with the community that builds around your work, not just about PR. Be prepared to make parts of your practice transparent and engage your community.

8. DIVERSIFY – very few photojournalists have ever had sufficient funds to produce only editorial work of their choosing, so diversification of revenue from indirect sources has been commonplace and is now essential. Use editorial projects as the basis for a high quality portfolio to attract clients, think about working in new markets such as broadcast. Find organisations that are taking charge of their own story, but don't have visual storytelling skills, and explore

services and transactions you can offer them. License (don't sell) your stories to outlets for a set period of time so you can re-license those stories to other platforms when the first license expires, and explore platforms beyond the traditional bounds of photography.

In the end, it is all about the story - learning how you can tell the story you want to tell, getting it onto the diverse platforms your audience is using, and making sure your audience finds it, so that your story engages them in the best way possible.

8. Biography, Participants, Respondents and Acknowledgements

David Campbell is engaged in the analysis and production of visual storytelling, drawing on his academic and practice-based experience for both creation and critique. For fourteen years he was a professor of international politics and political geography, studying photojournalism's visual representations, before going freelance in 2010. He is now a writer, researcher, teacher, videographer and producer who analyses the contexts that shape visual storytelling, publishing on his blog at www.david-campbell.org. David also works as a multimedia producer collaborating with photographers and working as a solo documentarian. With Sharron Lovell he won a "Best of the Best" award in general excellence at The Society of American Business Editors and Writers 2010 annual Best in Business Journalism competition for "Living in the Shadows: China's Internal Migrants." David has a number of academic affiliations, and is currently Visiting Professor in the Northern Centre of Photography at Sunderland University, Honorary Professor in the School of Political Science and International Studies at the University of Queensland, and lectures on the MA in International Multimedia Journalism run by the University of Bolton and Beijing Foreign Studies University, as well as on the multimedia journalism programme at the Konrad Adenaeur Asian Center for Journalism at the Ateneo de Manila University.

Seminar participants and interviewees: Jassim Ahmad, Lisa Biagiotti, Huang Changkai, D J Clark, Maisie Crow, Mark Esplin, Rob Finch, Change He, David Heimburger, Gerald Holubowicz, Marguerite Howell, Lisa Jamhoury, Li Jiejun, Wang Jingchun, Pan Jinsong, Henrik Kastenskov, Olga Kravets, Wang Lei, Anna Lopriore, Hu Lufeng, Femke Lutgerink, Uwe Martin, Stephen Mayes, Bjarke Myrthu, Shazna Nessa, Jorge Romo, Grant Scott, Caspar Sonnen, Anna Stevens, Brian Storm, Erik Vroons, Daimon Xanthopoulos, Yang Xiaoyan, Liang Yin, Stokes Young, Li Yuxiao.

Questionnaire respondents: Al Jazeera English, Asahi Shimbun, China Daily, Der Spiegel, Jornal O Globo, The New York Times, NBC, BBC News, Spiegel Online, Sydney Morning Herald, NPR, Media24 South Africa, News24 South Africa, Human Rights Watch, MSF.

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ENDNOTES

[1] Friedrich Nietzsche, *On the Genealogy of Morality* (Cambridge University Press, 2006), 53.

[2] David Campany, *Photography and Cinema* (London: Reaktion Books, 2008).

[3] See Ingrid Hölzl, "Moving Stills: Images That are no Longer Immobile," *Photographies*, 3 (2010): 100-102. The first use of photography as a tool of humanitarian advocacy employed magic lantern performances. See Sharon Sliwinski, The Childhood of Human Rights: The Kodak on the Congo, *Journal of Visual Culture,* 5 (2006): 333-363.

[4] See *Photography Changes Everything*, edited by Marvin Heiferman (New York: Aperture Foundation and Smithsonian Institution, 2012).

[5] See Mary Panzer's introduction to *Things As They Are: Photojournalism in Context since 1955* (Amsterdam and London: World Press Photo and Chris Boot Ltd, 2005).

[6] *Things As They Are: Photojournalism in Context since 1955* (Amsterdam and London: World Press Photo and Chris Boot Ltd, 2005), 22, 25.

[7] See *StillMoving: Between Photography and Cinema*, edited by Karen Beckman and Jean Ma (Durham and London: Duke University Press, 2008).

[8] Michael Kamber, "'Restrepo' and the Imagery of War," *New York Times Lens Blog*, 22 June 2010, http://lens.blogs.nytimes.com/2010/06/22/behind-44/

[9] While, like Paul Graham, I dislike the word "content" in this context, I use it throughout because of an inability to think of a recognisable alternative. See "Post-Medium Publishing," September 2009, http://www.paulgraham.com/publishing.html.

[10] For data on the importance of photography to social media and engagement, see Chas Edwards, "Why visual storytelling is the future of digital," 16 October 2012, http://www.imediaconnection.com/article_full.aspx?id=32879 and Jeff Sondermann, "Twitter research shows how multimedia increases engagement," 7 March 2013, http://www.poynter.org/latest-news/media-lab/social-media/206402/twitter-research-shows-5-ways-multimedia-increases-engagement/. The importance of this is evident in China also, where our seminar participants reported images (still and moving) driving two-thirds of traffic to well known news web sites.

[11] Quoted in Michael Kamber, "'Restrepo' and the Imagery of War," *New York Times Lens Blog,* 22 June 2010, http://lens.blogs.nytimes.com/2010/06/22/behind-44/

[12] Although not a new visual genre, work from this zone does not simply replicate existing broadcast formats. This is well documented in Brian Storm's "Transom Manifesto," a deconstruction of how the same story was covered by radio, television and a video from his production house, which illustrated how different approaches and formats directly affect the reporting. See http://transom.org/?p=30848. The learning ethos is embodied in the issues covered at http://www.newsshooter.com, and has been talked about for some time: see, for example, Tom Kennedy, "Reinventing Photojournalism," February 2003, http://digitaljournalist.org/issue0203/kennedy.htm and Fred Ritchin, "Failing to Harness the Web's Visual Promise," *Nieman Reports,* Spring 2010, http://www.nieman.harvard.edu/reports/article/102091/Failing-to-Harness-the-Webs-Visual-Promise.aspx

[13] Although this report does not consider visual storytelling in the commercial space, there are many opportunities there, too. See News Cred, *Brands as Publishers: 15 Market Leaders That Get Content Right*, July 2012, http://blog.newscred.com/article/fdf1027dff88d71bbcd79da68df42a27/.

[14] C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), 83, http://towcenter.org/research/post-industrial-journalism/

[15] Pew Research Center for the People and the Press, *Trends in News Consumption: 1991-2012 - In Changing News Landscape, Even Television is Vulnerable*, 27 September 2012, 1, http://www.people-press.org/2012/09/27/in-changing-news-landscape-even-television-is-vulnerable/

[16] Pew Research Centre's Project for Excellence in Journalism, *The State of the News Media 2013: An Annual Report on American Journalism,* http://stateofthemedia.org, "News Magazines: Embracing Their Digital Future."

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[101] Whether its success can be copied is unclear. "In the last generation, the Times has gone from being a great daily paper, in competition with several other such papers, to being a cultural institution of unique and global importance...This puts the Times in a category of one. Any sentence that begins 'Let's take the New York Times as an example...' is thus liable to explain or describe little about the rest of the landscape." C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), 16-17, http://towcenter.org/research/post-industrial-journalism/

[102] Pew Research Centre's Project for Excellence in Journalism, *The State of the News Media 2013: An Annual Report on American Journalism,* http://stateofthemedia.org, "Overview."

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[103] Ken Doctor, "The Newsonomics of zero and the New York Times," 14 February 2013, http://www.niemanlab.org/2013/02/the-newsonomics-of-zero-and-the-new-york-times/

[104] Christine Haughney, "Asset Sales Help Lift Profit at New York Times Company, but Ad Revenue Declines," 7 February 2013, http://www.nytimes.com/2013/02/08/business/asset-sales-help-quarterly-profit-at-times-company.html

[105] An instance of this debate, which the report author participated in, can be seen at "Who's Gonna Pay For This Stuff?" 27 June 2012, http://www.aphotoeditor.com/2012/06/27/whos-gonna-pay-for-this-stuff/

[106] Pew Research Center's Project for Excellence in Journalism, *Navigating News Online,* 9 May 2011, http://www.journalism.org/analysis_report/navigating_news_online. The report has some flaws that are reviewed in Steve Buttry, "5 big problems with 'Navigating News Online' report, 10 May 2011, http://stevebuttry.wordpress.com/2011/05/10/5-big-problems-with-navigating-news-online-study/, but these do not detract from the importance of the casual vs. power user.

[107] Users of the world's largest newspaper site, *Mail Online*, exhibit this behaviour. A 2009 article revealed that only 7% of the sites UK-based monthly unique users visited on a daily basis, with only half of that number staying on site for 20 minutes. Peter Preston, "Daily Mail's net gains may have more showbiz glamour than real quality," 27 September 2009, http://www.guardian.co.uk/media/2009/sep/27/peter-preston-mail-online-telegraph. The following year it was reported of its massive audience of tens of millions that "around 1.8 million people visit MailOnline 10 times a month or more, and the same 2 million people consume 68% of its pages, according to a senior Mail source." James Robinson, "MailOnline: what is the secret of its success?" 15 November 2010, http://www.guardian.co.uk/media/2010/nov/15/mailonline-daily-mail-website.

[108] According to *White Smoke: The New Era for Video News*, 16-17, April 2013, http://marketing.ap.org/videonewsinsights, European users access between two and seven news sources daily.

[109] See Kyle Findlay, "An Introduction to Power Laws," March 2008, http://www.slideshare.net/ervler/intro-to-power-laws-march-2008

[110] C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), 7, http://towcenter.org/research/post-industrial-journalism/. For an assessment of the unavoidable limits of paywalls, see Alan Mutter, "Why paywalls are scary," 10 April 2013, http://newsosaur.blogspot.co.uk/2013/04/why-paywalls-are-scary.html. One of the problems tight paywalls pose for journalism is that they severely limit the capacity for news and information to spread. For example, open sites in the UK like MailOnline and the Guardian have more than 2.5 million social media links per week to their stores, whereas *The Times*, with its strict paywall, only achieves 256 links, cutting it off from the increasingly important social media audience. Sarah Marshall, "Media release: StumbleUpon is most important content sharing site for Mail Online," 8 November 2011, http://blogs.journalism.co.uk/2011/11/08/media-release-stumbleupon-is-most-important-content-sharing-site-for-mail-online/

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[111] The blog http://whopaysphotogs.tumblr.com details the variable but generally low fees paid to photographers, which are highly unlikely to improve because of "paywalls".

[112] Loes Witschge, "A Dutch crowdfunded news site has raised $1.3 million and hopes for a digital-native journalism," 5 April 2013, http://www.niemanlab.org/2013/04/a-dutch-crowdfunded-news-site-has-raised-1-3-million-and-hopes-for-a-digital-native-journalism/; Loes Witschge, "Getting personal: A Dutch online news platform wants you to subscribe to individual journalists," 8 April 2013, http://www.niemanlab.org/2013/04/getting-personal-a-dutch-online-news-platform-wants-you-to-subscribe-to-individual-journalists/ Joshua Gillin, "Subscription-based journalism site forces French politician to resign," 9 April 2013, http://www.poynter.org/latest-news/mediawire/209720/subscription-based-journalism-site-forces-french-politician-to-resign/ ; Jasper Jackson, "The non-profit business model for journalism - who's doing it and does it work?," 4 April 2013, http://www.themediabriefing.com/article/2013-04-04/non-profit-journalism-can-it-work; "About Matter," https://www.readmatter.com/about/; Matthew Panzarino, "Instapaper creator Marco Arment launches The Magazine, a different kind of periodical for Apple's Newsstand," 11 October 2012, http://thenextweb.com/media/2012/10/11/instapaper-creator-marco-arment-launches-the-magazine-a-different-kind-of-periodical-for-apples-newsstand/ and Jacob Goldstein, 21 February 2013, http://www.npr.org/blogs/money/2013/02/21/172588471/how-to-start-a-magazine-and-make-a-profit

[113] *Chasing Sustainability on the Net: International research on 69 journalistic pure players and their business models,* edited by Esa Sirkkunen and Claire Cook (Tampere: Tampere Research Centre for Journalism, Media and Communication, 2012), http://www.submojour.net

[114] *Chasing Sustainability on the Net: International research on 69 journalistic pure players and their business models,* edited by Esa Sirkkunen and Claire Cook (Tampere: Tampere Research Centre for Journalism, Media and Communication, 2012), 119, 124, http://www.submojour.net. The graphic was reproduced on p. 12. For examples of smaller US newspapers seeing some success with diverse business models, see Mark Jurkowitz and Amy Mitchell, "Newspapers Turning Ideas Into Dollars: Four Revenue Success Stories," 11 March 2013, http://www.journalism.org/analysis_report/newspapers_turning_ideas_dollars. For more on organisations experimenting with business models, see Bill Grueskin, Ava Seave and Lucas Graves, *The Story So Far: What We Know About the Business of Digital Journalism* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2011), http://cjr.org/the_business_of_digital_journalism/.

[115] Pew Research Centre's Project for Excellence in Journalism, *The State of the News Media 2013: An Annual Report on American Journalism,* http://stateofthemedia.org, "News Magazines: Embracing Their Digital Future."

[116] For guidance on costing multimedia work for NGOs see David Walker, "Brad Horn on Pricing Multimedia Work for NGOs," *Photo District News*, 10 September 2012, http://www.pdnonline.com/features/Brad-Horn-on-Pricing-6554.shtml

[117] Andrew Beaujon, "NowThis News will partner with Atlantic on video content," 21 March 2013, http://www.poynter.org/latest-news/mediawire/207929/nowthis-news-will-partner-with-atlantic-on-video-content/

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[118] Beijing-based Jonah Kessel's work for *The New York Times* is a good example of a freelancer who has built a relationship with a major news organisation. See https://vimeo.com/jonahkessel.

[119] Examples would include Dan Chung shooting for Al Jazeera English, Daimon Xanthopoulos reporting for VPRO in the Netherlands, or Leo Maguire's documentaries for Channel 4 in the UK. On the latter see http://weblogs.vpro.nl/beginvanhetkwaad/; and "Director's Feature: The Making of Dogging Tales," 2 April 2013, http://www.channel4.com/programmes/dogging-tales/articles/directors-feature-the-making-of-dogging-tales. Maguire's work (along with that of Saul Schwarz, Philippe Brault, Marcus Yam and Samuel Bollendorf) is discussed in Olivier Laurent, "Storyville," *British Journal of Photography*, February 2012, http://www.bjp-online.com/british-journal-of-photography/report/2139690/storyville-photographers-move-beyond-the-still-image

[120] Jason Del Rey, "YouTube Set to Introduce Paid Subscriptions This Spring: A New Revenue Model For TV Networks and Video Producers," 29 January 2013, http://adage.com/article/digital/youtube-set-introduce-paid-subscriptions-spring/239437/. Nick Turpin used Distrify for his film on street photography, "In-Sight." See http://nickturpin.com/portfolio/in-sight-film/.

[121] C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), http://towcenter.org/research/post-industrial-journalism/

[122] C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), 1, http://towcenter.org/research/post-industrial-journalism/

[123] C.W. Anderson, Emily Bell, Clay Shirky, *Post-Industrial Journalism: Adapting to the Present* (New York: Tow Center for Digital Journalism, Columbia Journalism School, 2012), 13, http://towcenter.org/research/post-industrial-journalism/

[124] Sean O'Hagan, "How photographers joined the self-publishing revolution," 14 April 2013, http://www.guardian.co.uk/artanddesign/2013/apr/14/photography-self-publishing-afronauts-space

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