Inside the changing newsroom: journalists' responses to media convergence

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Abstract

Purpose - This article reports on research conducted inside British national media organizations. Interviews were conducted with journalists working in newsrooms at the BBC, Sky News, *The Guardian* and the *Financial Times*. The research was designed to investigate the impact on the working practices of journalists of the process of production convergence – the trend towards news reporting in more than one medium in formerly single-medium organizations. The article describes the changes that are taking place and the ways journalists are reacting to them.

Methodology/approach - Interviews were conducted with 20 journalists during 2002 and 2003.

Findings - The data shows that while multimedia news is becoming well-established, the multimedia journalist has been slow to arrive. This is because of the pressures that multi-media working add to the journalist's daily routine and a concern over the impact on the quality of output.

Research limitations/implications - The media environment is evolving rapidly and research findings on this topic quickly go out of date, but the findings presented here offer valuable insights into the news production processes operating in British national media organizations and the ways journalists are adapting to, and are likely to continue to adapt to, changes in production technologies and changed systems of working.

Originality/value - The research reported here is the first to focus on journalistic practice in a converging media environment.

Keywords News production; convergence; journalistic practice; multiskilling; journalistic standards.

Paper type Research paper.

Introduction

This article presents data from a study of news production and the impact of media convergence on the practices of journalists. Although journalism and the production of news have been widely analysed discussions about the impact of new technologies and new systems of working have commonly been conducted from a distance. Sociological perspectives on news production have provided frameworks to help us comprehend the complexities of cultural production and the constraints encountered by journalists and their impact on the final product of news, but in contemporary studies of journalism the voices of journalists are surprisingly seldom heard. This

article offers a modest attempt to remedy this by examining some of the recent changes in modern, converged multimedia newsrooms from the perspective of those on the inside. It focuses on the changes in journalistic practice in television and newspaper newsrooms and examines existing theoretical claims about the impact of new technology on news work by exploring journalists' accounts of these changes[1].

Convergence is often thought to bring radical and fundamental changes to media that are not simply technological. At a structural level, the boundaries between traditional and new ways of communicating are becoming less clear and the relationships between different media are characterized by increasing cooperation, compatibility and connectivity. The processes of digitisation and convergence appear to be irreversible. The future of the media seems to be digital yet the implications of these developments are difficult to predict. Changes occurring at different levels have raised questions about the way traditional media organizations will adapt to the new environment or even whether they will survive at all.

At the level of news production the current climate seems to suggest that convergence is more a case of evolution rather than revolution. As the media industries are converging and traditional news organizations expand into new media, their production processes must meet new demands. Newsrooms and journalists are moving from the era of single-media to *multi*-media reporting. New integrated newsrooms are conceived for exactly this reason, to share resources and to manage a multimedia production process.

These developments affect the organization of newsrooms and the working practices of journalists in profound ways. Multiskilling, for instance, is a trend with increasing acceptance in news media, as journalists have to cope with a widening range of responsibilities in order to get their jobs done. Cottle (1999) claims that the increasing demands on journalists create a more pressured working environment which ultimately has a negative impact on journalistic standards. But what exactly does multiskilling mean in large-scale, national news organizations and how are the working practices of journalists changing? Are journalists being overloaded? Are job definitions changing too?

This article explores the impact on journalism inside traditional news organizations responding to the challenges of convergence. The term *traditional* here refers to *analogue* media, i.e., broadcasting and print media, and is used to distinguish them from digital media. By focusing on traditional media we can examine whether and to what extent the process of convergence is eroding the boundaries between them, whether traditional concepts and ideals of news production are being challenged, and how these developments are affecting journalists and the work they do.

Convergence and news organizations

From a technological perspective, convergence, the coming together of different media industries and products (Pool, 1983; Negroponte, 1995), operates at three levels: network, production and distribution (Flynn, 2001; Ostergaard, 1998). Network convergence refers to the development of the "information superhighway" (Flynn, 2001, p. 12), also known as the "integrated broadband system" (Baldwin *et al.,* 1996).

Most important for news is the convergence of production and distribution. The first reflects changes in technologies of media production that allow media content to be authored once and then published and delivered through multiple digital delivery mechanisms without being re-authored (Flynn, 2001). This idea can be summarised as *"write once, publish anywhere"*. Convergence at the distribution level refers to the consumption end and to the idea that "ultimately there will only be one way to access different types of digital network", through a single device that will combine the different characteristics of today's media (Flynn, 2001, p. 12).

The role of technology in the newsroom

Although the role of technology in news production is often described as being under-theorised and under-researched (Cottle, 2003; MacGregor, 1997) a growing number of studies provide us with important findings that help us to understand the transformations that are taking place in modern newsrooms (Bardoel, 1996; MacGregor, 1997; Cottle, 1999; García Avilés and Léon: 2002; Boczowski, 2004).

McNair (1998) suggests that new communications technology has brought with it both "major benefits for journalistic organizations", and "unsettling changes in working practices and routines", challenging "existing lines of demarcation in the journalistic workplace" (p. 125). More specifically, one of the main areas of concern is to do with the multitasking and multiskilling of journalists.

It has been argued that the nature of journalists' work is gradually changing. The introduction of computers into newspaper newsrooms in the 1980s added more tasks for editors and journalists, and made some traditional roles redundant (Stepp, 1989; Garrison, 1999). In television news, new production equipment has brought the "promise of single-person newsgathering based on the idea of multi-skilled crewing" (MacGregor, 1997, p. 181).

MacGregor (1997) suggests that multi-skilled journalism is not the result of "simple technological determinism […] but because of management led economic decisions" (p. 181). Multiskilling in newsrooms is aimed at cost reduction efficiency improvements (Cottle, 1999), but at the same time raises significant concerns about declining quality in news output because of increased work loads, increased pressure and the "deskilling" of journalists (Bromley, 1996; Cottle, 1999).

On the other hand, multiskilling has also been associated with some positive developments such as more flexibility for journalists (MacGregor, 1997), the speeding up of a number of tasks such as data searching, making more information easily accessible to journalists (Koch, 1991; Leonard, 1992; Brooks, 1997), and the increased control by journalists over their own output (Wintour, 1989, p. 262).

All the above changes refer to existing working routines and practices, but another aspect of convergence is also greatly affecting the modern newsroom. As more and more news organizations have developed a presence on the Internet, a new form of journalism has appeared. Pavlik (2001) hails online journalism as "potentially a better form of journalism" as it can "re-engage an increasingly distrusting and alienated audience" (p. xi). Similar voices of enthusiasm about the new medium point out the

main advantages of Internet news: a multimedia format, interactivity, personalisation, global accessibility, hypertextuality, interconnectivity, and instantaneous reporting (Pavlik, 2001; Kawamoto, 2003).

The research findings reported here suggest that in terms of journalists' experiences and reactions to change the contemporary context of news production is rather more complex than recent studies of journalism have acknowledged. This strengthens our belief that a revived sociology of journalists is needed to help us understand the changes that are taking place in contemporary news work (Dickinson, 2007).

Methodology

In what follows some of the findings of a wider study on the current transformations in news organizations are examined through accounts of media professionals (Saltzis, 2006). This perspective illuminates what is happening *inside* news organizations as a response to convergence and explains the rationale for work reorganization and its impact on newsroom practices.

The principle research method employed in this study was the semi-structured interview. The focus was on journalists from four UK news organizations. For comparative purposes the sample included two newspapers, the *Financial Times (FT)* and *The Guardian*, and two television news organizations, *BBC News* and *Sky News*. In total 20 journalists – the sample included reporters and editors with varied experience levels - were interviewed in the period 2002-2003, producing more than 12 hours of recorded material. All had direct experience of the application of new production technologies and techniques. All had experience of the production routines prior to the introduction of new technology and could comment on the specific transformations in their work. This set of interviews was also used to enquire about the general implications of convergence for the journalistic profession.

Convergence strategies

The relationship between technological innovation and workplace reorganization is affected not only by the institutional context but also, perhaps more importantly, by the specific circumstances of each workplace – the organization's internal culture (Marjoribanks, 2000; Boczowski, 2004). Indeed, the study of all four news organizations revealed that different considerations and management directions are shaping their approaches to convergence. Nevertheless, there are certain trends in the production and distribution strategies that can be observed.

Convergence in production and distribution of news presents certain advantages that make it an attractive proposition and, perhaps, essential for news organizations that want to be competitive in a multimedia environment. In order to achieve *"economies of multiformit*y", cross-media expansion has to facilitate the sharing of specialised content through a *"common distribution infrastructure"* (Doyle, 2002; Albarran and Dimmick, 1996). The organizations studied here have attempted to do exactly that with a combination of four strategies: the organizational and technical integration of newsrooms, the use of a multiskilled workforce, the application of flexible and user-friendly technology in all aspects of production, and the expansion of their services into new media.

In terms of production, convergence is achieved through the digitisation of various processes in the news production chain and the integration of online with offline newsrooms[2]. The digitisation of production is associated with the introduction of digital equipment, but the key change comes with the arrival of server based newsroom production systems. The latter has been adopted by both television and newspaper companies (BBC[3] and *FT*) and is organized around a central computer server[4] which allows common access to all the gathered material by all news workers, connects the various operations inside the newsroom and automates a number of processes.

Perhaps the most important function of digital newsroom systems in both television and newspapers is that they have provided the basis for the integration of online with offline newsrooms. The creation of a single multimedia newsroom is not yet complete but certainly the efforts of the BBC and *FT* at the time of the research were moving towards that. They encourage the sharing of material and they treat information as platform neutral.

At the delivery end, convergence means the development of a number of different ways of distributing the same content. Apart from delivering news to websites, output is to a growing number of new media platforms such as mobile phones, PDAs and interactive television services (offered alongside the BBC's and Sky's digital channels).

Versatile journalism

The research findings confirm what has been suggested elsewhere in the literature about modern journalism: that in the new age of converging media, journalists are expected to follow that trend and become more versatile while their jobs become *"rationalised and re-designated"* (Cottle, 1999). The new and more flexible journalistic practices that emerge in television and newspaper production, in combination with online journalism, are having a profound effect on the role of journalists. The increasing importance of multiskilling means that a journalist with interchangeable skills is more valuable than one without. However, this does not entail a cataclysmic change in journalism. Multiskilled journalists are still in a minority at the BBC – although most journalists are trained in both radio and television production – at the *FT* and at *The Guardian*. Not all journalists are either trained or able to report with equal ease for a newspaper, Internet, radio and television. The basic journalistic skills required are more or less the same as they used to be five or ten years ago. What has changed is that "new blood" (i.e., newly-hired journalists) is expected to be able to work in more than one area. Existing journalists are not as versatile and the reasons are simple: a) the cost of training: it is more difficult to train an experienced worker in something completely new than to train an apprentice; and b) resistance to change: established journalists are usually less willing to change what they have been doing in their careers so far.

One broadcast journalist reflected on the changes in the profession over the last three decades:

> The days are gone when journalists were just the newsperson writing notes in the notebook; that changed since the seventies. In the eighties journalists in television were

very much like text based people, but working with a VT editor operator and would say 'I want that picture followed by that picture' […] so they would direct the editor […]. In the nineties that role was broken when tape technology became easier to operate. […] and today journalists are story writing, story editing, picture editing and shooting, so people are far more multiskilled than ever before.

(Personal interview, 2002)

It is clear that there is a growing demand for multiskilled as well as multimedia journalists. In that sense there is no question that this is a management led development as many authors have pointed out (Bromley, 1996; MacGregor, 1997; Cottle, 1999). The benefits for the broadcasters and publishers are significant reductions in costs and a more flexible workforce. Production technology is becoming easier to handle and the need for specialised technical staff, though by no means obsolete, is certainly declining. In news organizations that are becoming multimedia, versatile journalists that can take advantage of the new capabilities offered by digital technology (digital editing, multimedia journalism, video journalism, sharing of resources) improve the efficiency of production.

And here efficiency could be understood not so much by the reduction of costs through redundancies but by what Shepherd (1979) defines as *"a maximum value of outputs for given values of inputs"* (quoted in Doyle, 2002, p. 40). That is why most organizations were keen to stress that their aim by favouring multiskilling in the newsrooms is to produce more from the same resources, rather than decrease their workforce.

Referring to the introduction of an integrated publishing system in the *FT*, a senior editor pointed out:

We are expecting to make efficiency benefits equivalent of 33 hours of sub-editing time at night by merging the two newsrooms and to release a certain amount of staff to be used, not to reduce our costs, but to increase our revenues. What we will be doing is reassigning the people who are liberated from their old jobs, through integration, to publish a new hard copy edition of the *Financial Times…* new technology is allowing us to do the same with a smaller amount of people.

(Personal interview, 2002)

Multiskilling however is raising some issues that require further investigation. On the question whether "multiskilling" is better understood as "deskilling" we need to distinguish first of all between the kinds of multiskilling to be found in broadcast and print journalism. In broadcasting a growing number of journalists might edit or shoot the images for a story, while others might report for more than one medium (radio and the Internet). In print journalism, multiskilling actually refers to writing for both the newspaper and the website[5]. These are four different cases of multiskilling which have to be approached individually as they do not have the same implications for the work of journalists.

In broadcasting, the failure of BBC's bi-media experiment[6] suggests that multimedia journalists are not necessarily better journalists. The strategy of encouraging journalists to report for both radio and television, which was introduced in the BBC even before the introduction of digital newsrooms by Director General

John Birt, has now been largely abandoned. There is a consensus inside the BBC newsroom that "a good radio journalist is *not necessarily* a good television journalist and vice versa". As a result, a number of BBC journalists may still have multimedia training but this is on a voluntary basis and they are only required to do bi-media or tri-media reporting in extreme situations.

Even though multimedia reporting was not widely practiced in either the BBC or Sky some journalists view it as a positive development and essentially as a way to gain a better understanding of news production as a collection of complex activities and to treat news as a platform-neutral product. As one journalist pointed out: "I think multiskilling is good because it gives a better all round perspective on newsgathering itself in different outlets" (Personal interview, 2002).

On the other hand, editing the pictures of news stories digitally is considered by most journalists to be a task so closely related to the actual journalistic job that it does not force them to deviate from their main editorial responsibilities:

> It is part of the job; it is very frustrating for journalists to shoot the pictures, or get the pictures, to write the story and then somebody else messes up the editing. This way it gives them much more control over their own product
>
> (Personal interview, 2002).

Nevertheless, editing by journalists does raise issues of quality but those worries are more technical than editorial. Some journalists do not have the technical skills to edit at all and therefore find it difficult to adapt. An experienced BBC journalist suggested that it is quite difficult to "reach the required level of skill both in the journalistic profession and as an editor" (Personal interview, 2003).

Video journalism is more complicated and requires certainly a whole new set of skills that journalists have to apply at the same time they are reporting. According to a BBC video journalist the main problem with having to operate the camera as well as do the reporting is that it requires very good planning and much better organization in advance. More specifically a video journalist needs to contact all the people that are going to be interviewed beforehand and have a short conversation with them. The questions also need to be prepared before moving from the newsroom so that the video journalist can fully concentrate on the technical side of the report during the interviews. This is creating limitations with regard to the ability to respond during the interview and the time that is left to reflect on what has been said.

There are also safety concerns that limit the deployment of video journalists. As a BBC journalist pointed out, it is always safer to have two people instead of one reporting, especially in dangerous situations: "when filming your eye is in the camera and you cannot see what's going on […] it's not a safe situation, you are vulnerable" (Personal interview, 2003). Moreover, the quality of pictures can suffer as a consequence of video journalism. Journalists were not as good at shooting pictures as specialised camera operators and this could have a negative impact on the final product.

One of the main reasons that video journalism has not been widely adopted in either the BBC or Sky is because it is slow and few journalists are willing to take it up or

have the necessary skills to do so. At the time, it seemed, the majority of journalists were not sufficiently prepared, or suited, to perform multiple tasks and maintain an acceptable level of quality in their output. The BBC's policy was therefore to encourage multiskilling but not to make it mandatory. This seems likely, at least in the medium term, to create a workforce comprising two types of journalist: the "single skilled" specialists, valued for their high journalistic standards, and the multiskilled, valued for their versatility and adaptability.

Of interest here is the fact that in any of the above cases broadcast journalists who have practiced multiskilling expressed positive feelings about it[7]. They claimed that it enriched their overall knowledge of the product. For example, they argued that they have benefited from understanding better the technical details of the news product and this made them better journalists. They are happy to learn how other aspects of their work are done because this helps them to provide a more complete product and, as Wintour (1989) and, more recently, Deuze (2004) have suggested, they are also keen to be in charge of their own words or images.

Another journalist argued against "single skill" journalism comparing it to factory workers who have little ownership and limited control over the final product. He claimed that multiskilling reverses this separateness of tasks and allows the journalist to connect better with the final product and therefore claim more responsibility over it. In this sense multiskilling can be viewed as an antidote to the type of "assembly line" journalism described by Bantz *et al.* (1980), affording news workers greater freedom and flexibility.

In newspapers, multiskilling is less controversial because the skills employed in both print and Internet journalism are very similar. In many ways reporting for the Internet is considered to be a very positive development for newspaper journalists because it opens up "a whole world of new opportunities" that were simply not possible in the newspaper.

An *FT* editor suggested that *"a good journalist is good in any medium"* and that writing for the Web might actually improve the journalist's skills. "I've been a journalist for 30 years and only two and a half of those were really on dot com, but it improved me as a journalist and changed me forever as a journalist" (Personal interview, 2002). However, this assumption was not universally shared in the newsroom. Some journalists have found it harder than others to adapt in the multiskilled environment. It is either a case of not getting used to the pattern of a different working day or simply that they do not feel that the Internet offers them anything.

Another obstacle for convergence has been the contrasting cultures to be found in newspaper and Internet newsrooms. In the organizations in this study, newspaper journalists were considered to have higher status than their Internet counterparts. This was partly because the newspaper was still considered to be the core product and the website merely a lighter, less significant medium. An editor pointed out that before integration at his newspaper, when online journalists managed to get their stories printed in the newspaper: "it gave them prestige; it felt good, even though the product on the Internet might be better" (Personal interview, 2002). The status differential was

also partly due to the fact that the online newsroom at this time tended to be inhabited by younger, less experienced journalists.

Indeed the contrast is also significant in terms of career development. It was not uncommon for online journalists to leave their paper's website and move on to work in the newspaper "proper". An editor at *The Guardian* website was optimistic about this internal movement as it was likely to change attitudes in the newspaper newsroom:

> We now feed the paper with lots of young staff. I've lost one of my media reporters, my politics editor, two of my sub-editors to jobs on the paper, but that's great because what it means is that you are actually populating the paper with people who understand and have an interest in the Web, and actually I think that's how the integration will happen (Personal interview, 2003).

The introduction of new technology is always related to organizational change, and change is quite likely to meet some resistance. This can be applied in news production as well, especially because journalists' production processes and working routines in either television or newspapers have not changed substantially for many years. Moreover this change is redefining the responsibilities of journalists and is eroding the lines that separated television from print and Internet journalists, as well as the editorial from the technical staff.

However, because the technology is becoming friendlier to use and the media boundaries are becoming less clear, there is a certain imperative that drives traditional journalism towards multimedia journalism. This means that a journalist will no longer be identified by a specific medium in the same way that the news companies tend not to be identified by a single medium either – *The Guardian* is both a *newspaper* and a web publisher just as the BBC is a *broadcaster* and a web publisher.

Time pressure and workload
On the one hand the introduction of digital production systems in both broadcasting and publishing has increased the speed of the production process as a whole. Whereas the technology allows journalists to produce news more quickly, multiskilling, and the multitasking that it makes possible, does not. None of the people that were interviewed in this study claimed that multiskilling was quicker than traditional journalism. The fact that journalists perform more tasks means that they actually spend more time on a story than if it was done by two highly specialised workers. On the whole though, there was a consensus that news production has become faster and that this delay due to multiskilling does not offset the overall gains that result from digital technology.

The effect of this increase on production speed is significant but it is not translated into a more relaxed environment for journalists. The time pressure has increased due to the amount and kind of competition. Because technology makes production simpler and quicker, it all depends on journalists to beat the competition. There is no longer the excuse that "we are as fast as the technology allows us". Technology is now quicker than the journalists, which actually adds pressure on them.

A major concern that has been expressed by scholars and journalists alike is the fact the time pressure and the increased workloads make news analysis more difficult (Epstein, 1973; Tuchman, 1972; Altheide, 1976; Cottle, 1999; Scott, 2005). Journalists become increasingly obsessed with speed.

Furthermore, journalists who perform multiple tasks face less editorial control from their superiors. This is because there are fewer people involved in the production of a single news item and journalists' work is scrutinised less. The reduced layers of control make it more likely that mistakes will be published.

Although most journalists in this study agreed with the view that it is more important to get a story *"right and second"* than *"first and wrong"*, and insisted that accuracy, impartiality and truth continue to be important criteria of journalistic success, many expressed doubts as to whether this is actually followed in practice and indicated that there is growing concern about the effects of commercial competition and the apparent obsession with speed on the overall quality of news output.

The demands that are put on journalists appear to be making it increasingly difficult for them to produce work with the same degree of reflection and analysis as was possible in the past. Multitasking and the pressure to be quick adds to workloads and increases the levels of stress they feel at work. For journalists working in organizations such as the BBC the pressures are felt particularly acutely because of the number of outlets they are expected to report for. The evidence from this research indicates that it is the competitive environment rather than the technology that is responsible for this. In television news the fierce competition on one hand and the need for "live" coverage on the other, can create working conditions that are "asphyxiating" to quote one informant.

Although it is undeniable that a combination of intensified competition, greater workloads and tighter deadlines are adding pressure on journalists, this is not considered necessarily a negative development inside newsrooms. The journalists in this study acknowledged that while things are done very quickly and there is little margin for error, they rejected the suggestion that the pressure is too great and had detrimental effects on their output. They claimed that mistakes happen very rarely - they are used to working to very tight deadlines and pressure is seen as a normal aspect of the job. Indeed the ability to produce high quality outputs in a very short time is considered to be an essential occupational skill. Journalists rarely complain about pressure because it is considered an integral part of the job and enjoy the *"adrenaline rush"* that it produces. On the contrary journalists eagerly *"expect the unexpected"* and are not satisfied when the "newsday" is quiet.

Conclusion

By providing a perspective on the particular changes that result from convergence from inside four newsrooms the research reported here has shown that traditional news organizations are undergoing significant changes in terms of strategic thinking and work reorganization which ultimately affect the work and role of journalists.

Multimedia journalism (i.e., journalists producing output for more than one medium at a time) may well become commonplace in the future as new generations of

journalists learn the flexibility they need to switch between media alongside the other skills they need to perform acceptably in the occupation. This is already happening in the British newspaper industry (at *Telegraph* newspapers, for example), but even if this does not become widespread across the industry as a whole the technological infrastructure is sufficiently established for news organizations to proclaim the arrival of the era of multimedia news production. Converging technologies allow the treatment and processing of information to be medium neutral. The integration of online and offline newsrooms and the delivery of news over multiple outlets are good examples of this. Moreover, if we assume that the Internet is likely to continue growing in importance as a medium for news, the number of multiskilled journalists will grow at the same time.

Sharing of information between different outlets was encouraged in all the organizations studied and there is good evidence to show that the distinctions between medium-specific journalists are being eroded as news production goes multimedia. It is now common for journalists to work for more than one outlet at least some of the time and a growing number have successfully switched from one medium to another.

Yet, total convergence in news production was not yet a reality in any of the organizations studied. There are still many technical and organizational issues preventing this. From the perspective of output quality complete convergence may be undesirable. It is clear that the organizations studied here have for mainly commercial reasons embraced the convergence of working practices and distribution mechanisms. The main source of resistance to complete convergence in most cases is the journalists themselves: for some the concept of multimedia working conflicts with their professional values, challenges the decades' old division between media, and raises issues of training. There is a widespread belief in newsrooms that skills are not readily transferable and that multimedia reporting does not suit every journalist even though most multiskilled journalists claim that they have benefited from a better understanding of multiple production processes. While multitasking and multiskilling challenge journalistic culture and tradition, the main argument concerns the issue of quality.

However, it is clear that despite the varying degrees of convergence and multimedia reporting in each news organization, journalistic practices are changing considerably and are challenging our understanding of news production processes. As the divisions between media are becoming less clear, the distinctions between broadcast, newspaper, and Internet reporting become less defining for the journalistic profession. As we pointed out at the beginning of this article, our data was obtained nearly five years ago. The snapshot it gives of the reactions of journalists and managers at that time to the changes taking place are none the less instructive for it helps us to anticipate their likely reactions and responses in future. Our data suggest that even though journalists may not be completely versatile at the present time, it is highly likely that the organizations' moves towards convergence will have the effect of fostering the skills that journalists will need to survive. News production seems to have entered a phase of continuous change and redefinition where information is to be treated more and more as a medium-neutral commodity. Because this process is ongoing it is difficult to draw firm conclusions as to the likely impact on future working practices and ultimately the quality of news. While the forgoing has given us some hints about the future we now need further and more tightly focussed research

on news production and journalistic practices if we are to understand better the work of journalists in modern newsrooms as they evolve.

Notes

1. We base our discussion on empirical research on journalists conducted in 2002 and 2003. In the intervening years news production processes have continued to evolve rapidly and the changes have undoubtedly had, and continue to have, profound effects on journalists and their working practices. Obviously, our data cannot tell us anything about the impact of the emergence and growth of online news services provided by new media outfits such as Google and Yahoo, the established media's increasing commitment to alternative means of delivering their products, the rise of news blogs and the advent of the "journalist blogger", or other changes in the more recent past. However, as will become clear, our data has something to say about the way journalists and their managers were beginning to react to changing conditions in the early 2000s and to the changes that were anticipated. This was an important time in the history of the news organizations in question and they were then (and still are) widely regarded as being at the forefront of change.

2. Traditionally, online newsrooms in most news organizations have been clearly separate from the main newsrooms because of the different production requirements of each medium.

3. At the time of the research only the BBC News 24 newsroom was fully digitized. The main BBC television newsroom was scheduled for digitization in the near future.

4. Digital newsrooms producing news for television do not use tape but store all the news material on a central computer server. This means that there is no need for the time consuming dubbing of tapes and material can be accessed automatically by the gallery once it is edited.

5. Audiovisual material on newspaper websites at the time of the study was being produced by specialised staff, and not by multiskilled newspaper journalists. At the time of writing there is evidence of further, rapid evolution in the use of multiple formats in the British newspaper industry. Several newspapers, including the *FT* and *The Guardian*, were beginning to offer online video content, either self-produced or in collaboration with specialist partners such as ITN; audio "podcasts" and other "click and carry" content were becoming commonplace on newspaper websites.

6. Even before digital newsrooms were introduced the BBC had tried to make its news workforce "bi-media", asking journalists to report for both radio and TV. At the time of the research this had largely been abandoned because of concerns over quality.

7. This is echoed in the findings of research conducted outside the UK (see, for example, Dickinson and Bigi, 2007) and in research summarized by Deuze (2004).

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