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## **Digital technologies and a changing profession: new management devices, practices and power relations in news work**

Digital technologies are profoundly disturbing not only news delivery, but also the whole organization of news work. The relationship between digital technologies and news has especially been investigated in media and journalism studies. Scholars in these fields have followed the introduction of digital technologies into news work (Ursell, 2001; Pavlik, 2000, 2013; Saltzis and Dickinson, 2008; Meikle and Redden, 2011; Plesner, 2010) and reflected on a range of consequences of this development. In studies of news organizations, it has been pointed out that the question of digital technology appropriation is not just important for technical or economic reasons, but also because it affects organizational structures, work practices and representations (Boczkowski, 2004). Media management scholars' research such as Nissen (2013) and practitioners' reports like the European Broadcasting Union (EBU, 2014, 2015; Nissen, 2006) have looked to digitalization as a reason for managerial turnaround in public service media (PSM) organizations, whose position is increasingly "contentious" in "today's liberalized European media markets" (Nissen, 2013: 69). For instance, reporters and editors must manage market pressures and time pressures in new ways (Klinenberg, 2005) due to the technological development towards a convergent newsroom. Two recurrent themes in this stream of literature are changed professional identities and changed professional relations – topics that are central to organization studies.

On the side of organization studies, relatively little attention has been given to the role of digital technologies in reshaping the organization of news production and journalism (for some exceptions, see e.g. Czarniawska, 2011; Raviola and Norbäck, 2013). This is despite a mounting engagement with the role of (digital) technologies in organizations and organizing processes (Orlikowski and Scott, 2008; Leonardi, 2007; Plesner and Gulbrandsen, 2015; Zammuto et al., 2007). But as media and journalism studies show, news production is an empirical setting with particularly rich and fruitful opportunities for organization scholars to investigate issues of

professional work and changed professional relations, especially with regard to the role of digital technologies.

This article aims to investigate *what role new management devices play in the development of a profession in an organizational setting that is shifting to new technologies*, with particular focus on changed professional relations. The context under empirical investigation is public service TV news production, and the professional group studied can broadly be defined as journalists. This article builds upon a qualitative study at the national Danish public service broadcaster, previously known as ‘Danmarks Radio’, but now referred to simply as ‘DR’. In particular, we have focused on the organization of the production of its two most important TV news shows, broadcast daily at 18:30 and at 21:30.

We position our study in relation to the literature on professions and argue that to be able to highlight technology’s role in the development of a profession, it is useful to draw on Actor Network Theory’s idea that agency is distributed among human and non-human actors. The following section highlights that the literature on professions has provided important insights on the (power) relational aspects of professions, but has largely ignored how non-human elements – such as management devices – are part of these relations. It then points to some empirical contributions from media studies on digital technologies in news work, and to the potential for a sociomaterial approach to professions undergoing change. We then introduce our qualitative methods and the case. In the analysis, we treat two phenomena, the news table and the news concept, as management devices. In the conclusion, we reflect on how these management devices enable the news strategy, and have other organizational consequences such as new practices, power relations, and even a new kind of profession.

### **Theoretical background: Professions, media professionals, and digital technologies**

Professions have been objects of study in sociology for a long time. The literature has identified key elements of professions, such as their systematic theory, their authority and autonomy, and their ethical code (Greenwood, 1957; Wilensky, 1964; Goode

1969; Freidson, 1973; Sarfatti Larson, 1977; Klegon, 1978; Abbott, 1988). It emphasizes how professionalization provides an ideology that defines a field of expertise, provides its members with ethical norms, and prescribes what to do under various conditions (e.g. Carr-Saunders and Wilson, 1933; Wilensky, 1964; Moore, 1970; Sarfatti Larsson, 1977; Freidson, 1973, 1986; Abbott, 1988; Halpern, 1992; Schleef, 2006; Scott, 2008). The project of professionalization has been seen as a strategic move of a group to acquire and maintain power, control and status over society (e.g. Freidson, 1986, 2001; Greenwood et al., 2002; Mazza and Strandgaard Pedersen, 2004; Scott, 2008). Freidson (1973) and Sarfatti Larsson (1977) particularly emphasize the gatekeeping activities of professions as the origins of professional control and power.

With the expansion of all kinds of organizations in society (DiMaggio and Powell, 1983; Ahrne and Brunsson, 2010), the number and importance of professionals has increased, and scholars have paid increasing attention to the relationship between professionals and organizations. Many different names have been given to professionals working in organizations: program professionals (Wilensky, 1964), organizational professions (Sarfatti Larson, 1977), quasi-managerial practitioners and managing professionals (Causer and Exworthy, 1999), and hybridized professionals (Noordegraaf, 2007). Brint (1994) has called for a move from professionalism to expertise, in order to capture the move from an elite culture to an organization society, in which expertise is valued and traded on the market. Two aspects are common to the literature on organizational professionals. Firstly, the literature points to a tension between a professional's ambition for autonomy and public service, and an organization's management striving for control and commercial success (Kornhauser, 1962; Engel and Hall, 1973; Sarfatti Larsson, 1993). Secondly, it emphasizes the relational dimension of professionalism. As Hughes (1984) puts it, each professional tries to find a balance between responding to others inside their professional group and those outside it – workers of other professions, clients, and various segments of the public.

#### ***Professionals in media organizations***

Several media studies focusing on journalists have documented both these aspects of organizational professionalism. Journalists have, in particular, opposed managers (Smith et al., 2007; Huang and Heider, 2007; van den Bulck et al., 2013). Conflicting

discourses have been identified: A professional discourse legitimizing journalists as an autonomous and self-regulating group, against a managerial discourse, which suggests a form of business thinking common to other industries (Anderson, 2013). Management tasks have long been perceived by journalists as “dirty work”, that is, work considered physically disgusting or wounding one’s dignity and moral conceptions (Hughes, 1984). The conceptions and practices of management are, however, changing in the newsroom, not least in the face of digital technologies. These changes are reflected in media studies’ interest in digital technologies and their consequences for the profession of journalism. Studies in digital technologies have shown that they produce new occupational categorizations like ‘the web people’ vs. ‘the news people’ (Huang and Heider, 2007) or ‘the media manager’ (Aguilar-Gutierrez and Lopez-De-Solis, 2010), or make old journalists’ professional values and notions of expertise obsolete in contrast to the new "non-linear," "iterative," "interactive," and "network" modes of thinking (Boyer, 2010; Nikunen, 2013). By contrast, the literature also teaches us about journalists concerned with the negative effects of technological convergence on the quality of their work (Smith et al., 2007) and who engage in the defense of their expertise through reference to ‘serious, old fashioned reporting’ – as opposed to its purported occupational opposite, news aggregation (Anderson, 2013). The incorporation of new technologies into news production routines has also been shown to privilege laborers with technological skills, thus altering hierarchies and producing new tensions (Robinson, 2011).

The sociological literature has offered a lot of interesting insights on organizational professions, but has paid very little attention to the role of technology in relation to professions. Media studies have empirically shown how digital technologies contribute to reshaping the work of journalists, but they do not explicitly reflect on the subsequent changes to the profession. We therefore intend to contribute to both literatures with a focus on the role of ‘devices’ in changing a profession. We agree with Bechky (2003: 724) that technology (or artefacts, or devices) “provides a window into the social dynamics of occupation groups, because as artifacts cross occupation boundaries, they highlight the social interaction coalescing around them.” Inspired by this call to focus on artefacts to understand the dynamics of professional work in organizations, we draw on the conceptual tools offered by Actor-Network Theory (ANT). This creates a foundation for investigating the relationship between

technology and professions in the particular context of news production and news management.

***Digital technologies and organizing***

Organization theory has been interested in technology for a long time and in a number of different ways. Studies of technology's role in organizations first appeared in the writings of authors like Woodward (1958) and Sayles (1958) and became central to contingency theory (Perrow, 1967; Galbraith, 1973). More recently, organization scholars theorizing the notion of sociomateriality have sought to recover the 'lost' concept of technology (Orlikowski and Scott, 2008). Despite the continuous interest in the relationship between technology and organizing (Barley, 1986; Orlikowski and Scott, 2008; Leonardi et al., 2012), few studies have investigated the intersection between technologies, professions and organizing. Hence, it is the ambition of this article to position itself in this intersection by shedding light on the role of technologies in defining or changing professional groups and their work, particularly in the context of a public service broadcaster's newsroom.

To highlight technology's role in organizing, we build on a basic assumption of ANT, shared by organization scholars working with sociomateriality. Latour (2005) and other ANT scholars assume that the social is a dynamic system of associations between humans and non-humans. Callon (1986) and Latour (1986) thus prompt us to raise the issue of non-human agency in organizational life, arguing that organizations must be analyzed as assemblages of humans and non-humans acting on the same level in the organization of networks.

These theoretical assumptions lead to a symmetrical and agnostic approach to our empirical material, reminding us to keep an eye on both human and non-human agencies, and not privilege humans as the only active part in creating reality, or, in this case, new practices and relationships among journalists. We will thus look at the reorganization of a profession as a phenomenon co-created by technologies, humans, and possibly other elements. As pointed out by Law (1992: 385), a sociomaterial network is often perceived as a single actor (for instance, 'a profession'), especially if all its elements act routinely. Therefore, a reorganization is an opportunity for reexamining a profession, as this 'social phenomenon' gets opened up for scrutiny when its elements are reordered. In our case, when the spaces, tools, positions, and

concepts of news work change, we can begin to reconsider what news journalism is, and see how the profession is in transformation. As Law expresses it, the core of the ANT approach is “a concern with how actors and organizations mobilize, juxtapose, and hold together the bits and pieces out of which they are composed” (Law 1992: 386). In our case, this implies that the profession is not a fixed entity, and that we need to pay attention to how human and non-human elements actively compose or decompose it.

The idea that both human actors and non-human actors have agency implies that they are potentially powerful, or powerful to the extent that they manage to mobilize others around them. From the point of view of ANT, power is not a thing possessed by particular powerful actors – like managers – but comes about when many actors associate around a given element (Latour, 1986). When we look into professional relations in organizations, it is hence important not to take managerial power for granted. Instead, it might be productive to look at how both human and non-human actors contribute to the creation of new practices and relations within the profession.

In the following analysis, this symmetrical and agnostic approach has led us to focus on two devices and their role in the reorganization of news work, and hence their agency in relation to the reconfiguration of the journalistic profession, including the relationship between journalists and managers. One device is a digital coordination tool, whereas the other is a concept conceived by management and inscribed in various technologies and situations. Both devices carry managerial intentions, but from the perspective of ANT, to look at the role of technology is not simply to examine how organizational members put technologies to work to achieve their goals. The technology has agency, too. As we will see in the case of the two devices, they partly perform the role that management hopes for, but they also play a somewhat unrecognized role in transforming professional relationships and practices.

## **Methods**

This article is based on a study that utilized various qualitative methods to shed light on the relationship between digital technologies, organizational changes, and changes in professional identities and relations.

The first part of the study consisted of observations of work practices in the newsroom. We spent four whole days of on-site observation following the production

of the 18:30 news and the 21:30 news. This amounted to 48 hours of observations. In line with grounded-theory principles (Martin and Turner, 1986; Charmaz, 2006), the decision to design our observation studies around four whole days was made in collaboration with the practitioners, who are experts in news work. It is commonly recognized that news production is highly routinized (Tuchman, 1973). Since the organization of news work follows the so-called news cycle, and work routines are repeated in practically the same way every day, we estimated that our four days of observations were significant and appropriate windows to look into the practices of news work in the DR newsroom. The observations also gave us an understanding of what present-day professional news work consists of, and provided a foundation for conducting subsequent interviews with the involved producers, editors, anchors, and managers. We had informal talks and conducted 11 semi-structured interviews that lasted between 30 and 60 minutes. All interviews were recorded and transcribed. The themes guiding the interviews were organizational changes, professional relations, professional identities, and technology use. The primary format of the interview questions was open, asking for accounts of work experiences, work practices and work relations, with more specific follow-up questions relating to the themes.

In our production and analysis of all the material, we focused on what happened at DR News with the physical relocation of the broadcasting company, as it seemed from our conversations with the practitioners that this relocation became the occasion for a new strategy that included new technology and a fundamental organizational change.

All observation notes and transcriptions were coded in NVivo. In the first instance, we searched for passages matching the two themes derived from our research question, namely 'technology' and 'profession'. Within both categories, we saw that the matrix organization and reorganization were recurrent themes. As the coding work progressed, we established a range of sub codes that denoted elements of the reorganization. Inspired by ANT's insistence on paying attention to the non-human agencies in organizational change and stabilization, we became particularly interested in two sub codes revolving around 'the news table' and 'the news concept'. They were very visible in practice and referred to repeatedly in accounts, not just as technologies of coordination or communication, but also as playing a vital role in the reorganization of news production and the establishment of a new matrix structure.



‘Matrix organization’ was subsequently established as a code, and we analyzed the whole material by asking 1) how are the news table and the news concept interlinked with the reorganization of news production into a matrix structure? And 2) with which consequences for professional relations? We have chosen to conceive of the news table and the news concept as ‘devices’ that management uses to organize news work practices. This is in line with Callon’s analysis of ‘writing devices’ as highly effective management instruments. Callon states that:

[Writing devices] make it possible to integrate a large number of actors and variables into decision making. And these devices can be multiplied as need be. They respond to the dynamics of increasingly complex systems of action, but they also make it possible to coordinate different points of view, expectations, and behaviors. (Callon, 2007: 212)

In our case, the news concept can be seen as one such writing device, interacting with digital devices such as the news table and the news wire.

In the following analysis, we examine these two devices according to the same structure, focusing on how they were conceived, how they are used and interpreted, and how they have consequences for professional identities and relations. This structure emerged during our reiterations between the field material and our theoretical approach during the analysis. Such a structure is consistent with our sociomaterial approach, assuming that social phenomena such as a profession is made up of a network of humans and non-humans: The two devices account for the ‘material’ in sociomateriality, while the focus on conception, use, interpretation and consequences allows us to investigate the ‘social’ in sociomateriality.

### **The case: A public service media organization**

TV news production can be seen as a technology-dense environment, and the creation of a TV news show would be unimaginable today without a number of digital technologies, shared and used by different professionals in various ways. This makes news production both a highly haphazard and technologically complicated process of deliberate construction involving the interweaving of reflexive professional journalists as well as developing, unpredictable technologies (Hemmingway, 2008). Thus, we think it is particularly interesting to investigate how the profession of journalism has developed in a public service broadcaster’s newsroom that is shifting to new technologies. This context raises a number of questions related to new kinds of professional work practices and relations in a new technological setting. Studying this

context is particularly relevant and interesting at the time of writing, as “public service media is at a crossroads – or at least it has been perceived to be so in the last two decades” (Gulyás and Hammer, 2013: vii), and their situation is often pictured as dramatically swinging between “Future or Funeral?” (Steenfadt et al., 2011). In 2009, the Council of Europe pointed to four main structural changes for public service media (PSM): digitalization, changing audience habits, political-economic pressures and commercial competition (Council of Europe, 2009). These changes have been so significant that PSM operations have been challenged. Gulyás and Hammer (2013: vii) argue that “[a] key question is about the nature of PSM content and what it means in the digital age.” Our study at DR investigates how news work has been reorganized to tackle such shifts and changes for PSM, at least partly.

DR was founded in 1925 and produces news and entertainment on TV, radio, Internet and mobile platforms.<sup>1</sup> DR is regulated in accordance with the Radio and Television Law<sup>2</sup> and is obliged to fulfill the role of a public service media enterprise. The organization has around 3.400 employees organized in a range of editorial sections that deliver programs and content to all of DR’s media.<sup>3</sup> In recent years, DR has faced increased competition from other TV channels, and ‘the digital revolution’ has changed the material and technological conditions that underpin news production.

These conditions have been made very visible in connection with the physical relocation of DR, because the most recent technologies could effectively be implemented in connection with the organization’s move to a newly-built physical setting, ‘The DR Village’ in Copenhagen. Between 2006 and 2007, all media production units (TV, radio, web) were gathered there, and this became an occasion for a new organizational strategy under the headline ‘One DR’. Following the appointment of the present general director in 2011, a major change to DR’s TV channels was effectuated. In Fall 2012, the flagship channel, DR1, got a new profile. The following analysis of the strategic reorganization of news production should be seen in the context of this major organizational change.

### ***Reorganizing news work***

When DR moved to their new premises, a number of changes were made to their organization of news production. With regard to content and delivery, the news was supposed to be in line with DR's overall brand, and with regard to resources, news work was supposed to be based on much more sharing and collaboration by breaking down divisions between hitherto independent editorial sections.

Occasioned by the move to a shared newsroom (from geographically dispersed localities and completely disconnected news production practices in different sections), management decided to implement a matrix structure in the organization of news production. On the most basic level, "a matrix is a type of organization structure that is built around two or more dimensions, such as functions, products, or regions, and in which people have two bosses" (Galbraith 2009: 3). These might take many forms, and when the news managers talk about their new matrix structure, they refer particularly to the replacement of the silo structure with a structure enabling more cross-unit collaboration. Earlier, a given news program would be produced by its own editorial section consisting of a rather large group of editors, reporters, producers, technicians, anchors, and so on. In the new structure, small output units should be responsible for the delivery of the various news formats; for instance, the 18:30 TV news, the 21:30 TV news, the radio morning news, or the web. Input units should produce the content, organized around the different themes of news, such as foreign affairs, domestic affairs, the economy, and so on. Input units should deliver content for several output units, so that each news program does not have to work on the same material in parallel – but can draw on the same input resources. Output units should not have their own staff to produce content, but should play a defining role in selecting and shaping stories.

[Insert figure 1 and 2 around here]

Although the matrix organization of news production has been a reality for almost a decade, it has been continuously adjusted. This radically new way of working has created new needs for support functions, for moving around employees, for reorganizing the news management, for using digital technologies, for developing concepts to collaborate around, and so on. These developments have had observable effects in a number of domains; they have seriously challenged organizational

cultures, they have had implications for layoffs and recruitments, they have reshaped the news products, and they have demanded new daily routines.

In the following analysis, we have chosen to focus on two mundane devices that are intertwined with the introduction of the matrix organization in the sense that they are fundamental to the matrix functioning. The first is the so-called news table, and the second is the news concept. These devices are interesting because they create a particular type of collaboration, as well as particular relations between the professionals of the news organization. This analysis will enable us to discuss the interplay between digital technologies, reorganization, and new professional practices and relations.

### **Analysis: The news table and the news concept as management devices**

#### ***The digital newsroom and its devices: the news table***

The functioning of a newsroom is dependent on a number of technologies. In this part of the analysis, we will focus mostly on one technology, the *news table*, which is central to collaboration in the matrix structure. To understand this as an organizing device, we will account for how it was conceived, how it is used and interpreted, and how it has consequences for professional work practices and relations.

#### *Conception*

The news table is an online platform, where so-called shared stories are listed. These are topical stories that most news platforms would normally feel obliged to produce. In the previous organizational structure, the radio and the various TV news formats would not coordinate the production of such stories, so sometimes 8 to 10 journalists would be working on the same story, and several crews with heavy and expensive broadcasting equipment would travel to cover the same event.<sup>4</sup> With the introduction of the news table, a newly-established news center can now work on these shared stories and deliver content that all platforms can use. It is hence an organizational entity separate from the output and input units, ensuring that the most important daily news is always covered. The news table links to the so-called Media Archive, another new technological platform, where all raw material produced or collected by the whole organization is stored. The manager of the news center has been given the

authority to select a top story that needs to be covered by all platforms, and to prioritize three other stories. They appear on the top of the news table, followed by other stories produced by input units. All employees can access the stories via the platform, use their footage, access facts, and see how the story has hitherto been covered.

[Insert figure 3 about here]

#### *Use*

Digitalization has radically changed how news material is produced, stored and delivered. In principle, much editorial work in the newsroom could be done from a desk with a computer, for instance, picking up stories from the news table. However, the former small offices belonging to individuals have been replaced with a gigantic open newsroom. Here, the news center and a large screen with the news table's selection of prioritized news are placed at the center so that everybody walks by and interacts with these units. Editors and reporters constantly meet physically around screens showing the news table, point to the screen, click their way around the stories, discuss evidence and check on the progress of reporters in the field.<sup>5</sup> As an editor puts it: "If anything sudden happens, I walk over there just like everyone else, going 'are we moving on this one, who do we send?'"

When observing the long days of evening news production, it is obvious that there is a lot of activity around the news table. A particular news show is relatively dependent on the news table and the content produced by the news center and the input units. Although the news table frees up resources – because fewer people are in the field to cover a given event – it also creates a great demand for cross-unit collaboration. The open space of the newsroom, as well as an increasing number of meetings, are meant to facilitate this close collaboration. The news table is thus a central device in the matrix organization, because although much of the material is produced and prioritized by the news center, input units also contribute with stories and material, and obviously, output units are very dependent on all of this material, because they no longer have their own production crews, only a few reporters.

#### *Interpretation*

The implementation of the news table, and the associated media archive and news center, was met with some reservations. The idea of rationalizing basic news

production and the sharing of content shed light on the now emerging tension between the former practice of pursuing stories individually and the new imperative to share material.<sup>6</sup> In the time right after moving into the new premises and the shared newsroom, editors and journalists would try to actively hide stories from their colleagues, rather than share them.<sup>7</sup> It took time to negotiate what the benefits might be of giving away material and giving away control over the production of the content. This was bound to be an issue for journalists, who cherished solo stories and had a habit of working in a silo structure. As one anchor puts it:

Since news became digital...It has been a demanding exercise to collaborate, to share, to trust, to work rationally with... the rationalization of work flows, not just to save money, but to deliver something else, of higher quality.<sup>8</sup>

One manager addresses the issue of secrecy and quality by stating that more mistakes are discovered now that more people have access to the same data collection and sharing platforms, and many more people engage with the same material. She also emphasizes the uniqueness of this aspect of the matrix structure – colleagues travel to DR to study how it works<sup>9</sup>; that is, the dismantling of the journalists' sense of ownership in the name of sharing.

Over time, more people have embraced the matrix organization and its devices.

Well, it is about understanding your role in that matrix [...] I guess the great thing about it is that I receive something which is not me, 37 years old, with my perspective and my little family and my views on these issues... Instead, I am surrounded by other people, who have other voices, who go 'hey, this is not a story', or who say 'you ought to do this.'<sup>10</sup>

This editor was not the only person interpreting the outcome of the matrix organization in such a way. Various managers, editors and other professionals were very articulate about how resources and decision-making had been redistributed, and what this meant in practice. The general image was one of give-and-take; they may have lost manpower or decision-making power, but rationalization has provided new types of resources on the input side, and the constraints set up by the matrix frees creative energy to operate within this new and tighter room of maneuvering.

#### *Consequences*

As indicated, the reorganization around the news table and other digital technologies has had consequences for both professional work practices and collaboration.

The shared production and storage of news implies that collaboration on the meaning of a story is much less determined by an individual journalist or editor, and much more by a collective of input and output journalists, where management has direct access to the stories under production, as well as constant interaction with the producers. In the matrix structure, input people do not determine if, when and where their story is used. Output people take such decisions, but they are dependent on other's input. In this situation, input, output, news center and managers constantly negotiate over content, form, resources, and so on. The resources freed by the avoidance of parallel work on the same production are put into this collaboration, which centers on the quality of the journalistic product – more so than before. Editors explain that they have relatively less power today than 10 years ago<sup>11</sup>, and an anchor talks about his experience of this shift:

We are much sharper today when we put together a news show. Before, the quality of the shows was really uneven. If we had an editor on duty who had some personal preferences, a love of sirens and traffic accidents, then this could be the top story of our news show, regardless of what our strategy might be... The editor of the show was the king or the queen of the day.<sup>12</sup>

While this has changed, the editor can still be seen as part of quite a powerful team. The leading team responsible for the production of the two TV news shows we studied included three people: an editor, an anchor and a producer. They sit together with a designer at a group of four desks facing each other with the editor and the anchor on one side and the producer and an assistant or a graphic designer on the other side. From this position, they steer what happens in regard to the evening's show by assigning tasks to different professionals sitting in other parts of the newsroom. During the day, the leading group is frequently visited by other professionals who have been called up to work for that specific TV news show. It is clear from the interactions that input journalists need to sell their stories to the output units, or to negotiate the details of the delivery of the story.<sup>13</sup>

It seems that the digital newsroom and its devices calls for a particular type of collaboration and coordination that involves an unprecedented level of sharing and collective decision-making – among hitherto separate platforms of news delivery. In the analysis above, the role of management was not as evident as it is in the daily practices of news production. We observed that management is very present in collaboration and coordination in a number of ways: by being centrally located in the

newsroom, by phoning editors and coming by the work stations, and by managing through a news concept. The next section will describe the features and functions of this device.

***The news strategy and its devices: the news concept***

Just as the functioning of a newsroom is dependent on a number of devices, so is the realization of a news strategy. In this part of the analysis, we will focus mostly on one device, the *news concept*, which is another key device for collaboration in the matrix structure. To understand this as an organizing device, we will account for how it was conceived, how it is used and interpreted, and how it has consequences for professional work practices and relations.

*Conception*

The abundance of free online news offered by a range of players in the media industry and beyond has increased competition for media users' attention. To meet this increased competition, DR's strategy has been to create a more distinct news product that is possible to recognize – as a quality product – in a chaotic media landscape. A very important device in this strategy is the news concept, launched in 2012 by news management. Several years before this, various people had worked on improving the quality of the evening news shows, apparently without great success.<sup>14</sup> Employees recall the low quality of news, the low level of engagement, and the difficulty recruiting talented people.<sup>15</sup> A new member of the news management was asked to dedicate his time to the development of two concepts for the two evening news shows, which he did in collaboration with his colleagues. The result was a binder with a detailed account of the structure, type of content, graphical design, and other elements that make up a news show. Therein, it is stipulated how many seconds a given type of story may be broadcast, and how the transition from one story to another should occur. At the same time, only a very limited number of people are allowed to appear on the show as anchors or correspondents. The idea is that a DR news show should be immediately recognizable and the delivery should always be of the same quality.<sup>16</sup>

[Insert figure 4 around here]

*Use*



When the editors begin work in the morning, they open the so-called newswire software, where the different sections of the news show are pre-programmed in accordance with the news concept. For instance, there are slots for the ‘top’, ‘news’, ‘body’, ‘report’, and ‘ending’. After the morning meetings among staff from input, output and (in the case of the early news) news center, the editor immediately begins to fill out the slots. At the morning meeting for the late news show, the structure is even drawn up on a whiteboard. Throughout the meeting, the editor fills it out as decisions are taken about which stories to acquire from the input units.<sup>17</sup>

As we observe the news production during a news cycle, many references are made to the news concept, both by the editors and the managers. The editors make many decisions on the basis of the concept. For instance, we observe a discussion about an ongoing production of images and the possibility of combining these images with graphical illustrations containing numbers. An editor says, “well, we have very strict concepts regarding that”, and encourages the reporter to think about an appropriate visual background for the graphics. On another occasion, the editor tours the editorial suites to check up on the ongoing work on the different stories. She tells a reporter and a technician that they need to cut out any images of the reporter, as he is not one of the correspondents authorized by the concept. The reporter protests mildly, arguing that a rather neutral image of his back makes no difference, but the editor insists.<sup>18</sup>

Each night is concluded with a meeting of all the contributors to that night’s news show, during which one of the TV news managers gives feedback. This feedback is tightly connected to the news concept and how well each story – as well as the whole show – adheres to the concept. At one feedback session, we observed the manager praise a story, interpreting it as a good example of how the use of correspondents stipulated by the concept raises the quality of the product.<sup>19</sup>

#### *Interpretation*

In the opinion of the managers, the news concept precisely creates an occasion to repeatedly evaluate and articulate how well employees succeed in achieving the strategy. The evening feedback is used to reiterate what the concept is about, and why the news production needs it. As one manager puts it, “sometimes I feel I have been talking about that strategy constantly for the past five years. But well, I believe in that”.<sup>20</sup>

The very fixed concept is both interpreted as limiting and productive. With regard to the limiting effects, an editor explains:

The most difficult thing about it is the fixed elements that you need to squeeze in between your stories. Sometimes when you would really like to spend some more time on this one, you are challenged by time because you need to fit in all those little items. That's the difficult part. Then the best thing to do is approach your boss and ask 'I think we should do like this, can I do that?'<sup>21</sup>

As we observed, editorial independence is effectively dismantled by the concept. If it is to be bent slightly, this requires managerial approval (in the quote above 'the boss' is the editor-in-chief of the TV news and not part of top management). This has caused some dissatisfaction, but many employees have come to appreciate the strict limits and have taken responsibility for achieving it. For instance, one editor believes in staffing the output units with few, recurrent people, simply to reduce the risk of employees working beyond the confines of the concept.<sup>22</sup> The editors talk about the advantages of 'dogmas':

We have never worked with such a tight concept before. It is like having dogmas; it is really nice to work with because it forces you to make choices. And that's always the hard thing. Also for the bosses themselves. I feel like I am the guardian of this. Maybe [managers] want... "Well, can we squeeze this into a news story?" No, not if it ought to be a longer story, then we cannot tell it in one minute and 15, we need to cut it out. It forces us to edit with more edge and courage.<sup>23</sup>

It seems that many people are ready to accept the tight control because of the resources made available through the realization of the matrix structure and the prioritization inherent to the news concept. They observe that the resources are channeled into the production of original stories that sometimes become agenda-setting and thus contribute to DR's ultimate goal, to deliver valuable public service.<sup>24</sup> The concept also becomes part of the construction of a professional hierarchy because those closely connected to it obtain authority from it:

We have reduced the team a lot, and this was not driven by any form of coincidence. As an instrument to increase quality, secure that our news is recognizable and avoid a sloppy way of working with the concept; a small group of people with the same mission, and [who are] the best.<sup>25</sup>

Thus, as this anchor states, people in the newsroom seem not only to accept the downsizing of the editorial team responsible for the actual production of the news programs, but also to explicitly recognize that the "small group of people with the

same mission” is also the best. They do this for the sake of better realizing their mission, namely public service.

### *Consequences*

Like in the case of the news table, the news concept has visible consequences for collaboration and power relations. Earlier, collaboration would almost exclusively be an issue within the particular editorial sections, and would be based more on individual professional judgment and ad hoc decisions. With the matrix structure, new and necessary collaborations across the input and output units demand new forms of negotiation, and the news concept creates rather strict limits about what can be decided. It is a very powerful element when it is activated to close a discussion or make professional choices.

The news concept is thus instrumental to the more centralized control of news production, and creates a closer connection between management and output units, who need to be aligned to make the concept work in daily practice.

The news concept (as part of the matrix organization) also creates new types of journalistic professionalism. To make a recognizable, standardized product, the news organization now has fewer independent journalists delivering the final product. Instead, the functioning of the concept depends on people who are deemed best at ‘telling the story’ and ‘connecting’ to viewers. The output units thus play a very large role in shaping the product, and other journalists can only hope to sell their stories to those central players. Then again, ‘storytellers’ no longer find and develop stories themselves, and input people have a unique opportunity to work on stories based on preference, with less regard for the daily grind of news production.

### **Discussion**

Through the physical setup of the newsroom and the collaboration around a number of devices, such as the news table and the news concept, the emergence of new kinds of professional work practices and power relations in news work become visible. We recognize three shifts in particular:

1. An increased collaboration among journalists and interaction between managers and output journalists.

2. A delegation of mundane work and power to technological devices.
3. An increased standardization of the news products.

#### ***Increased collaboration***

We have observed an intense collaboration among different journalists and between journalists and managers, both around the news table and around the news concept. In particular, the news table seems to draw people towards it and offers a space for (or perhaps enforces) negotiations among journalists. Like other scholars, we have found that digital technologies significantly shape journalistic work practices and categories of media workers (see Huang and Heider, 2007; Nikunen, 2013). What our study highlights, however, is that the news table can be considered a journalistic and a management tool at the same time: On the one hand, it focuses the discussions among journalists on news and prioritization – and recognizing and prioritizing news are considered to be the core of their profession. On the other hand, it rationalizes and standardizes the journalists' efforts to cover the main news of the day. The use of the news concept also produces many interactions between news management and output journalists. Their closeness around this device seems to produce a blurring of the boundary between journalist and manager, because they continually discuss and enact the strategy together. Referring to the relational dimension of professionalism that several scholars have emphasized (e.g. Hughes, 1984; Brint, 1994), our study illustrates how a device becomes an element in professional relations and contributes to reshaping professional groups and relationships.

We have thus observed that journalists and managers are not necessarily two very distinct groups, as media scholars (Smith et al., 2007; Anderson, 2013; van den Bulck et al., 2013) and sociologists of professions (Kornhauser, 1962; Engel and Hall, 1973; Sarfatti Larsson, 1993) have traditionally portrayed them. Rather, like the managing and hybridized professionals mentioned in the literature (Causer and Exworthy, 1999; Noordegraff, 2007), we see a continuum of different types of journalistic professionalism. At one end of the continuum, we see the more traditional, independent journalistic professionalism of the kind that the scholarly and Hollywood literature has made us accustomed to; at the other, we see a form of professionalism defined by journalists' understanding the organization's challenges and strategies.

#### ***Delegation to technological devices***

The news table and the news concept are linked to different technological devices, such as the news wire. In affecting how those other devices are structured, they take up part of the organizing work that was previously conducted by journalists. The news table, for example, gives a standard prioritization of the first four news items of the day and offers a shared treatment of these items. Every day the news concept ‘decides’ how the news product is to be organized by standardizing it and eliminating any possibility of deviation from that standard. Delegating such tasks to technological devices implies that journalists have more time to concentrate on how to narrate stories, depending on their priority and format. Some journalists consider this an improvement, as it gives them time to do what is considered one of the core skills of journalists.

Different technological devices centralize and rationalize some of the logistic work, for example, organizing the transportation of reporters to cover news; we could say that some of the so-called “dirty work” (Hughes, 1984) is delegated to devices. However, even some of the strictly defined journalistic work has been partly delegated to devices, for instance, prioritizing and formatting the news. This confirms the idea that in the news room, the borders between journalism and management are sometimes blurred, but it also introduces the idea that professional autonomy, independence and exclusive knowledge becomes constrained (Sarfatti Larsson, 1977; Freidson, 1973, 1986; Abbott, 1988). While Bechky’s (2003) study demonstrated how engineers keep their power over other professional groups (through engineering drawings and machines), our findings point at a reconstruction of boundaries both within the professional group of journalists and between journalists and managers.

We have also observed that while devices allow management to implement their news strategy and perhaps make it easier to accept “dirty work” in the newsroom, they also become powerful themselves, and come to act both with and against managers when decisions are made. This observation of the unexpected power effects of devices resonates with the theoretical backdrop of this study. As indicated earlier, ANT tells us that power is not an attribute possessed by particular powerful actors, but rather comes about when many actors associate around a given element (Latour, 1986). And this is precisely what happens with the devices. The devices have been launched to engender collaboration, and while this certainly takes place in practice, they also produce much more than collaboration. This could not have been predicted, because

devices only become productive and powerful when other actors attach themselves to them and thus energize them. As Latour would say, these devices have no ‘inner forces’, but their potential power is dependent on the energy given to them by all the actors surrounding them – power is thus distributed between actors (Latour, 1986: 266-67). Attachment to the devices becomes an important element in what we consider a standardization of the news product, with consequences for the professionals’ power and control (Freidson, 1973).

***Increased standardization of the news products***

Strengthened by higher audience ratings and a seemingly improved organizational climate, new devices like the news table and the news concept have managed to attach themselves to a lot of supporters. We can see at DR that journalists, technicians and managers have become increasingly loyal to the news concept. In line with previous literature on organizational professionalism (Wilensky, 1964; Sarfatti Larson, 1977), this marks a move from the independent professional journalist to the dependent organizational journalist, who has to collaborate with others in order to work and who has to rely on the given device to perform this collaboration.

Our analysis shows both how work is organized around shared devices in the newsroom, and how the streamlining and standardization of the news table and the news concept have engendered new power relations in the organization. Previously powerful positions have been dismantled and new relations of power have emerged. Unlike previous media studies (e.g. Robinson, 2011) and works in sociology of professions (e.g. Freidson, 1986; Scott, 2008), which have emphasized the privilege of one professional group over others, our study shows that, instead of being concentrated in certain people, power becomes distributed in the newsroom and seems to lie in the relationships among professionals and devices. The news concept, for example, seems to prevent not only journalists but also managers making free choices and deviating from it. As the analysis showed, the output journalists are themselves guardians of the news concept, insisting on following the concept even when their bosses suggest going against it.

In our analysis, power can be studied as distributed in a network, and professionals are not fully in control of access and practice (Freidson, 1993; Abbott, 1988). The gatekeeping activities, which have been claimed as the origins of professional control

and power (Freidson, 1973; Sarfatti Larson, 1977), are not performed by professionals, but rather by devices in association with professionals. Again, in the terminology of ANT, we may say that power is delegated among humans and non-humans. As Latour (1990) argues, it demands much less effort to have intentions inscribed into material or technological artifacts than to have human actors making conscious decisions do all the work. This point is visible when we see the news concept as acting more powerfully than individuals, and playing a central role in the standardization of the news products and the associated changes in the professional practices and relations of journalists.

### **Conclusions**

Our DR managers, media scholars, and practitioners (EBU, 2014, 2015; Nissen, 2006, 2013) all share the view that a public service media organization must work strategically with ‘the digital revolution’ in relation to news. Digital platforms such as Facebook, Twitter and YouTube are creating serious challenges for the whole news industry, as they provide increasingly popular and individualized news. The managers’ analyses of the competition produced by digital platforms have thus resulted in extensive organizational changes and the introduction of various management tools. In this article, we have investigated what role new management devices play in the development of a profession in an organizational setting that is shifting to new technologies.

On the basis of our analysis, we propose that devices such as the news table and the news concept can be seen as central to the reorganization of news work, as they function as organizing devices around which collaboration takes place. As such, they realize managers’ strategies while also producing new professional journalistic work practices and power relationships. We thus conclude that journalism as a profession evolves in an organizational setting that is shifting to new technologies in terms of both the aspects emphasized by the literature on organizational professions. First, with regard to the tension between journalism and management, journalistic professionalism seems to become a matter of understanding and realizing the news organization’s strategy, rather than following a more individualistic agenda against management’s goals. Second, with regard to the relational dimension of

professionalism, TV news journalism is becoming less individualistic and more collective.

We can summarize our findings in two main points. Firstly, in contrast to previous research, our study shows that professions (journalism) and management are not opposed to each other, but can instead be considered as constituting a continuum on which journalistic and managerial tasks become intertwined. Secondly, rather than supporting the idea that technologies make managers more powerful, our study shows that the increasing digitalization of news work, and the related introduction of new digital devices, does not make any particular group or person more powerful. Rather, power is distributed across a network of people and things, which has become stabilized in relation to the new devices. Having delegated some tasks to the devices, neither the managers nor the journalists acquire significantly more power; instead, the new arrangement increases the dependency of all the newsroom members on each other.

On the basis of our findings, we argue that to understand current developments in (journalistic) professional practices and relations, we must look beyond the literatures on professions. Taking inspiration from sociomaterial approaches and the empirical work of media studies, this article offers theoretical reflections on the relation between digital technologies, organizing and professions, and contributes to both media and organization studies. We show how the digital newsroom organizes professional practices and relations in new ways and how the digital revolution (the explosion in online news) creates a new type of professionalism – and new professional relations in media management.

Despite the methodological limitations of this study, which focused only on a limited number of interviews and observations, our study and contributions point to several interesting avenues for future research. The analysis has focused on two specific devices and disregarded all the other artefacts they are connected to. A more extensive ANT analysis of the newsroom, implying a more comprehensive view of human/non-human networks, could give us a fuller understanding of organizational changes. Likewise, a more extensive study of various management devices could help us understand their interplay and impact on the organization better. Both avenues



would surely lead to deeper insights into the changing profession of journalism and its relation to management.

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Figure 1. The previous structure in news production. News production was organized in divisions around each news show, so employees worked in a given editorial office in shifts to produce input and deliver the news.

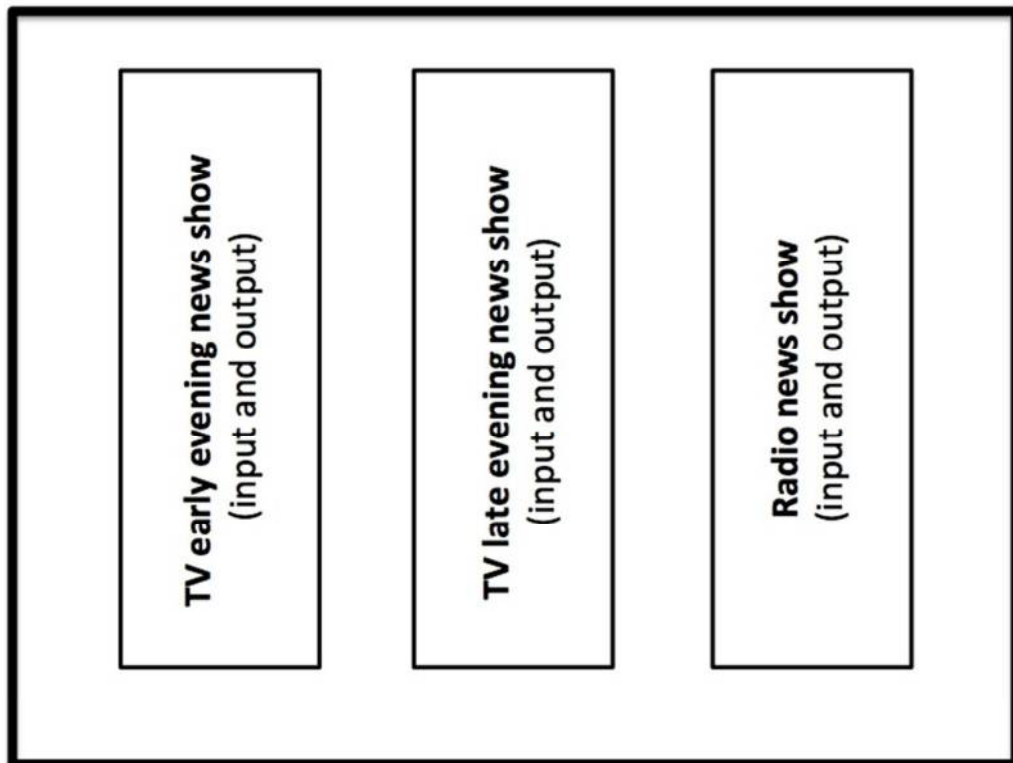


Figure 2. The new matrix structure of news production. Small output sections deliver the news. Employees are hired based on their abilities to tell stories. Input sections deliver the material for the show. The news concept and the news table play a major role in governing the interactions between input and output sections.

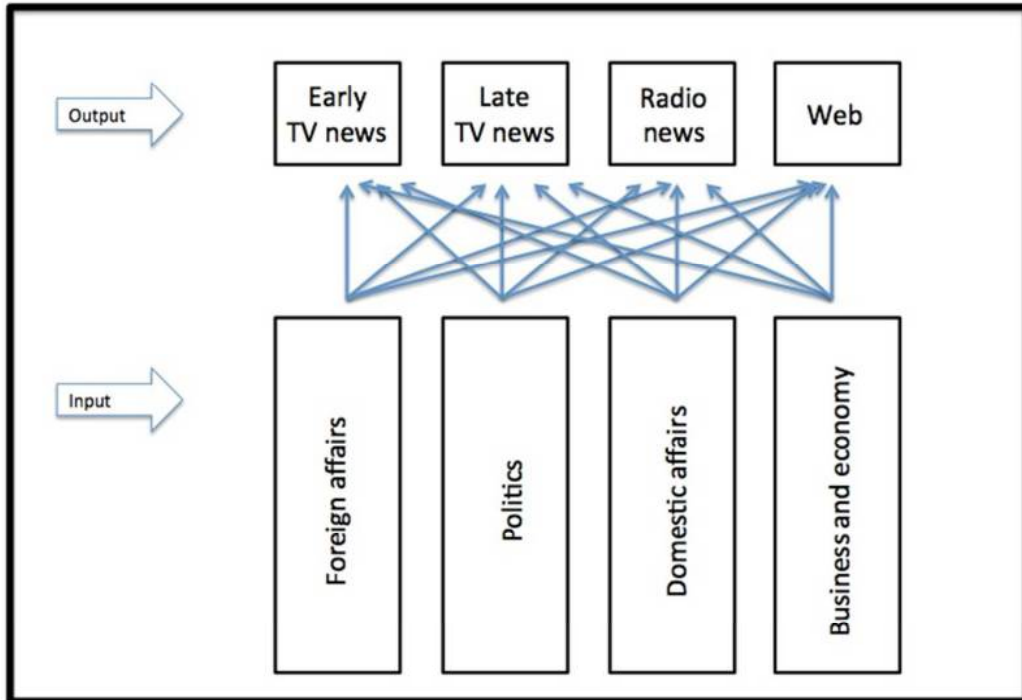


Figure 3. The news table (to the left). Everybody has access to this database, where shared stories can be found. The news center chooses the three top stories that must be covered on a given day. Background material, comments and digital recordings can be found here, and the validity of facts is sometimes debated. On the second screen (to the right) is the so-called run-down, a structure for a given news format which is filled out with the stories of the day. Types of stories and their length are pre-defined but can be changed slightly. (Photo taken by authors)

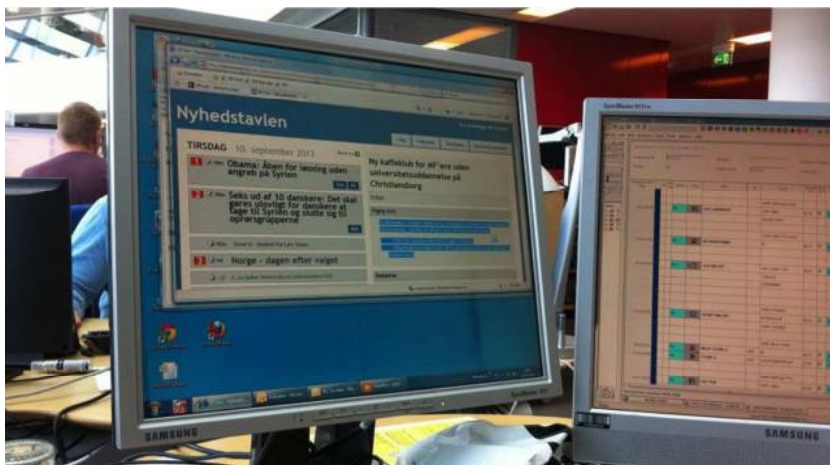
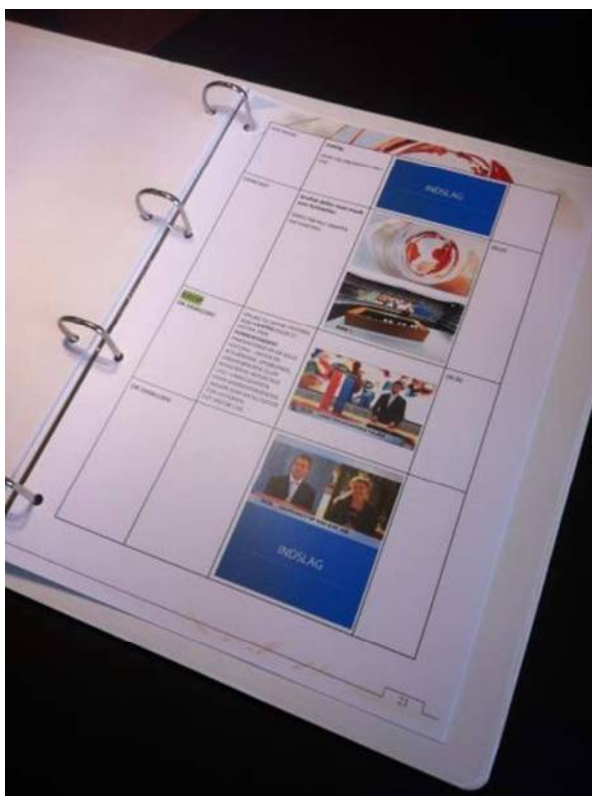


Figure 4. The news concept. This is a binder visualizing the sequences of a particular news show. It details the structure of the show, the types of stories, the design possibilities, the camera angles, and the types of anchors or correspondents involved. (Photo taken by authors)



<sup>1</sup> DR Internet homepage.

<sup>2</sup> Lovbekendtgørelse nr. 338 af 11.04.2007.

<sup>3</sup> DR Internet homepage.

<sup>4</sup> Interview, head of foreign affairs (in 2013), TF (initials of interview person).

<sup>5</sup> Observation notes, Fall 2013, Spring 2015.

<sup>6</sup> Interview, producer, PG.

<sup>7</sup> Interview, editor, ES.

<sup>8</sup> Interview, head of foreign affairs (in 2013), TF.

<sup>9</sup> Interview, manager, NN.

<sup>10</sup> Interview, editor, MM.

<sup>11</sup> Interviews with editors, MM and ES.

<sup>12</sup> Interview, head of foreign affairs (in 2013), TF.

<sup>13</sup> Observation notes, Fall 2013 and Spring 2015.

<sup>14</sup> Interviews with editors ES and MM.

<sup>15</sup> Interviews with editors, managers and journalists.

<sup>16</sup> Interview with managers, JE and NN.

<sup>17</sup> Observations, Fall 2013 and Spring 2015.

<sup>18</sup> Observations, 21.30 News, Spring 2015.

<sup>19</sup> Observations, 18.30 News, Spring 2015.

<sup>20</sup> Interview, manager, NN.

<sup>21</sup> Interview, editor, MM.

<sup>22</sup> Interview, editor, ES.

<sup>23</sup> Interview, editor, ES.

<sup>24</sup> Interview, editor MM and manager NN.

<sup>25</sup> Interview, anchor, KB.