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Critical Moments of Coordination in Newswork

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ABSTRACT

This article focuses on journalistic practices and coordination, more specifically how journalists coordinate when producing Online Live Broadcasts (OLB). An analytical framework that lends from the Knowledge-Based View is developed and used to study directives for OLBs, as well as problems solved in critical moments of coordination. The researchers used mixed methods for the study of an online-first news publisher in Sweden that has won international awards for developments in OLBs. The news publisher has developed directions for how four distinct actors participate in OLBs, working from the newsroom, from the field, and from a TV-production studio. These actors have different general- and specialized expertise and are instructed to coordinate via teleconference and Slack. Our analysis identifies four key stages for an OLB: (1) *Initiating and committing*, (2) *Knowledge coordination*, (3) *Performing the live moment*, and (4) *Boosting*. These stages encompass seven critical moments of coordination, which refer to how problems requiring diverse explicit- and tacit knowledge are solved by the actors participating in the news production process. The seven critical moments of coordination are (1) *Observing and initiating*, (2) *Initiation approved*, (3) *Mobilizing MoJo*, (4) *Knowledge-building*, (5) *Coordinating explicit knowledge*, (6) *Performing the live moment*, and (7) *Boosting*.

KEYWORDS

Breaking news; Online live broadcast; Epistemology; Coordination; Collaboration; Knowledge-based view

Introduction

Many journalism studies articles begin by normatively arguing that journalism is a very important, albeit challenged, knowledge-producing institution in society. Scholars implicitly or explicitly refer to hard news and the idea that reporters produce verified news about important public affairs. But journalism and news are oftentimes treated as black boxes. Relatively few articles differentiate between different genres and epistemologies of journalism, yet there certainly are such, involving different norms, standards, and methods used to determine how journalists know what they know (Ekström and Westlund 2019b; Matheson and Wahl-Jorgensen 2020). Epistemologies of journalism also vary

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among news publishers, countries, context, and platforms. Moreover, some types of journalism are associated with general expertise and individualistic work, whereas others link to specialized knowledge and collaboration. This article studies online live broadcasting (OLB) as a specific form of epistemic practice and focuses on the critical moments of coordination among key specialized actors.

Throughout the 2000s, publishers have increasingly shifted towards collaboration among journalists and other social actors that are *internal* (Avilés and Carvajal 2008; Westlund, Krumsvik, and Lewis 2021; Westlund and Krumsvik 2014) and *external* to the news organizations (Cueva Chacón and Saldaña 2021), especially when considering partnerships with third-party technology providers (Belair-Gagnon and Holton 2018). Newsroom collaboration has been criticized for being a way to reduce costs but has also been credited with enabling journalism that would otherwise not be possible (Konieczna 2020). Research into newsrooms (radio stations) has shown that even where newswork first appears to be individual, there is a knowledge-based practice involving communication and coordination of instrumental tasks (Risberg 2014). Newsroom sociology has shown that reporters and editors routinely meet to have professional meetings and coordinate among divisions and news workers (Avilés and Carvajal 2008; Westlund and Ekström 2020). Ultimately, few have studied the intersection of coordination and news production processes. This article addresses that void. It seeks to advance research into epistemologies of journalism, identifying how journalists and other actors coordinate the production of news as a form of knowledge linked to epistemic practices. The article analyses *critical moments of coordination*; the key instances of problem-solving amongst diverse actors participating in news production processes. Actors contribute with different explicit- and/or tacit knowledge to the process and are responsible for different tasks that must be solved efficiently and under time pressures.

We suggest three main reasons to study coordination among journalists. First, in journalism, the stakes are high as failing to report important news or making truth claims without substantive verification can lead to a breakdown in trust. Doing so can cause significant harm to the journalist, the news organization, and those covered in their news reports. Contemporary news publishers try to organize their newswork efficiently and effectively. They are frequently doing newswork under time pressures, what some scholars conceptualize as a meta-constraint associated with less diversity and cross-checking and less sourcing of citizens (Reich and Godler 2014). Routines and coordination are important in breaking news, where journalists are pressured to work and publish fast (Usher 2018). Second, internal communication and coordination among journalists, editors, and other social actors may well be a prerequisite for producing news since actors have different specialized knowledge. The ways journalists coordinate, in person or via information and communication technologies (ICTs), influence multiple decisions relating to sourcing, selection, filtering, angles, verification, truth claims etc. Third, journalists often coordinate in person or via ICTs such as an editorial CMS, Microsoft Teams, and Slack (Bunce, Wright, and Scott 2018; Coagula, Villi, and Sivunen 2020). The affordances of such technological actants influence how journalists are able to coordinate news production processes (e.g., Lewis and Westlund 2015), and COVID-19 lockdowns have resulted in newsrooms and journalists shifting from physical- to online meetings to coordinate their news production. In such sense COVID-19 essentially forms a critical incident fuelling enduring changes for journalism and news production (Tandoc et al. 2021).

The extent to which journalists work autonomously or in coordination varies with different genres and epistemologies of journalism (Ekström and Westlund 2019a). Text-writing journalists routinely and independently engage in sourcing, fact-checking and the production of news materials, whereas TV-journalism is more a coordinated performance of news (Ekström, Eriksson, and Kroon Lundell 2013). Research into live TV production has shown how scripts pre-mediate the performances on air to convey a feeling of being authentic, real and immediate (e.g., Ytreberg 2006), and other research witnesses unscripted interviews with ordinary people, and vox pops used to perform proximity and liveness (Bergillos 2019). Some broadcasters have chosen to organize dedicated online teams, which may only coordinate sparsely with traditional broadcast reporters (Garcia-Perdomo 2021). There are heterogeneous cultural and journalistic practices, varying with different genres, affordances, and temporalities for print- and broadcast journalism, but also journalism for social media platforms (Hågvar 2019), live blogging (Matheson and Wahl-Jorgensen 2020; Thorsen and Jackson 2018), and continuous live reporting as well as online live broadcasts (Ekström, Ramsälv, and Westlund 2021).

This article studies the coordination of online live broadcasting (OLB), a site of innovation where the traditions of two epistemologies of journalism meet. An OLB is defined as producing a live video stream focusing on (breaking) news events that are made accessible via digital platform(s). The article contributes to the research of journalistic practice, and more specifically to areas such as television news studies (Gutsche 2019), journalism studies (Robinson, Lewis, and Carlson 2019), digital journalism studies (Steensen et al. 2019; Steensen and Westlund 2021) and epistemology (Ekström and Westlund 2019a). The overall purpose of this article is to study how journalists coordinate knowledge when producing an OLB. It is a study into how knowledge is organized, coordinated and represented through OLBs, and offers a glimpse into the convergence of different epistemologies of journalism. The article studies *coordination* among diverse social actors, crucial for time-pressured news production processes in the salient case of OLBs. Setting off time and resources for journalism may indicate management prioritizes such newswork, although this can be seen as worsening efficiency.

The article focuses on the classic epistemological question of how journalists *get to know what they know* in producing news, focusing closely on how the journalists involved coordinate with each other in different stages of the news production process and in relation to two central knowledge dimensions. The first is explicit knowledge and questions of facticity regarding what to report on, what journalists know, and so forth. The second is tacit knowledge and know-how, involving methods and practices in newswork and live broadcasts. Individually and in coordination with others, journalists evaluate, check and justify information, data, and sources, and construct knowledge claims.

The article draws on an analytical framework from organization studies, namely the Knowledge-Based View (KBV). Originally posited by Grant (1996), it builds on the normative idea that organizations must have specialized experts coordinating towards shared organizational goals. A critical distinction between explicit- and tacit knowledge has to do with the transferability of knowledge, with the former being much easier to communicate from one to another, whereas the latter typically requires learning by doing (ideally together with someone mastering the practice already). Journalists in news organizations routinely *apply* knowledge in everyday routine acts of *producing* news as a form of knowledge. Such routines can be difficult to codify, and thus news organizations only come so

far in developing policies, manuals and trainings. Grant (1996) uses the term *tacit knowledge* in referring to practically-oriented knowledge in the form of know-how and explicit knowledge when it comes to developing more abstract knowledge through information. KBV also builds on the normative rationale that firms strive towards operating in efficient and effective ways, and this essentially means coordination is necessary yet should not take up more staff time than necessary. Journalistic practice and journalism studies are closely linked to normativity, albeit not always made explicitly (Steensen and Westlund 2021). Normativity surrounds the ideas of coordination just as much as traditional ideas for separating journalists from other actors having other sets of specialized knowledge. What is generalist- vis-à-vis specialist knowledge varies across cultures, organizations and over time. Scholars have identified and envisioned the rise of multi-skilled journalists (Avilés and Carvajal 2008), such as mobile journalist (MoJo) capable of reporting from the field in diverse ways (Kumar and Mohamed Haneef 2018; Westlund and Quinn 2018). There are limits to what specialized knowledge to expect from an individual journalist, especially amid emerging digital technologies. Such developments led news publishers to mobilize coordination between representatives from editorial-, business- and technological departments in the 2000s in their formative sensemaking and efforts in developing mobile news for platforms non-proprietary to them (Westlund 2011), and studies from the 2010s show how diverse technologists have become further involved in editorial processes (Weber and Kosterich 2018). The enrolment of specialized actors seemingly goes hand in hand with working towards more coordination amongst them. The same applies to broadcast journalism, which entails coordination amongst journalists in both television (Ekström, Eriksson, and Kroon Lundell 2013) and radio journalism (Risberg 2014). Ultimately, there is a tension between generalist- and specialized knowledge that news publishers must navigate as they build their capacity to work with different epistemologies of journalism.

Analytical Framework

This is a study of coordination associated with the epistemic practices of breaking news. The study mainly contributes to journalism studies but lends its analytical framework from organizational studies. The Knowledge-Based View (KBV) offers fertile ground for journalism studies with its focus on knowledge and knowledge coordination. It suggests that organizations must have distinct specialists who work towards serving the general goals of the organization by coordinating with each other (Grant 1996). Gold, Malhotra, and Segars (2001, 186) argue that “to compete effectively, firms must leverage their existing knowledge and create new knowledge that favourably positions them in their chosen markets”, and to do this, they should optimize their organization for knowledge sharing. KBV normatively stresses that knowledge is a central resource and a competitive advantage for any firm. It focuses on the complexity and diversity of organizations and internal communication and coordination. KBV suggests that organizations cannot rely on generalists but need specialized expertise, often with both explicit and tacit knowledge (Grant 1996).

Grant (1996) argues that tacit knowledge is closely connected with production tasks and is thus most important for knowledge integration (such as routinized epistemic practices). In line with KBV, Cestino and Matthews (2016) argue that the coordination of

specialists is important in order to achieve efficiency in (news) organizations. Any form of knowledge transfer involves at least two parties, a sender and a receiver, and the outcome relates to the nature of the knowledge, communications and the absorptive capacity of the recipient. Grant (1996) discusses that organizations create so-called architectures of capabilities, located among individual organizational members with specialized capabilities or single-task capabilities, but also broad- or cross-functional capabilities of the organization department for marketing, R&D, and so forth. This line of thought in KBV harmonizes with research on knowledge management and organizational capabilities (Gold, Malhotra, and Segars 2001). According to Grant (1996), there are four mechanisms through which organizations coordinate and efficiently integrate specialized knowledge: (I) *Rules and directives* (aligning specialists towards shared organizational goals), (II) *Sequencing* (coordinating based on routinized and time-patterned progressions), (III) *Routines* (recurring patterns of behaviour not required by management), and (IV) *Group problem-solving and decision making* (intense interactions, often during uncertainty). Each of these coordination mechanisms can apply to how news organizations operate, and especially in critical moments such as (online) breaking news. Ambitions for balancing efficiency with knowledge sharing in news production, as well as the worsening conditions in the journalism sector (Olsen, Pickard, and Westlund 2020), may impact how the news media approach coordination. Journalists may well operate under sharp time constraints impacting the news production process, their possibilities for knowledge sharing, and their overall epistemic efforts (Ekström, Ramsälv, and Westlund 2021). Scholars should recognize the normativity surrounding coordination, and study how it plays out in distinct epistemologies of journalism.

News organizations have traditionally applied specific *rules and directives* as well as diverging organizational goals for their duality management of editorial- and business-facing activities. Grant (1996, 114) writes that “rules may be viewed as standards which regulate the interactions between individuals”. Duality management enables functional and symbolical separation of journalism from business but may come at the expense of not coordinating important tasks. Rules and directives are typically specified by management and instruct staff over who is responsible for what, and what they should do in specific situations. These are useful when attempting to solve complicated challenges and problems, and when the involved actors are distributed across different locations. Newswork is coordinated through *sequencing* as a common and time-patterned progression where tasks are handed over from one newsworker to another. *Routines* have long been established as a key feature of newswork, and can be seen as materializing in *concrete practices in organizational contexts* (Westlund and Ekström 2020). In short, *rules and directives* essentially set the context for what different newsworkers should do, whereas *sequencing* and *routines* are associated with daily news reporting practices.

The fourth mechanism, *group problem-solving and decision making*, is characterized by heightened uncertainty and increased coordination. These are complex, costly and relatively demanding situations requiring coordination to achieve consensus-oriented decision-making, and organizations will likely avoid them unless highly prioritized. Facing substantial business challenges, publishers must carefully prioritize their resources. While Grant (1996) refers to the integration mechanism as “problem-solving”, it does not suggest that the actors in the organization face a “problem” per se but that there is a need

for active coordination. Real-time coordination among group members to exchange information and make joint decisions is much different from routine work based on sequencing, where specialized actors do their part and pass on the task.

This article focuses on the *rules and directives* for instructing newswriters and what to do when producing OLBs, and *group problem-solving and decision making* as a mechanism for knowledge coordination connected to resource-demanding and intense coordination of OLBs. The article analyzes situations of uncertainty that require newswriters to coordinate. Working in teams is common for contemporary knowledge-based organizations, and information- and communication technologies facilitate online coordination and virtual teams (Kanawattanachai and Yoo 2007). Importantly, this article does not focus on (cross-sectional) teams that plan for and routinely execute newswriting, nor does it study the wider set of social actors unless they are directly involved in the news production. The article focuses on coordination mechanisms arising with unplanned events where much decision-making cannot be coordinated beforehand yet requires coordination amongst diverse specialists.

Study Rationale

This article raises two research questions. The first focuses on the directives for coordination and the second on group problem-solving. RQ1 asks: *What directives apply to the organizing of OLBs?* Such rules and directives are important to have defined beforehand so that each specialized actor knows their role in the coordination. RQ2 asks: *What are the critical moments of coordinating OLBs?*

The Case-Study

The article has studied one of the 28 local/regional online-first news organizations run by MittMedia in Sweden. MittMedia originates as a print newspaper company and has not previously engaged in news broadcasting. For the sake of anonymity, we refer to it as the Swedish Local Post (SLP). MittMedia was struggling financially but avoided bankruptcy in 2019 when acquired by Bonnier, the largest Swedish media company. We contend that one important reason for the acquisition was that MittMedia had developed proprietary analytics infrastructure and advertising sales system. In 2020, INMA announced MittMedia as the global winner for the award category "Best use of data analytics or research". We have interviewed key managers in areas such as platforms, analytics, metrics and business projects, editorial developments etc, and this has helped us understand the organizational context and strategic priorities. The company focuses mostly on reader revenue via proprietary platforms and is thus cautious in feeding social media platforms with too much news content. News is published on Facebook and Twitter when participation is expected to be fairly civil. MittMedia requires all newsrooms to continuously self-evaluate and improve based on the editorial metrics, and regularly assess what news materials have generated subscriptions. MittMedia has experienced that OLBs contribute substantially to conversion into paid subscriptions and loyalty (anti-churn), similarly to other Scandinavian publisher. There is little direct audience participation in the OLBs, but high audience metrics reinforces MittMedia's way forward.

Up until early 2016, MittMedia publishers sent out individual reporters into the field as MoJos. These broadcasted live, without coordination and support from their newsroom, and with no input from colleagues with specialized expertise in OLBs. MittMedia experienced many hurdles and around half of all OLB's failed due to technical problems. The organization then provided compulsory internal training in OLBs to most journalists and launched a re-organized approach to OLBs featuring a centralized and specialized Live-Hub supporting the entire organization. The MittMedia TV-manager and a handful of others have a background and experience as TV journalists, and several journalists have specialized tacit knowledge, such as in working with photography, sound and radio. Several have participated in the development of OLBs at MittMedia, alongside highly motivated and creative newswriters who are keen to experiment and innovate. Throughout 2018–2020 they have carried out OLBs in a consistent way, yet involving some changes to technologies used, routines, and turnaround of staff (especially summer vacation substitutes). In attempts to ensure everyone follows similar standards and epistemic MittMedia utilizes Slack for sharing a long list of manuals for live-TV with general instructions to their production processes, as well as highly specific instructions on how to use technologies, trouble-shooting etc. and also step-by-step tutorials and videos. Notwithstanding this, succeeding with OL's requires that the journalists have tacit knowledge, for which practical experience is a prerequisite. Those regularly involved in OLBs develop and maintain such specialized knowledge, whereas the journalists occasionally being called on naturally struggle more. Aware that their journalists cannot develop tacit knowledge only by reading their instructions and directives, the Live-Hub and TV-chief have urged all news publishers and journalists to get in touch whenever they need hands-on mentoring and training. They function as a specialized support team that guide and offer feedback to journalist in a real OLB situation, but without the imminent time pressure (i.e., planned live events).

MittMedia received worldwide recognition for their OLBs and won at the INMA Global Media Awards in 2017. One of the jury motivations read: "An impressive video offering from a traditional media group. With a tight budget, MittMedia persuaded print reporters to try video. And it worked!" As of 2018, MittMedia had developed an approach where three teams with live-TV specialists were on call to provide support to all 28 titles and 570 journalists. MittMedia offers OLBs from the field, across vast geographical domains, by establishing mechanisms for coordinating newswork with technology. MittMedia differentiates spontaneous OLBs (e.g., accidents, wildfires, etc.) from planned OLBs (e.g., press conferences, cultural- and sports events, etc.). In 2019 sports events contributed to 44 percent of all OLBs, but in 2020 such coverage dropped substantially amid COVID-19 and cancellations of sports. By the summer sports series resumed and MittMedia, as part of Bonnier News, had secured licenses to broadcast complete games for several sports and divisions.

Methods and Materials

This is a mixed-methods study with most fieldwork carried out during the spring and summer of 2018, including also follow-up interviews and document analysis in 2019/2020. In 2018 three researchers conducted more than three weeks of observations, during which numerous personal interviews were carried out. On two occasions, three researchers visited the newsroom together to observe and interview for three days in a

row. We observed individual journalists in their news production processes, the news editor, and the desk of online editors and their work in analyzing analytics and editing news stores, as well as the live-desk producing and editing breaking news. At major news events involving several journalists, we were able to coordinate ourselves and observe how newswriters simultaneously engage with the unfolding events from inside and beyond the newsroom. One researcher carried out additional fieldwork on each occasion, as well as returning for an additional workweek in the newsroom and three days of observations and interviews at one of the live-TV hubs geographically placed in another city. The researchers also carried out situated interviews with journalists at their desks. Slack is the primary means of coordination in newswork and for innovation projects at MittMedia, and we were granted access to some of their Slack channels during the fieldwork period. Altogether, we studied 12 OLBs at either the local news site or the Live-hub. Our analysis has focused on directives for organizing OLBs, and critical moments of coordination. We carried out the final interview with the MittMedia TV-manager in June 2020, and then also received most recent versions of directives and instructions.

We have synthesized patterns and critical moments from the broader set of OLBs studied and will exemplify with an OLB focused on a truck accident that took place when all three researchers were carrying out participatory observations. One researcher observed the news desk and a live desk editor, another the desk editor who assumed the role of News Programme Leader (NPL), and the third researcher observed the MoJo going to the site of the event. Additionally, we gained access to and could learn from coordination for the OLB conference call in Slack, and we downloaded all applicable news materials published (news articles with updates as well as the live video). Thus, the project members gathered rich data from the perspective of all participants at SLP. We did not simultaneously have a researcher on-site at the Live-hub for this event, but we did conduct substantial fieldwork there in a different week. For contextual understanding, we also conducted on-site, in-depth interviews with several key managers at MittMedia, and gathered published news materials, company information and data provided by the news publisher. Importantly, while this article does not make active use of all the data material collected, most of it has informed our analysis.

Findings: Organizing and Coordinating Newswork

We are precise in terms of what we do when this happens, but we have not defined precise criteria for what this is. But I think that this is ... this is one of those ... this is something that most of us simply know. (Desk editor)

For the SLP, newswriters OLBs refer to many types of event: a fire, an accident, a national scoop, and so forth. The desk editor quoted above suggests that editors and journalists “simply know” when something has happened that they should do an OLB for and that they have directives for what to do. Importantly, their knowledge of what makes an OLB is associated with their routines for doing such, and directives that draw on experiential learning involving massive amounts of metrics. Using data-driven insights, MittMedia directives prioritize video content, focusing on videos relating to real estate, sport, emergencies and accidents, and business news. Their target length is 90 s for breaking news, which is based on conclusions from metrics suggesting that audiences turn off after this length of time. They allow longer feature materials and are motivated by

conversions to paid digital subscriptions. MittMedia prioritizes OLBs even though coordination is a prerequisite and thus generates more substantial labour costs compared to reporters autonomously writing texts. Notwithstanding this, the company's approach to OLBs does not infer as many resources as traditional television broadcasting.

Conditioning Directives for OLBs: who Does What?

MittMedia has developed directives for who does what in the news production process, as well as technical directives for how to use technologies associated with OLB. However, newswriters experienced confusion about the directives from 2016 to 2018. This led them to clarify their editorially-oriented directives, including but not limited to the role titles and descriptions of who is involved and what they should do. MittMedia continuously update their directives based on advancements, changes and learning experiences, and share them with staff in Slack channel. Specific organizational role descriptions for the team-oriented work associated with OLBs have been developed. Essentially, this means that some newswriters should always be prepared to assume responsibility for key tasks and organizational roles associated with OLBs. Our findings show that whenever SLP chooses to activate the OLB mode then several members of the editorial staff must let go of whatever they are working on and embrace responsibilities and tasks associated with the OLB. SLP then mobilizes three distinct units that follow pre-defined directives, coordinating with each other. The three units coordinate with a fourth unit outside of SLP, namely MittMedia's central support function for live TV called the Live-hub.

1. *News programme leader (SLP—newsroom)*: the NPL assumes the main responsibility for OLB operations inside the newsroom. The directives place the news editor as the first choice for this leading role, but when unavailable (busy or off-duty), one of the desk editors is instructed to assume the NPL role. The NPL role requires seniority and experience, as the NPL is in charge of the first critical moment: deciding whether SLP should initiate a live online broadcast or not. The NPL also leads to initial coordination, via telephone conference and Slack, supporting the MoJo in preparing and responding to inquiries coming from the Live-hub.
2. *News desk (SLP—newsroom)*: one or several of the news desk (ND) live editors assist with information gathering such as screening information flows and calling sources (information intake). The ND use Slack to post notifications in breaking conversations and participate in local Live-TV conversations. The live editors coordinate with the ND editor, who makes selections and prioritizations (output) and pushes for breaking news across diverse platforms. The ND live editors are responsible for embedding the live-TV code into the breaking news article, gathering pictures from the scene, producing basic news texts, and distributing news materials via social media (especially Facebook and Twitter).
3. *MoJo (SLP—in field)*: MoJo (mobile journalists) refers to the reporter who is assigned to head to the location of the event. This typically follows a rotating schedule with one journalist on duty per work shift, meaning several weeks can pass in between each OLB. While all journalists are assumed to have the basic and generic knowledge needed, the infrequency of engaging in such news work prevents some from developing more specialized expertise and all the multiskilling needed. Moreover, during the

daytime when they are better staffed the NPL can decide to send someone else than the person on duty depending on the nature of the event and whether some journalists are presumed to have more explicit- or tacit knowledge. The MoJos are expected to coordinate continuously with the news anchor in the Live-hub during the OLB. They are expected to shoot the OLB with a smartphone or alternatively with a video camera backpack kit. Using the smartphone they develop an OLB with one video source and one audio source, whereas the backpack allows for multiple video- and audio sources simultaneously and thus more advanced storytelling. The MoJo engages in sourcing and interviewing, and produces pictures and video from the site and the live moments.

4. *The Live-hub (MittMedia)*: MittMedia has three Live-hub teams operating from studios in two fixed locations. These are the participants in an OLB with most specialized knowledge. Each consists of two specialists, one *news anchor* and one *technical video producer*. The news anchor has specialized knowledge in leading TV broadcasts from a studio, as well as making professional interviews and presentations. The technical video producer has the expertise needed to operate all their technical equipment. Through their coordination, the two specialists develop tacit knowledge about diverse tasks and processes, learning from each other, and blurring the traditional boundaries between producers and technicians. Throughout 2018 and onwards MittMedia have strived towards knowledge integration with the ambition of them being able to switch roles with each other, and serving the journalists in both capacities. MittMedia has scheduled the three Live-hub teams to meet the demands from newsrooms throughout the day (and evening). When many events take place simultaneously, they must prioritize the order with whom they coordinate OLBs with. The Live-hub typically works from their studio. They intentionally downplay operating from a studio and instead the news anchor appear to be in a newsroom, and with much airtime devoted to the MoJo on-site. The news anchor can participate in the OLB as a traditional news anchor, setting the context and talking to the MoJo in the field while on air. The Live-hub takes measures for quality control, such as supervising the MoJo in setting up the technical equipment prior to online broadcasting and making editorial judgments about what to address during the OLB (albeit also largely coordinated beforehand). The Live-hub can also edit and produce video materials to be included in the OLB shot, making use of video recordings uploaded by the MoJo. In essence, the Live-hub may simultaneously support both OLBs for breaking news and planned OLBs such as sports events with specialized and technical knowledge.

Importantly, the NPL role is specific to the OLB and is activated in the critical moment of deciding to go live, and with some flexibility in terms of who assumes the role. One interviewed desk editor explains “the role of the NPL is to take main responsibility for coordinating all the efforts”, and also that “you are the person who must make sure to communicate with everyone who needs communicating with”. Ultimately, the NPL makes sure that knowledge important for the broadcast also becomes shared knowledge. The NPL has been directed to coordinate an information search with the news desk, who feed filtered information to the Live-hub, and who in turn coordinate with the MoJo in the field. The directives require the news anchor and the NPL to determine when the online live news broadcast begins and ends, yet we observed exceptions with the MoJo communicating the OLB until it finishes. SLP can decide to do one or several OLBs, with the latter taking

place for ongoing events and NPL responsibility being handed over during work shifts. The NPLs are experienced journalists and have participated in internal training, but they have also developed tacit knowledge and experiential learning. The Live-hub is the unit with the most specialized knowledge as these social actors are dedicated to serving all 28 MittMedia titles with OLBs and have accumulated the most practical experience.

MittMedia communicates that all their journalists are MoJos, and thus treats OLBs via smartphone as general knowledge rather than specialized knowledge. However, the frequency with which journalists do OLB varies substantially and thus affects the accumulation of experience and expertise. Some journalists feel uncomfortable being forced to do OLBs. Nevertheless, MittMedia management has implemented a rotating job schedule outlining such responsibilities for all journalists. We conclude that the MittMedia MoJo role may well be that of a generalist occasionally having to perform more specialized tasks. To help them do so, MittMedia has organized OLBs so that other specialized newsworkers assist MoJos through coordination, by literally providing directives for what questions to ask and where to point the smartphone camera.

Group Problem Solving in the Coordination of OLBs

This section outlines and analyzes the concrete epistemic practice of OLBs at SLP. We have constructed four news production stages that apply to the concrete work with OLBs in the specific institutionalized setting studied. For each of these stages, we have identified one or several critical moments of coordination. With critical moments we refer to instances when several actors coordinate to solve problems they face and/or coordinate the advancement of knowledge production as well as assisting each other with knowing how. The coordination is essential when making decisions, producing and sharing knowledge, and fine-tuning know-how for OLBs to work in practice. In studying and analyzing group problem-solving as a form of coordination, we pay attention to what problems must be solved in each critical moment, including who is involved and how they coordinate this.

1. Initiating and committing

This stage centres on newswriters routines for identifying, initiating and committing to running OLBs, and consists of three critical moments. To begin with, routine newswriting at SLP involves live editors continuously observing and filtering relevant information flows via their network of sources and publicly accessible information from social media. Desk editors express awareness of MittMedia directives regarding what type of stories “work” as OLBs, and thus keep their eyes open for such stories.

First, *Observing and initiating* arise when the desk editors observe unfolding events that correspond to their directives for OLBs. The first problem to solve has to do with quickly deciding whether to initiate an OLB. The news desk editors have the mandate, and if SLP initiates then they immediately alert relevant colleagues. They begin with initiating a teleconference call to which all pre-defined actors must join straight away. They post a standard form with critical questions to solve: who is NPL?, when will a MoJo or team be on-site?, who is in front of vis-à-vis behind the camera?, what address?, and what title header

to use? Participants coordinate the details to solve these critical questions throughout the course of building the story material.

Second, *Initiation approved* takes place as the request for an OLB from SLP is approved. In this critical moment, SLP sends the MittMedia Live-hub teams a request to support the OLB via a general Slack thread for the Live-hub teams. In turn, they assess their current work situation and availability and generally accept the request unless they are busy doing a live for another MittMedia publisher. If the Live-hub team approve initiation then they create and send a transmission code for the OLB, and then all actors involved move their continued coordination to a private SLP Slack thread. Speed and timing are crucial here; sometimes SLP wants to go live shortly, whereas other times they may need an hour to prepare (and get a MoJo on-site). The conditions for participation can also change and lead to the OLB being called off. Most often because the SLP newswriters conclude the news event does not live up to their initial expectations of newsworthiness, but also that the Live-hub cancel because they prioritize an important OLB request from another MittMedia publisher.

Third, *Mobilizing MoJo* has to do with the coordination to decide what journalist is sent to the site of the event. The news desk editors use Slack to tag the news editor asking which journalist should go. They use the form with directives and a schedule outlining such responsibility, but at any point in time, they can decide to opt for an available journalist with more specialized knowledge. The news desk and news chief decide which journalist to send and then share what they currently know about the event. The MoJo packs the smartphone with the IRIS live streaming software and the MoJo-kit (batteries, headset, tripod, etc.), puts a headset on and takes off towards the site while being in continuous contact over teleconference with ND/NPL. The MoJo in the SLP newsroom is equipped with one backpack with a portable video-camera that has live streaming capability. The MoJo can choose the backpack if the batteries are charged and if she or he has the tacit knowledge to use it.

2. Knowledge coordination

This stage extends on the first and consists of two critical moments. Fourth, *Knowledge-building* refers to how the different actors involved coordinate their search for relevant information about the events unfolding. The live editors play an important role in accessing and observing information, filtering, and making selections of what is important. They coordinate information-gathering and check facts as they are needed. They are directed to assist the Live-hub news anchor with important facts and may propose interview questions for the OLB. The MoJo is not expected to search for any information prior to arriving at the scene, albeit the MoJo learns from others by participating in the telephone conference call when travelling to the scene. Once arrived, the MoJo talks to relevant sources to gather further information. SLP colleagues and/or the Live-hub news anchor may orchestrate questions directed to sources on-site by telling the MoJo what questions to ask in real-time via a headset. Moreover, the MoJo contributes with physical presence, taking and sharing pictures and video clips from the site with the others, which adds as a form of knowing. The news workers have been instructed to “be transparent with what they know—and do not know” (MittMedia guidelines). Sometimes the MoJo is engaged in a video-call in which the other participants essentially act as conductors,

telling the MoJo to turn left or right so they can see for themselves what is going on and also gather images to be used in brief breaking news articles published as quickly as possible. Through coordination and different ICTs across the newsroom, in the field and on the Live-hub they build knowledge to be used in the performance of the OLB. At the point of having a MoJo in the field and an OLB in the making, they have invested substantial time and effort to carry out an OLB and are likely to commit to the original decision even if they discover little newsworthy on-site content. In the case of reporting on a diesel truck having tipped over at the side of the road, the NPL considered calling it off until learning the truck was leaking diesel. The following discussion plays out on Slack as they coordinate information and knowledge in making sense of the situation:

NPL: "LiveeditorName, will you check with emergency authorities if there is a risk of an explosion or similar at the site?"
 LiveeditorName: "Ha, ha. No, hardly so from diesel. Best wishes from a hillbilly."
 NPL: "Great to have a hillbilly among us! LiveeditorName, so no potential danger for our envoy?"
 LiveeditorName: "The emergency authorities haven't responded. They have an accident on road E18 now as well. So, for now, you only have the hillbillies word on that. *slightly_smiling_face*"

Soon thereafter the MoJo arrived near to the truck and decided to go forward with an OLB. The actors involved eventually initiate a countdown clock for when they will make the OLB public and make final preparations on their respective ends.

Fifth, *Coordinating explicit knowledge* refers to a routine in which the MoJo on-site and the Live-hub news anchor introduce themselves to each other, share information, and plan for how to carry out the OLB with interview questions and so forth. They double-check video- and audio equipment, and that the MoJo knows how to operate it. The Live-hub news anchor has specialized expertise in OLBs and carries out such routines most workdays, while the MoJos are expected to have basic tacit knowledge and their individual abilities vary significantly depending on experience and personal interest. In an interview discussing the MoJo at work, one SLP Live Editor says "who stands around at the site like a chicken baby and in reality knows the least among all of us. (...). So he needs support from all of us around here". The quote should be understood in the context of MittMedia's scheduling all their journalists to be readily available to go into the field (become MoJos) when critical news events emerge, and that they have organized things so that the other newswriters involved can guide and support the MoJo. The news anchor may well instruct in great detail what the MoJo should do, such as where to point the video camera and what to say in front of the camera and during interviews.

3. Performing the live moment

This whole stage makes the sixth critical moment: *Performing the live moment*. The news anchor and the MoJo perform the OLB, aired for their audiences in real-time: a performance involving interviews with source(s) at the site and video material that gives the impression of first-hand reality and liveness. Broadcasting is relatively thin on information. In the performance, the journalists convey something that gives visual impression with basic details, whereas written news are oftentimes more information-rich. Once the OLB begins, SLP will feature its breaking news nature by communicating "Live" or

“Direct” on its news site and mobile application, which provide the cue of immediacy. The news anchor and the MoJo are the actors heard and seen in the OLB, but other actors are also involved in *coordinating the live performance*: The technical video producer operates in the adjacent room to the studio. The NPL and News Desk stay updated via Slack and/or telephone conference, working in the background searching for further information, checking metrics, and possibly embedding the video link on social media platforms. The news anchor and the MoJo perform an interaction about what they know and can make truth claims about, but sometimes this diverges from what was originally anticipated and promised, so-called epistemic dissonance (Ekström, Ramsälv, and Westlund 2021). The OLB creates a sense of liveness from the scene of the event. In some cases, they cover ongoing events such as enduring bushfires, whereas in other cases they report on an accident that has already happened. Nevertheless, they work towards constructing and performing the live moment. Let us now turn to the specific case of the diesel truck story for an analysis of the latter.

The live broadcast starts by showing some relatively shaky footage from the scene—how the truck has tipped over on the side of the road—and then the broadcast shifts to focus on the news anchor. Following pre-agreements in the script, the technical video producer then switches to the MoJo who is at the scene of the event with an emergency officer. The news anchor asks the MoJo: “What do we know about what has happened?” The MoJo briefs about the situation, seemingly unintentionally moving in and out of the picture as he responds. Then he begins interviewing the emergency officer, asking a similar question: “Can you tell us what has happened?”, which is followed by more precise questions. Some of these questions the MoJo already has an answer for, but intentionally encourages the emergency officer to articulate the answers. Concluding, the MoJo says that is everything they have from the field right now and hands over to the studio. The news anchor sums up the news and the OLB, adding that they will monitor the event and publish updates to the story if required.

The actors involved are keen on constructing and performing liveness in the OLB, although some elements are not live, which is standard practice among news publishers. The MittMedia news anchor broadcasts from a Live-hub studio in a medium-sized Swedish city, where she sits by herself in front of a white wall. They use a Chroma Key to manipulate her presence, making it seem as though she is broadcasting from a populated and active newsroom. Moreover, when the MoJo conducts the live interview, the technical video-producer minimizes the ongoing video-recording of the interview into a large thumbnail, with most of the screen showing footage of traffic on the road, the emergency staff, and the truck on its side. The screen continues to prominently display “live”, although this footage is not live as it was filmed by the MoJo upon arriving at the scene. In a strict sense, this is a misleading production of liveness, although this small glitch, in this case, did not convey a different scene of events.

4. Boosting

This post-broadcasting stage begins once the OLB has ended, although the newswriters continue to keep an eye on the event in case they feel the urge to produce more news materials. This stage encompasses a seventh critical moment: *Boosting*, which has multiple meanings in this context. Firstly, as OLBs end, participants typically applaud

each other, which helps to boost work efforts and accomplishments. This indicates ambition towards maintaining healthy professional relationships and sustaining future coordination. Secondly, the news anchor and the technical video producer at the Live-hub share the video material with the SLP news desk, who then publish it on their platforms and possibly promote it on social media. Thirdly, the SLP participants evaluate the OLB informally, as well as more formally by discussing relevant metrics produced by proprietary and non-proprietary audience analytics. They can monitor real-time metrics showing how many people are watching the live video and also engagement metrics across proprietary and non-proprietary platforms. Much experiential learning comes afterwards in evaluations, such as newsroom meetings with other editors and staff members at SLP. In producing an OLB, the NPL, news chief, desk chief, and the rest of the team are instructed to act upon key metrics and have learned that some forms of journalism work much better than others, including but not limited to publishing news materials with moving- and still images. Staff members at SLP do not work in isolation but communicate experiences and conclusions with other members of MittMedia, and thus facilitate experiential learning in the broader organizational context. In extension of these largely data-driven evaluations, they advance their knowledge about how they can develop a feedback loop for how they continue to work with, and boost, OLBs in the future.

Concluding Discussion

This article offers an ethnographic multi-method study into the epistemology of OLBs, focusing on directives and critical moments of coordination. First, the article asks (RQ1) *What directives apply to the organizing of an OLB?* The findings reveal directives identifying four different participants, three at the local publisher and one at the specialized Live-hub unit. Two participants work from the newsroom and have developed substantial experience and expertise relevant for OLBs, whereas the reporter sent to the field (the MoJo) does not necessarily have specialized knowledge. The ways SLP and MittMedia approach OLBs transcends geographical territories and utilizes different technological means in coordination among the four distinct actors. They coordinate journalistic practices and achieve organizational goals of OLBs that otherwise would be impossible. The directives guiding who does what during OLBs, involving a heterogeneous set of actors each time depending on who is at work, are clearly essential. Second, the article asks (RQ2): *What are the critical moments of coordination in OLBs?* Our findings discuss four key stages, each associated with one or several critical moments of coordination and problem-solving. The first stage, *Initiating and committing*, encompasses three critical moments called *Observing and initiating*, *Initiation approved*, and *Mobilizing MoJo*. The second stage, *Knowledge coordination*, involves two critical moments called *Knowledge-building* and *Coordinating explicit knowledge*, respectively. The last two stages that follow each refer to one critical moment: *Performing the live moment* and *Boosting*. Directives and coordination throughout all stages of the process are critical for this form of news production. There are coordination practices across three distinct spatial settings: the newsroom (NPL and news desk), the field (MoJo), and the centralized TV-studio (the Live-hub). The OLB depends on establishing a video-link from the field with a connected smartphone, and information- and communication technologies (teleconference and Slack) enable coordination across these spatial settings.

MoJos need practical experiences for developing the basic tacit knowledge for making observations on-site, for operating a smartphone, for using the live-broadcast software, and for making a live performance even in situations where there is little new to report on. This study shows that participants in a coordinated newswork effort not necessarily need specialized knowledge. Largely any journalist can become a MoJo when a team of collaborators assists with information and interview questions, and when specialists are available to guide the MoJo in preparing and using the technologies used, and how to perform in their live two-way. Coordination may well be a prerequisite for news publishers in developing new epistemologies for journalism altogether. Ultimately, the approach to OLB reported on here is a relatively resource-demanding form of digital journalism, marked by (1) involving many different actors and expertise, (2) the distinctive temporality of live broadcasting, (3) the centrality of technologies in the coordination (e.g., tele-conference and Slack), and (4) involves coordination both in the overall directives and organizing of newswork, and in the intensive and interactional coordination in the live moment.

While we have no ambition to assess “journalistic quality”, it is clear to us that OLBs of unexpected events are rather challenging when having little to report on, and oftentimes not going live until after the events have taken. Ultimately, while the production of OLBs requires coordination of knowledge among the social actors involved, the news materials produced may not offer much new knowledge to the audience. Nevertheless, MittMedia is reinforced in its path towards building online reader revenue, and also argues that OLBs carry an important symbolic meaning of journalists being present in the local/regional community when news takes place. MittMedia is only one of several divisions in Bonnier news carrying out OLBs, and they have different approaches. The national evening tabloid Expressen concentrated efforts towards developing a professional studio featuring OLBs focusing on breaking news. Other local news publishers have operated with small teams, as opposed to a Live-hub supporting the entire organization. In 2020 Bonnier began diffusing the MittMedia approach to other publishers within their organization, and the technical expertise of the Live-hub was critical for enabling and further expanding OLBs in the organization. They invested more resources into planned sports events in 2020, advancing their knowledge and technology. During summer 2020 the Live-hub find themselves simultaneously being in charge of broadcasting more than 20 live sports events, while supporting various OLBs. Amid COVID-19 there were fewer planned events (sports, culture etc.) and fewer journalists on duty. The Live-hub continued work from the studio whereas all journalists worked from home instead of the newsroom, benefitting from being accustomed to coordinating via Slack already. All in all, MittMedia the overall production of OLBs was affected by Covid-19, and they have shifted more attention towards planned events, and towards collecting videos produced by citizens, surveillance videos, etc.

There are naturally substantial limitations to the knowledge claims that can be made from this study: it reports on the coordination of OLB journalism in one particular news organization and country, drawing on ethnographic research. News publishers across the world have taken different approaches to OLBs, but among those working similarly we have Stampen (Sweden) and Amedia (Norway). More generally, directives are helpful to clarify roles and responsibilities also in other forms of journalism where newsworkers are enrolled in coordinated efforts of newswork based on different sets of

knowledge. We hereby call for future research into the role of specialized knowledge, coordination and problem-solving in different epistemologies of journalism. There is no universal form of journalism or news. We welcome future research into how journalists and other actors organize and coordinate for different epistemologies of digital journalism. This includes, but is not limited to, questions relating to the challenges involved when journalists feel they lack explicit- or tacit knowledge for OLBs and are uncomfortable with being placed as a reporter in front of the camera. This should also include attempts to study and theorize advancements of tacit knowledge more generally when it comes to emerging forms of journalistic practice.

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