The institutional context of crisis. A study of the police response during the 22 July terror attacks in Norway

Rolf J.Bye[a], PetterAlmklov[b], StianAntonsen[d], Ole Magnus Nyheim[c], Asbjørn Lein Aalberg[c], Stig OleJohnsen[d]

[a] NTNU – Norwegian University of Science and Technology, Norway
[b] NTNU Social Research, Norway
[c] Safetec Nordic, Norway
[d] SINTEF, Norway

Abstract

In this paper we address the institutional context of the police response during the 22 July terror attacks in Norway. Our analysis shows how institutionalized informal practices, established over time, influenced the police response during the attacks. The response presented challenges in terms of management of *actor complexity* (the number of actors involved and the need for coordination) and *uncertainty*. The importance of these dimensions is discussed based on the police's response during the terror attack in Oslo in 2011. Our analysis of the course of events shows that the resources dedicated to strategic management were marginalized during the event and that insufficient attention was directed towards intelligence and investigation. This contributed to an ineffective police effort to track and capture the perpetrator and prevent or respond to the secondary attack. This is similar to what is often found in hindsight investigations of crises. The aim of this paper is to contextualize and analyze these findings in light of the institutional context of the Norwegian police. Reports from exercises before and after the terror attack indicate that the marginalization of strategic work, intelligence and investigation has been and remains a persistent problem in the Norwegian police. Interviews indicate that there are informal aspects of the police organization regarding status and established conventions of what “proper police work” is about that explain how the observed inadequacies are deeply embedded in the organization. As such, the paper is not a study of a failure in crisis management, but rather the institutional patterns of action that make actions and decisions stand out as meaningful for the actors involved in dealing with situations of high complexity and uncertainty.

Keywords: Terror, Police, Emergency response, 22 July attacks

1. Introduction

On 22 July 2011 a lone right-wing terrorist parked a van with a 900 kg fertilizer bomb outside the Government Quarter (GQ) in Oslo, Norway. The bomb killed eight persons and left nine seriously injured. The terrorist proceeded to the island of Utøya, where the youth wing of the Norwegian Labour Party held their annual summer camp. Armed with a pistol and a semi-automatic rifle, he shot and killed 69 of the camp participants. Although similar events have occurred in other parts of the world, this was an unexpected and largely unpredictable event for the organizations responsible for the safety and security of Norwegian citizens.

We analyze the coordination of the police response to the attack and the challenges related to the decentralization and recentralization of decision-making authority in such a complex and highly unexpected event. Coordination is defined as the process of managing interdependencies between activities (Malone and Crowston, 1994). The case represents a rare opportunity to study coordination and decision making in fast-response organizations (Faraj and Xiao, 2006; Curnin et al., 2015; Schakel et al., 2016).

Our study expands the existing knowledge of coordination and decision making in fast-response organizations by addressing not only the switching between situational practices in singular situations, but also the way combinations of *several* unexpected events create additional challenges related to coordination and the distribution of decision-making authority within and across organizational borders. We also add to the literature on coordination and decision making by showing how the distribution of decision-making authority in crises is rooted in an institutional context and history. Our analysis indicates that institutionalized informal practices, embedded in the police organization, may partly explain the emergent command structure and decisions taken, as well as the ability to coordinate and utilize information during an overwhelming and quickly evolving crisis. Employing the analytical concept of institutions presents a risk of misunderstanding as in common language it may refer to establishments in public and civil sectors, for instance education, marriage, family, or even different types of formal organizations, such as the police, schools, courts, companies, etc. As an analytical concept in sociological theory, however, institutions refer to integrated and historically constituted practices (Selznick, 1957) and a system for sensemaking maintained over time (Douglas, 1986; Scott, 1995).

The structure of our argument is as follows. First, we show how unfolding events in the July attacks revealed weaknesses in the ability to combine on-site management of a critical situation with a more distanced, analytical overview and strategic analysis during rapidly evolving incidents. Second, based on our analysis of exercise reports, we argue that these were known issues identified in previous events and exercises. Third, we discuss how these persistent problems can be seen as a consequence of organizational and institutional traits in the police, also influencing the measures chosen to improve the police in the aftermath of the 22 July terror attacks.

In hindsight, decisions and actions might appear as individual mistakes or human errors. However, as illustrated by Weick's (1993) analysis of the Mann Gulch disaster, the sensemaking processes undertaken in such situations are situated in a temporal stream of events and actions. Lagadec (1993: 54) makes a similar point when he states that "The ability to deal with a crisis situation is largely dependent on the structures that have been developed before chaos arrives." But where do these structures come from? Training is one source of scripts that influence the action patterns chosen in situations of high stress and pressure. However, training and psychology are not the sole explanations of how groups of people act and interact when forced to take important decisions rapidly in an ongoing situation. Our analysis provides a contextual explanation showing that interactional patterns, the distribution of status and authority and the organizations' collective experience must also be taken into account. We show how mistakes and mishaps in such a critical situation can be quite understandable and partly explained by deeply rooted institutional traits in the police organization.

Our study thus complements the more social psychological explanations of the police response offered in previous analyses of the Utøya disaster (Johannessen, 2013) and the analysis by Christensen et al. (2015), which is more oriented towards administration and management levels. Our findings underline the need for broader organizational analyses of emergency management organizations, particularly those faced with high uncertainty and with a high demand for coordination. We show that decisions and emergent collaborative patterns that arise during an overwhelming crisis are influenced by existing informal values and practices in the organization. For example, by studying the institutional context also beyond crisis situations, one may achieve a better understanding of the decisions and choices made when the organization is overwhelmed by scenarios that require improvisation and swift reconfiguration.

2. The 22 July terror attacks and the Norwegian police

2.1. The attacks and their significance

The terror attacks on 22 July were a shock both for the general public and the political establishment. Norway is regarded as a peaceful corner of the world with few internal conflicts and good relations with its neighbours. The attack itself and particularly the cruelty towards young victims at Utøya stunned the citizens of Norway. The public eye had been directed towards the threat of jihadist terror and the fact that the perpetrator was a white Norwegian was also a shock. The events were followed by inquiries and investigations into how these events could happen and what Norway as a society could and should learn from them.

The definitive investigation report, among several, was the Gjørv commission's report (Gjørv, 2012). This identified several weaknesses in the emergency response, particularly within the police force. It also pointed more generally to weaknesses in the Norwegian public sector. One of the most striking was the inability of relevant authorities to act on a well-recognized need to install a physical road barrier to prevent the threat of car bombs being placed in front of government buildings. A car bomb scenario, similar to the actual attack in the GQ, had even been modelled a few years before the bombing. Inter-agency coordination problems, as well as discussions with the municipality and general public, delayed the implementation of barriers. The target and nature of the secondary attack was much more surprising and the criticism in the Gjørv report regarding this was more focused on the ineffective response than the lack of prevention.

2.2. The emergency response organization of the Norwegian police

The emergency response organization of the Norwegian police includes round-the-clock activities to handle regular police tasks and extraordinary events. The response organization is formally divided into three levels: tactical, operational and strategic.

The *tactical* level consists of police officers, led by an Incident Control Officer who manages the activities at the site of the event. The Incident Control Officer is mobilized if the event is considered too complicated for a single police patrol to handle, or if there is a need for coordination with other emergency response resources (such as the fire department or health services). The Incident Control Officer can appoint and delegate responsibilities to deputies, such as Task Force Commanders, when necessary.

The *operational* level is the information and coordination hub in an operation, receiving alarms and calls, determining the tasks to be performed and coordinating resources. Situated

in the Operations Center at the police station, the Operations Control Officer is supposed to monitor and evaluate the ongoing situation, secluded and shielded from the intensity of police work at the site. The Operations Control Officer has authority in decision making over the Incident Control Officer and is supposed to function as the head of *strategic* decisions as long as no staff body has been established. Simply put, the Operations Control Officer is supposed to order tasks to be done, whereas the Incident Control Officer should decide *how* to conduct them. If the complexity of the event exceeds certain criteria, a staff body should be established on a *strategic* level. This comprises a team of expert advisors within specified fields, such as police operations officers (P3) and intelligence officers (P2). The levels of the emergency organization are thus Incident Control Officer (tactical), Operations Control Officer (operational) and Staff (strategic), with P2 and P3 as the key roles in the staff organization.

The reader should note that though the term "operational" in other contexts typically refers to the "sharp end," this is somewhat different in police terminology in which it denotes activities undertaken in the Operations Center to coordinate actions on the site(s).

3. Theoretical background

3.1. Uncertainty and swift coordination

The decision-making processes and attempts to make sense of unfolding events have clear parallels in Weick's (1993) discussion of the Mann Gulch fire. Decisions and analyses are entwined and seemingly incomprehensible mistakes and omissions become more understandable when traced as elements in an evolving sensemaking process. Our analysis of the coordination challenges encountered is informed by the literature on coordination in organizations generally and in fast-response emergency management in particular.

While coordination in normal situations is embedded in organizational structures, the primary mode of coordination can, as argued by Mintzberg (1979), be said to be a characteristic of types of organizations. For emergency management organizations, the ability to coordinate swiftly, often in the face of surprise and uncertainty, is a key requirement. To understand these organizations, it is necessary to regard coordination both as formal and informal processes in the organization. Both in normal work and in emergencies, the role of "articulation work" (Strauss, 1985) or "situated coordinative work" (Almklov and Antonsen, 2014) is crucial to get work done.

Thus, coordination is a matter of both formal structures and situational *ad hoc* coordination, improvised and contingent on unfolding situational constraints and resources. In

a study of a fast-response organization – a hospital emergency ward – Faraj and Xiao (2006: 1167) state that "[i]ndependent of embraced rules and programs, there will always be an element of bricolage reflecting the necessity of patching together working solutions with the knowledge and resources at hand." They discuss how the Center faces complex tasks under great uncertainty, short decision times and with potentially great consequences and how this poses coordination challenges that are hard to plan for in advance. Handling unforeseen and dramatically changing situations may demand swift organizational reconfiguration. They argue for a practice-oriented view of coordination, as it cannot be pre-planned and pre-specified, particularly in situations in which time pressure is high and there is an element of novelty.

On a larger scale, concerning multi-agency coordination in major emergencies, Curnin et al. (2015) stress the importance of role clarity for creating "swift trust" for coordination in situations in which there is little time to gain a shared understanding and negotiate responsibilities. In temporary or even ephemeral organizations that arise in an improvised response, trust cannot be established based on experience of previous trustworthiness: "[P]eople have to wade in on trust rather than wait while experience gradually shows who can be trusted with what […]" (Meyerson et al., 1996: 170). Curnin et al. (2015) highlight the importance of role clarity in these situations and that trust- relations follow the formal roles of the actors. Our case will illustrate that other mechanisms operate to bypass these processes.

The need for a quick response, as well as the novelty presented by the surroundings, necessitates specific modes of coordination in fast-response organizations. There are also differences between services: while Faraj and Xiao's (2006) study of emergency surgery shares important similarities with our case, the context is still more controlled in the hospital, the uncertainty is typically more limited in scope (basically concerning individual patients) and the resources and tasks are easier to coordinate through standardization. The work there is highly rule-based, still with the need for improvised "dialogic coordination practices" (Faraj and Xiao, 2006: 1158). In our case the context is more open, both in terms of the range of possibilities to be considered and the variety of manpower to be coordinated. Moreover, intentional attacks, such as the one on 22 July, may explicitly target organizational weaknesses of the response organizations and be deliberately designed to generate confusion and uncertainty and challenge the coordination of the response.

3.2. Centralization and decentralization in high-reliability organizations

In a recent paper, Schakel et al. (2016) describe "switching between practices" in a developing police action and how events during a surveillance operation necessitate the switch of operational mode into a manhunt. Their paper is very relevant for our discussion, since the police in both cases needs to readjust as an unfolding situation challenges their expectations. Also, in both cases the switch in operational mode is a dynamic between centralization and decentralization.

This has a parallel in the literature on high-reliability organizations ([HROs], LaPorte and Consolini, 1991; Weick and Sutcliffe, 2011). Based on empirical case studies in organizations that are able to manage complex risks in demanding settings, HRO research highlights how organizations relying on strong centralization to maintain reliability in normal operations switch to a decentralized mode of organizing when they encounter particularly demanding situations. In studies of United States Navy aircraft carriers, the original mode of organization is a hierarchical decision-making structure, in which the authority lies with the ranking officer. During demanding carrier operations, with aircraft taking off and landing at a very high tempo, the ranking officers defer to the expertise of the personnel closest to the problem at hand, i.e. the personnel on the deck.

While the classical HRO literature stresses the ability of organizations to re-configure in critical situations, fast-response organizations such as the emergency departments of the police or emergency health services are designed for emergencies. While the HRO literature describes organizational principles that are also highly relevant for first responders, there are some caveats. To telegraph ahead, our case will illustrate that while decentralization in emergencies is the key *modus operandi* also for the Norwegian police, deeply rooted in organizational systems and the professional ethos of the officers, some situations may require a form of re-centralization that proved to be a particular challenge during the handling of the terror attack.

3.3. Skill-based, rule-based and knowledge-based performance

To organize our analysis of the response organization, we employ Rasmussen's (1983; 1985) and Reason's (1990; 2008) typologies of human performance in safety-critical settings. The three levels are denoted: skill-based, rule-based and knowledge-based. Skill-based performance refers to the execution of routine, highly practiced tasks that are automatic and embodied, combined with occasional conscious checks (Reason 1997: 70). Rule-based performance is conscious performance of actions following memorized or written *if-then*

rules. These rules are applied when the actors recognize them as appropriate for the situation. Knowledge-based performance is needed when the actors have problems finding pre-existing solutions. This calls for an analytical combination of information to come up with new solutions.

These different types of "human performance" serve to illustrate how the division of tasks and authority is organized in the police's emergency response plan. In Fig. 1 we have related these three types of human performance (used in the model of Reason 1997:69; 2008:13) to the police's levels of emergency response – tactical, operational and strategic – as well as the situations to which these types of performance are best suited.

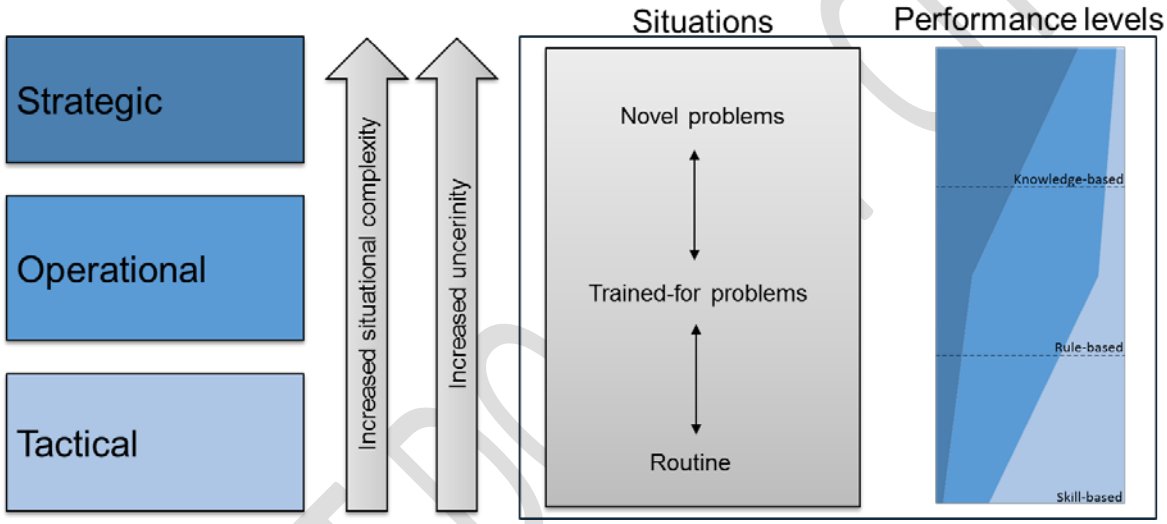

Fig. 1. Performance levels based on situational context (Based on Reason's 1997: 69; 2008: 13) model of three levels of performance control)

If we relate the three levels of emergency response to the nature of the tasks to be executed, there are some relative differences.[1] The tactical level, represented by the Incident Control Officer and police patrols, consists of first responders who often deal with routine missions based on a set of procedures and rules for handling situations, such as violent persons. The main task is often to respond quickly to more or less pre-defined scenarios within the proximity of the incident site. They employ rehearsed routines with the inclusion of some rules and thus these are mainly skill-based and rule-based activities.

The operational level, represented by the operations officer, takes charge of the police response if there is need for coordination between incident sites. The Operations Control Officer is supposed to gather, process and use information for decision-making. This work is,

[1] Note that these comparisons are relative. Most human activities have elements that can be classified as rule, skill and knowledge based.

relative to the tactical level, more knowledge based in nature and requires improvisation and sensemaking for unfamiliar situations. Still, a large part of this work can be described as applying a set of conditional rules or trained-for practices.

The strategic level, i.e. the emergency staff, conducts expert judgments on critical matters in events that are novel and complex. There are limited procedures and rules for their task solving as it requires conscious knowledge-based performance. The situations at hand are uncertain and complex, requiring intelligence, judgment and coordination and the activity can certainly be described as highly knowledge based. As the need for central coordination increases, it is not only necessary to interface with more actors but there is also a need for increased knowledge-based handling of incidents and the ability to manage unexpected and emergent situations.

3.4. Institutionalized practices

Organizations are not only founded on formal structures and roles. They are also aggregates and sediments of informal practice. These influence decisions taken, also in emergencies. In our analysis, we contextualize the decisions and actions during the response to the 22 July attack inspired by a theoretical strand of organizational theory often referred to as institutional theory.

Institutions may be seen as "written and unwritten rules, norms and constraints that humans devise to reduce uncertainty and control their environment" (Menard and Shireley, 2005: 1). Institutions are historically constituted symbolic systems – or a shared system of sensemaking – that confront the individuals as if they were external "facts" (Scott, 1995) and by this regulate and mediate norms and practices. Rather than using the noun "institutions" one could apply the verb "institutionalization," underlining the fact that although these institutions may be persistent, their persistence is based on continuous re-enactment. Institutionalization is a long-term process, in which some conventions are maintained and others are changed (see e.g. Berger and Luckman, 1967).[2]

Newcomers to an organization have to adapt not only to formal rules and requirements, but also to the institutional context. Such adaptions – or individual learning processes – are crucial for the maintenance of institutions. According to Weick and Westley (1996), organizations are designed to ensure alignment and compliance among the members of the

[2] The concept of institutions can be seen as congruent with the concept of culture, when culture is understood as patterns that are developed – maintained or transformed – as a part of the ongoing interactions between members of a community.

organization to produce and reproduce coordinated actions that are considered efficient in order to cope with a set of specific problems or goals. This aspect of the organization is also discussed by Czarniawska, for example, who states that most learning (individual) "aims to protect and revitalize institutional order rather than change it" (2003: 123).

For our argument, discussing informal institutions in the police force will contribute to expanding the explanatory canvas for decisions and actions taken during emergencies, particularly by elucidating some of the institutionalized patterns of trust and authority that are drawn upon, that are resources and constraints, in an overwhelming crisis.

4. Data collection and analysis

Our paper is based on an analysis of interview data and document analysis. The work is part of a comprehensive project on the changes in the emergency services after the 22 July attacks in Norway and our interviews were conducted to study a variety of research questions regarding changes after 22 July. The empirical analysis consists of two main parts: a detailed analysis (based on official reports) of the events as they unfolded focusing on coordination and key decisions and analysis of the institutional context (based on reports and our own interviews) that contribute to explaining the coordination problems we observe in the first part.

4.1. Analysis of the event

The analysis and representation of the event is primarily based on the White Paper that analyzed the 22 July terror attacks (NOU 2012–14), referred to as the Gjørv report. We compared this with other descriptions of the event (Politidirektorat, 2012; Johannessen, 2013), but our narrative of the events presented here is in line with the Gjørv report. We sought to identify decisions and actions that in retrospect appear inadequate to counter the attacks as fast as possible and hinder further escalation. These were then compared with the formal guidelines for the police emergency organization (Politidirektoratet, 2011).

4.2. Analysis of investigations and evaluation reports

In the aftermath of the 22 July terror attacks, a series of evaluation reports and audits, as well as Green and White Papers, were published to describe status and propose improvements to the Norwegian public safety and emergency response regime. All major public reports and

inquiries were analyzed as part of our project.[3] For this paper, we studied the evaluation reports from police exercises: the Oslo (2006) and Tyr (2009 and 2012) exercises. Our study of the reports from the Tyr exercises in 2009 and 2012 are particularly important as they point to coordination problems that are largely similar to those observed in the Gjørv report, thus suggesting that the problems we observe in our analysis of the events were known before the attacks and that they also persisted afterwards.

4.3. Analysis of the interviews

We conducted 22 in-depth, Single informant interviews using a thematically structured interview guide. The interviews lasted from 45 minutes to 1.5 hours and were conducted in 2015–2016. We interviewed representatives from the Ministry of Justice and Public Security (7 informants), the Police Directorate (8) and local police departments (7). All interviews were transcribed and checked for accuracy. The transcripts were thematically coded using the HyperResearch software.

The interviews were analyzed by using the formal position and the type of work of the informants as an analytical category in order to compare how they described their own organization, their daily work and what they ultimately considered problematic within their organization.

4.4. Synthesizing analysis

The findings from the different analyses were juxtaposed with the analysis of the causes of the inadequate actions during the terror attacks on 22 July in 2011. This was done with reference to existing organizational theory regarding emergency response organizations, coordination and human performance. The findings in the reports were primarily used to guide the focus of the detailed analysis of the interview data. In other words, the findings in the reports were compared with information from the interviews to look for both coherence and incoherence between the different descriptions of reality.

Based on this analysis, we aim to explain some of the shortcomings during the police operation and why certain organizational measures suggested by the Gjørv report have not been implemented in the aftermath of the attack. Our interpretations of the data and

[3] In addition to the Gjørv report, this includes the White Papers "The Police's role in the national crisis management" (Meld. St. 13 (2015–2016) and "Terror emergency preparedness" (Meld. St. 21 (2012–2013), the White Paper "One police" (NOU 2013–9) and several audit and investigation reports (Politidirektoratet, 2012; DIFI, 2013; Helsetilsynet, 2014; Riksrevisjonen, 2015; Traavik et al., 2012).

development of explanations draw on coherence theory (White, 1970), i.e. that an interpretation is reasonable if it coheres with a system of data. By using different types of data (documents and interviews) and cross-checking the multiple sources in search of regularities, our work employs methodical triangulation (Denzin, 1978). We also used investigator triangulation by involving multiple researchers in the processes of both obtaining data and conducting interpretations.

5. Analysis part 1: The event

The main criticism of the police response on 22 July was focused on its failure to prevent or provide a timely and effective response to the Utøya attack. To discuss this, we give an account of the police actions after the first reports of a bomb in Oslo in the following two subsections.

The account below is detailed, but due to the complexity and magnitude of the events, it is necessarily limited in scope. The first subsection primarily illustrates the marginalization of the Operations Control Officer and how this contributed to a failure to investigate evidence about the perpetrator and conduct a search for him as he was on his way to the second attack. The second focuses on the coordination problems in the response to the secondary attack and illustrates how informal authority structures influenced the coordination of the response. As such, these two timelines serve as cases of how instituted norms and practices influenced the response to the attacks.

5.1. Response to the bomb attack while the perpetrator was on the move

The Oslo police Operations Center received the first notification regarding the attack at 15:25. Two police patrols were ordered to the area. Simultaneously, the Incident Control Officer was notified. At 15:27, the operators received a call from the security office of the GQ reporting an "explosion and lots of smoke and a terrorist." Four minutes after the first notification, a police patrol at the site reported a "bomb" and that there was a need for the fire and rescue services and "all relevant crew resources."

The Operations Control Officer at the Oslo Operations Center responded to this notification by informing relevant external emergency resources and by directing all available police patrols to the scene. During these actions, the Operations Center received several emergency calls from civilians and officials in the area. The security office made a call at 15:32, informing them that there had been a car bomb. Further, they informed the Operations Center that the bomb had been placed in a white van and that a man dressed in a security

guard uniform had left the car some minutes before the explosion. Meanwhile, at 15:33, the incident control officer arrived at the site of the bomb blast. Between 15:33 and 15:39, he gave various notifications regarding the situation and requested assistance from Delta Force (the police's elite anti-terror unit), the arming of the regular police force and the establishment of operational staff.

In the meantime, the Operations Control Officer had focused on summoning the strategic staff. Meanwhile, she handed full responsibility for the operation to the Incident Control Officer present at the site in the GQ. The Operations Control Officer did not supervise and manage the activity in the field through regular communication with the Incident Control Officer as prescribed in the procedures for the emergency organization.

At 15:35, a new witness made a call that was answered by a switchboard operator at the Oslo Operations Center. The witness informed her about a man dressed in a police uniform, with guns and a helmet, leaving the area prior to the explosion in a civilian car with the registration number VH24605. This witness described the route of the car leaving the area. The operator who received this information decided to interrupt the witness, referring to how busy things were and ending the call. The switchboard operator made a summary of the call on a post-it note and went to the operations room. She tried in vain to get the busy Operations Control Officer's attention and left the note on an operator's desk.

At 15:40, the first strategic staff member arrived at the staff control room. His staff function was operations officer (a function termed P3). He was unfamiliar with staff work and was not aware that there were predefined task descriptions that he was supposed to draw on in his staff function. He was, however, an experienced Incident Control Officer and established direct contact with the Incident Control Officer in the field, bypassing the Operations Control Officer. The P3 and the Operations Control Officer did not communicate before 17:00. The P3 chose to focus on the ongoing lifesaving activity at the site of the explosion, securing the site and preparing adequate object protection in case of a secondary attack. He was not aware of the notification from a witness regarding the perpetrator, and thus did not act on it.

At 16:50, a guard in the GQ informed the Incident Control Officer that a security camera had captured a man in a uniform leaving the van that later caused the explosion. The Incident Control Officer ordered a detective from the organized crime department, present on the site, to look at this to identify the possible perpetrator and his getaway car. At 15:55, the Incident Control Officer of Delta Force also ordered his crew in the area to seek information about possible perpetrators.

About the same time, an operator at the Operations Center called the witness who had spoken with the switchboard 21 minutes earlier, after becoming aware of the post-it note by chance. The operator regarded the information as very important and marked the information as “important” in the log. She then made a search of the car number and found that it was a rented Fiat Doblo. The operator then contacted the Incident Control Officer. He did not take any decision, but told the operator to contact the Delta Force Incident Control Officer. Upon receiving this message, the Delta Force officer said that he considered the information too vague to initiate any action. This happened just after 16:05, at the same time the perpetrator was driving towards Utøya, passing two police patrols on the way.

Later, at 16:07, a third witness made a call about a man in police uniform leaving the area prior to the explosion. At that time, the Operations Center was overloaded with information and not sufficiently staffed to handle the information flow. At 16:09, the Operations Control Officer at a neighbouring police district, Asker and Bærum, made a call to the Operations Center in Oslo offering assistance. The offer was declined, but she received information about the description of the perpetrator and his car. She forwarded this information to the three police patrols on duty, ordering them to cancel and postpone ongoing assignments and look for the van. However, according to the Gjørv report, none of the patrols obeyed this order.

At 16:30, the staff officer in Oslo responsible for intelligence arrived at the staff control room. She was not made aware of the information received from the witnesses regarding a possible perpetrator.

The staff first received information about the shooting at Utøya at 17:29 and ordered the Delta Force staff to relocate the force from the GQ to Utøya. At 17:38, the the P3 received a notification about a firefighter who claimed to have observed the perpetrator and that he was a white male dressed in a police uniform. The P3 received this information from the Incident Control Officer not from the Operations Center. This was the first time that the members of the strategic staff were made aware of information regarding the perpetrator at the GQ. At 17:47, two hours after the information was received, the description of the perpetrator and his car was communicated to all police units in Oslo and neighboring areas. At that time, the Utøya killings had been going on for more than 25 minutes.

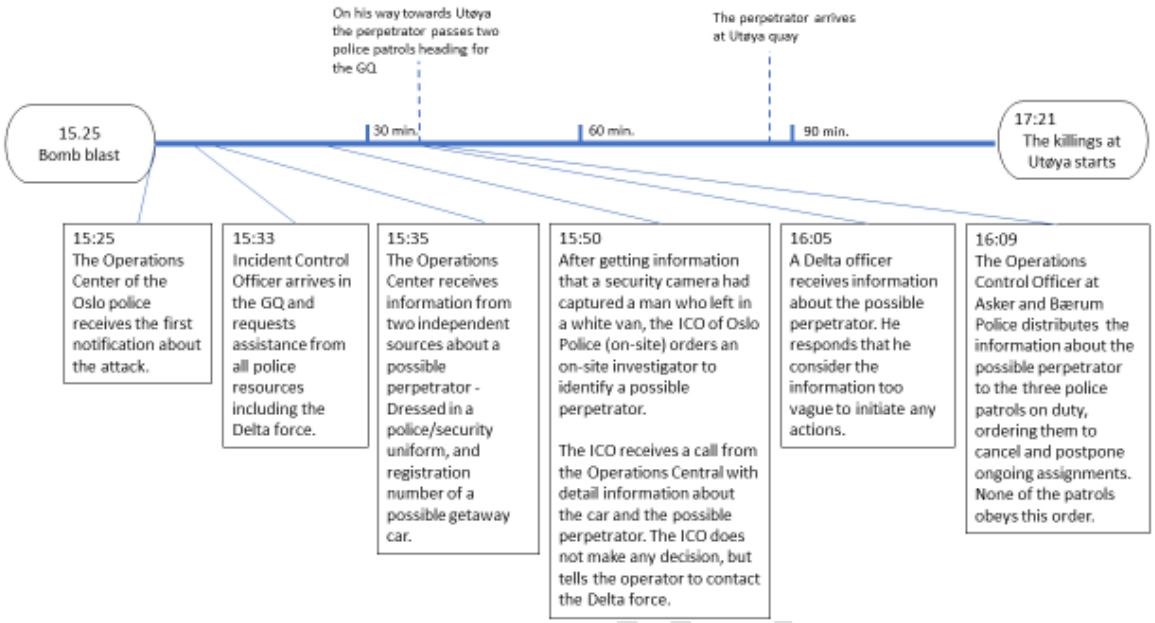

Fig. 2. Time line before the Utøya killings, starting with the main events referred to in this analysis.

5.2. The Utøya shooting attack

Utøya is located in a neighboring police district called Nordre Buskerud. The first emergency call regarding the shooting at Utøya reached its Operations Center at 17:24. Within the following 4 minutes, it received several notifications regarding a man armed with an automatic weapon, disguised as a police officer. The Operations Center in this district continued to receive notifications regarding the events and sent out the alarm to the relevant emergency resources. The first patrol left the police station heading for Utøya quay at 17:38, arriving there 14 minutes later.[4] Ten minutes later (17:48), the Incident Control Officer left the station in a car with a speedboat with special equipment. His partner was an officer with previous experience with the national Delta Force. On their way, they met another local officer with experience of Delta Force on his way to prepare himself for action. The former Delta Force officer joining the Incident Control Officer made a call to the Operations Control Officer and informed him that he considered himself Task Force Commander and that the other former Delta Force member should be the new Incident Control Officer.[5]

[4] A topic of controversy has been the fact that this patrol, despite a recently implemented "ongoing shooting" protocol, did not take action directly on arrival. We have not analyzed this decision in detail, but one explanation might be that this procedure had been implemented very recently and not yet drilled.

[5] The original Incident Control Officer was not made aware that he was no longer considered the Incident Control Officer and the newly appointed Incident Control Officer was not informed that he was supposed to take over the Incident Control Officer´s responsibilities.

Just before the second car left the station, the Operations Control Officer informed all forces that the Oslo police had been informed and that a helicopter and probably Delta Force would be on their way soon. The local police now had eight armed officers, among them two with experience of special training.

The local, self-appointed Task Force Commander planned to launch the craft at a previously used launching site, go to Utøya quay to pick up reinforcements and then approach the island by boat. An estimate by the Gjørv commission indicates that this task force could have arrived at the island at around 18:15 if this plan had been followed (Gjørv, 2012: 126).

The staff handling the bomb attack in Oslo received information about the shooting at Utøya at 17:29. A Delta Force patrol car, on its way to the GQ, was ordered by the staff to head for Utøya at 17:30. The Incident Control Officer of Delta Force received the order from Delta Force staff to relocate the force from the GQ to Utøya at 17:32.

The Delta Force arriving from Oslo was not familiar with the Utøya area and did not know the exact location. The dedicated communication system did not reach the local police until the cars had passed Sollihøgda hill. Attempts to use regular cell phones to receive information from the local police did not work due to telephone overload at the Operations Center. The first recorded contact between local police and Delta Force occurred at 17:57, when the local Task Force Commander received a notification from Delta Force on the communication system that they were on their way.

The local Task Force Commander assumed that they had passed Sollihøgda since he knew that the communication system was limited to his side of the hill. Based on this, he changed his plan slightly and put a strong focus on transporting the high-speed craft as fast as possible towards Utøya quay. Second, he ordered the police patrol at Utøya quay to obtain more boats for Delta Force. Then he called the nearest Delta Force patrol car to arrange the meeting point at Utøya quay. However, the patrol missed the exit to the quay at around the same time the cell phone call ended.

The Delta Force police officer with delegated responsibility for identifying the meeting place was, however, sitting in the second car approaching Utøya. He managed by a great deal of improvisation to get in contact with an operator at the Nordre Buskerud Operations Center. The operator asked the Delta Force police officer if Delta Force was going "…down to the quay," referring implicitly to Utøya quay. The Delta Force police officer asked if it was the "…quay down by the golf course." This was the quay he knew of, lacking comprehensive knowledge of the area. The operator understood this to be a command and did not notify Delta

Force that the initial meeting point was at Utøya quay. The change in meeting point generated confusion and uncertainty among the local police and between the Delta Force patrol cars.

Between 17:58 and 18:07, the first arriving Delta Force patrol car was trying to locate Utøya quay. At 18:07, this patrol and four other units met with the local police patrol at the incline down to Utøya quay. However, at this point, the notion that the quay by the golf course was the meeting point had been accepted and the patrol cars relocated, moving away from the island and several private boats in the area that could have been used. The local Task Force Commander was still planning to meet the Delta Force at Utøya quay, 625 m from the island and was surprised when he observed the patrol cars near the golf course 3.6 km north of Utøya. Eventually, the local Task Force Commander and the Incident Control Officer with the high-speed boat met the Delta Force units at the new meeting point, more or less by chance, and at 18:11 boarding started.

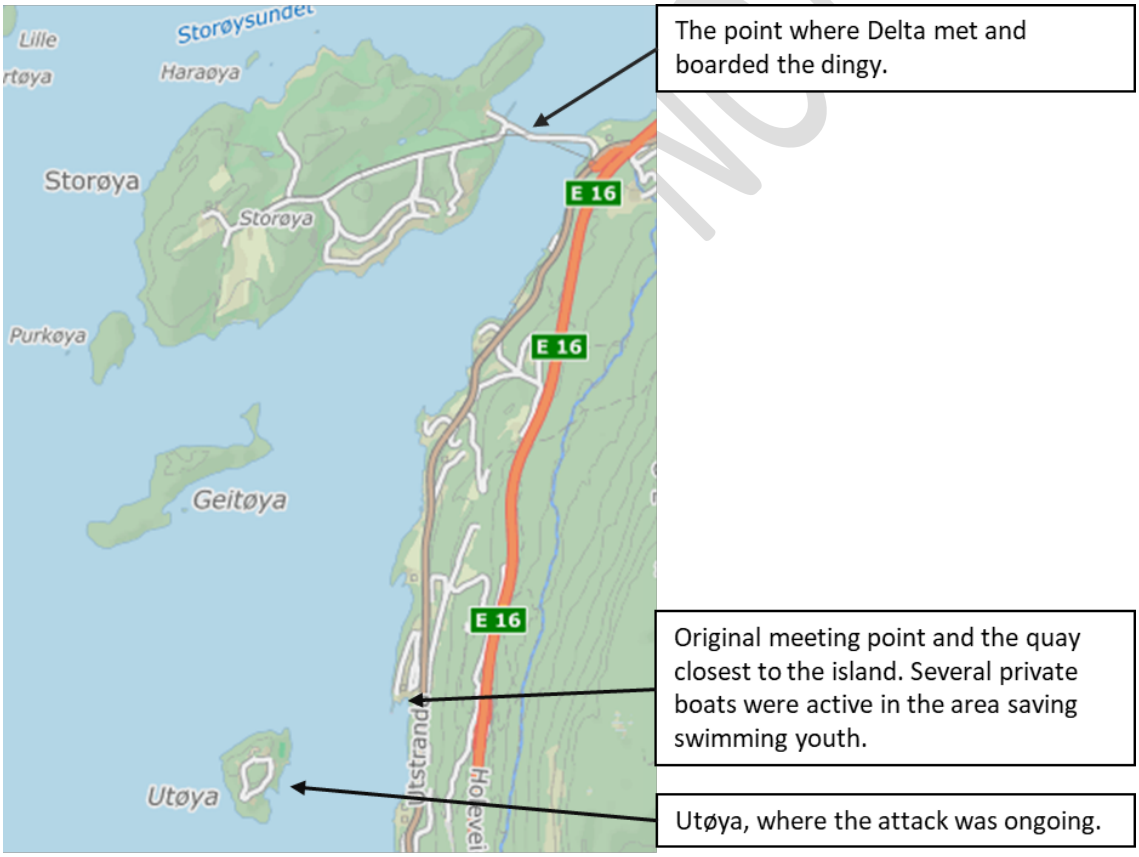

Fig. 3. Map of the Utøya area, illustrating the planned and actual embarkation points of the police.

A total of 11 men with heavy equipment entered the craft. The boat was thus overloaded and handled sluggishly. The local boat driver wanted to leave behind some of the passengers, but he was ordered to proceed. About four minutes later the engine broke down due to the

overloading of the craft. A new boat, requisitioned by the local police in the Utøya quay area, picked up 10 of the passengers and the journey continued. Again, the boat was overloaded, which degraded both its speed and stability. Another civilian boat arrived and four of the police officers changed boats. These were then the first police officers to arrive at Utøya at 18:27 and the perpetrator was captured at 18:41. Utøya quay is closer to the island than the golf course quay and in that area several civilian boats were already in action saving fleeing youth in the water. The misunderstanding regarding the meeting point significantly delayed the operation.

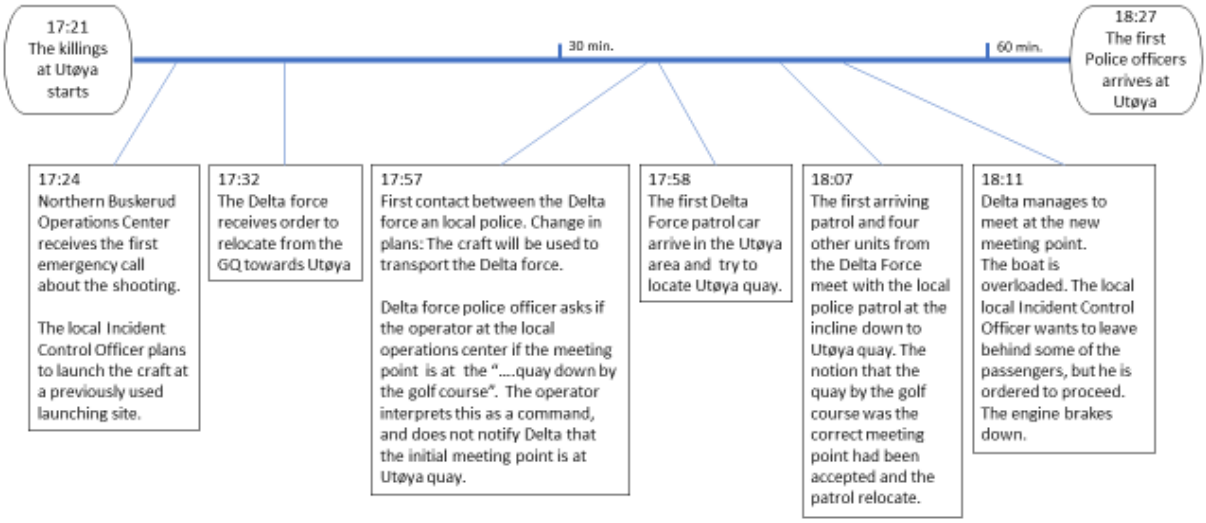

Fig. 4. Time line after the Utøya killings started, with the main events referred to in this analysis. Main findings from analysis of the events.

5.3. Main findings from analysis of the events

A bomb blast in the GQ is an emergency necessitating swift action. It is necessary to have patrols on site to manage the operation, rescuing and evacuating people, controlling the security of key officials, other buildings, etc. The Incident Control Officer on site is closest to the event and as things may happen quickly on the streets, it makes sense to delegate authority to the operative level and let the Incident Control Officer coordinate resources and tasks on site. However, as we have seen, this focus on the activities on site led to weaknesses in terms of coordinating information and resources.

Even if we consider the prevailing chaos, under-staffing and limitations in communication equipment, it is striking that the Incident Control Officer appears to be the central decision maker of the operation. During the police operation in Oslo, the Operations Control Officer became further marginalized when the strategic staff member with responsibility for operational strategy established bilateral contact with the Incident Control Officer, bypassing the Operations Control Officer, who is supposed to have a key coordinating role. It is also striking that so little attention was directed towards investigation of the perpetrators, considering that the Operations Center had received rather detailed information from two independent sources about a possible perpetrator only five minutes after the first notification of the attack in Oslo. This information was communicated to an Incident Control Officer operating in the chaotic incident area at the GQ, in effect delegating to him the authority to decide on what to do with the information. The Incident Control Officer recommended contacting Delta Force and the representative of Delta Force considered the information to be too vague. The first decision to act based on detailed eyewitness information was made by the Operations Control Officer in the neighboring Asker and Bærum police district, ordering patrols to cancel and postpone ongoing assignments to look for the getaway car and stay tuned for further instructions. The lack of authority of the Operations Control Officer seems also to be demonstrated in this case since the police patrols did not follow these instructions but proceeded with other ongoing assignments.

The breakdown in coordination and decision-making at this stage of the police response is a product of the sudden increase in uncertainty that occurs when information about a second attack at another location starts to reach the operations officers. The operations officers have their hands full dealing with the explosion in the GQ – itself a task of immense complexity – and have already switched to a decentralized mode of organization to ensure a swift and adequate response to the emergency in downtown Oslo. The main mode of coordination is mutual adjustment among the officers, other agencies and contributing civilians on site. When information about another attack surfaces, this is hard to fit into the existing mode of coordination as it requires a shift of attention away from the site of the explosion and the inclusion of officers with other areas of competence at other locations. This would require a redistribution of decision-making authority, giving the Operations Control Officers a more authoritative role in the distribution of resources and tasks, as well as the handling and analysis of information.

During the police response at Utøya, two events delayed the advance towards the island: the misunderstanding about the meeting point and the overloading of the speedboat. We

interpret the first situation as being partly caused by the local police's respect for the authority of Delta Force. Also, the decision to overload the boat can be attributed to the local police deferring to the Delta Force Incident Control Officer's authority. This is a challenge of a different kind, compared to the problems related to uncertainty described above. When the police forces started moving towards Utøya, it was already evident that there was another attack and that this was most likely connected to the bomb explosion in Oslo. Although there were several questions unanswered relating to the number of perpetrators and the motives behind the attack, the uncertainty had been significantly reduced as it was clear at this stage that the nation was facing several concerted attacks. The breakdown in coordination at this stage of the police operation is more a matter of actor complexity. When the perpetrator drove from Oslo to Utøya, he crossed organizational borders between police districts. This involved an increase in complexity by requiring the swift coordination between actors who do not cooperate on a daily basis and who lack a well-functioning common infrastructure for communication and a standard for communication in emergency situations. As we will discuss in more detail below, the coordination challenges that arise from uncertainty and the challenges arising from actor complexity need to be separated in order to understand coordination and decision-making in fast-response organizations.

6. Analysis part 2: The institutional context

Errors and mistakes in a complex response to a largely unpredictable event need to be contextualized to go beyond a simple hindsight analysis. In the following section, we show that the problems discussed above can be explained by situating them in an institutional context.

6.1. Reports point to similar coordination problems

In the Gjørv report, the investigators claim that the Operations Control Officer function at the Oslo Operations Center was characterized by poor preconditions for performing leadership during the operation. The report points out that the Operations Control Officer role did not operate in line with the intentions of the emergency preparedness system of the police, not making "judgments somewhat withdrawn and unaffected by the ongoing police efforts" (cf. Politidirektoratet, 2011, 1. paragraph 7.3) and not having "decision-making authority over the Incident Control Officer in case of disagreements" (Gjørv, 2012: 93). The report also points out that the emergency preparedness system of the police requires that the Incident Control Officer should communicate with the Operations Control Officer after constituting the

strategic staff and that direct contact between the Incident Control Officer and the P3 led to a situation in which the Operations Control Officer was *"almost completely side-lined"* (Gjørv, 2012: 94).

These shortcomings do not apply only to the 22 July terror attacks. When we consider the evaluation reports from national emergency exercises before and after these attacks, the operational level stands out negatively in several cases. It is reasonable to argue that the choices made during the handling of the terror attacks were not a consequence of situational peculiarity, or by individual errors, but reflect institutionalized conditions regarding the operational practice of the police.

A mainly survey-based evaluation report from *Exercise Oslo* in 2006 (DSB, 2009) shows that Operations Control Officers were less satisfied with the level of expertise, procedures, resources and task performance while officers at the tactical level were most satisfied with their own role in the exercise. A more thorough evaluation report was written after the Tyr exercise in 2009 (Jonassen, 2010). In this report, the task performance of the Operations Center was addressed several times. The report criticizes the marginalization of this function due to a bilateral interaction between the Incident Control Officer and the P3, the exact same form of bypassing that was seen in the 2011 attacks, leading to uncertainties regarding the situation (Jonassen, 2010: 26):

> *"There was some confusion at the Operations Center regarding the situation. (…) The Police Academy considers this unfortunate as the direct contact between the Incident Control Officer and P3 excludes the function of the Operations Center (leadership in the moment). Only in exceptional operational situations (sharp end police actions) can such a direct contact be defended."*

It also criticizes the task performance of the Operations Center and the Operations Control Officer in the exercise and the lack of situational awareness due to an orientation towards singular tasks (Jonassen, 2010: 33):

> *"Long-lasting absence from the Operations Center can cause the Operations Control Officer to lose the picture and overview of the situation. It is important that the Operations Control Officer gives himself room to lead and does not 'dive' into telephones and other work that takes away focus from leading. Staffing of the Operations Center must be determined according to the situation (…)."*

The evaluation report from the national emergency response exercise, *Exercise Tyr 2012*, conducted approximately 15 months after the 22 July attacks also criticizes the bypassing of the Operations Center and bilateral communication between the Incident Control Officer and the P3 (Rosø, 2013). The report also echoes the critique regarding the task performance of the Operations Center and the Operations Control Officer and the inability to maintain an adequate situational overview (Rosø, 2013: 37):

> "[*T]he Operations Control Officer did not manage to keep track of all the various events since the person was relatively locked to a work station and the operator operating it. (…) This caused (…) the Operations Control Officer to miss the start of the critical incident with 'shooting ongoing' in the terminal building."*

The marginalization and bypassing of the Operations Control Officer – and thus the deficit of withdrawn judgment and decision-making – is a recurring problem. This also suggests that the police were not successful in adjusting their practice after the 2011 attacks.

6.2. Interviews reveal a history of operational focus in the police

Our interview study, primarily designed to analyze changes after the attacks, revealed some explanations for the coordinative problems encountered on 22 July and also why they seem to persist. We observed a polarization between different groups in the police (also discussed in Almklov et al., 2017; see also Johannessen, 2013) and a tendency towards focusing on tactical issues rather than strategic.

In the interviews, we found support for the hypothesis that the operational inadequacies during the handling of the terror attacks had explanations rooted in institutionalized conditions. This was especially reflected in how the informants described the roles of the Operations Control Officer and Incident Control Officer and in a schism between two groups of informants: those locally denoted as "emergency responders" (Norwegian: beredskapspersonell), that is active uniformed police, and the groups working with strategy, intelligence and analysis.

6.2.1. The roles of the Operations Control Officer and the Incident Control Officer

The interviews indicate that the Operations Control Officer role is generally considered a low-status job, despite the formal decision-making authority that is ascribed to this role in the emergency preparedness system of the police. In contrast, the Incident Control Officer has high status, not only due to formal authority but also based on a notion of the Incident Control

Officer as the most skilled and experienced. One even claimed that people not suited to perform other work are placed in the Operations Center: “It has become slightly better staffed. But not much. […] It has, in a way, not been a place to be that has status, unfortunately.”

The interviews also indicate that “real police work" is associated with conducting “sharp end” police work. Investigations and analysis have a weaker standing compared to more direct interventional police work.[6] When asked about the authority and role of the Operations Control Officer and the Incident Control Officer, there was a general view among the informants with a “sharp end” background that the Incident Control Officer, when established, is the head of operations.

The informants tend to allocate not only tactical responsibility to the Incident Control Officer but also, to a certain extent, strategic decisions. These descriptions of responsibilities by our informants are not in line with the formal descriptions of the roles and authorities in the organizational design, which state that the Operations Control Officer has “commanding authority over the Incident Control Officer” (Politidirektoratet, 2011: 113) and that the Incident Control Officer is the head of tactical decision-making when he/she is appointed by the Operations Control Officer.

The informants’ notions of the roles and authority of the Incident Control Officer and the Operations Control Officer, presumably reflected in practice, may contribute to explaining why the latter were marginalized as commanders during the events of 22 July 2011 and also during scenario-based exercises before and after the attacks. The orientation towards “sharp end” tactical decisions taken by different Incident Control Officers at the incident sites and the marginalization of management by the Operations Control Officer and staff may also explain why relatively little effort was put into investigation and intelligence to capture the perpetrator.

6.2.2. A schism between two informal groups within the police

The interview study revealed a schism between informants locally denoted “emergency officers” or “emergency responders” and those working with intelligence, investigations and analysis. [7] The schism between these two groups includes opinions regarding the Gjørv report, which measures should be implemented and the main challenges for the police. These two

[6] As this paper is being finalized, there is an ongoing debate about strengthening the competence requirements and status for investigators in the police.

[7] Cultural differences between these groups have also been discussed in Almklov et al. (2017). See also Johannessen (2013).

groups could be considered informal communities associated with specific views, interests, status and influence that are transferred and reproduced through daily interactions and the incorporation of new members in the organization.

"Emergency responders" tended to express disagreement with and antagonism towards the findings and conclusions of the report, whereas those who performed more strategically oriented work tended to view the report as addressing key challenges in the police. When asked about what measures should be implemented to improve the emergency organization and the police, the "emergency responders" tended to be oriented towards issues such as the need for better information and communications technology (ICT), more police on the street, better object security and the need to arm the police. The other group focused more on problems regarding a lack of analytical orientation, lack of focus on the investigation aspect, lack of consideration and application of new analyses and new knowledge, lack of adjustment to societal changes and a predominant resistance to changes suggested by personnel not considered "real policemen."

The informants who were oriented towards lack of resources tended to attribute this to external causes, such as the clerks working in the Police Directorate or the Ministry of Justice, or politicians in general. Some even claimed that experience-based knowledge could trump and undermine any conclusion from formal analysis and reports. The experience of "real policemen" is treated as more valid than knowledge produced by "clerks" with no real experience of police work. The other group tended to attribute the causes of the problems to conventions or "culture" within the police force itself. One informant claimed that the central management had addressed the lack of "knowledge-based police work" several times during the last few years, including a specific initiative to change the orientation in regular police work, but without having any impact on priorities and task performance within the force. An example is the introduction of Problem-Oriented Policing in 2005, based on Goldstein (1979). A master's thesis in police science has also pointed to the lack of knowledge-based management in the police (Benan and Kjenn, 2013).

The analysis of investigations, evaluation reports and interviews together shed light on the institutional context of the coordination and decision-making during the stream of events. Many of the crucial choices made on 22 July may be seen as reflections of established informal conventions regarding, for example, task priorities and status and rank among the actors involved. Fast-response organizations are not in a constant state of emergency. The majority of work days will not be spent dealing with extreme scenarios. Importantly, the patterns established through normal, everyday operations will influence the handling of

extreme situations. To understand – and not least be able to improve – coordination and decision-making in emergencies, knowledge about the long-term development of practices, including informal aspects, is necessary.

7. Discussion

Our analysis of the events shows that little action was taken to investigate, identify and capture possible perpetrators, even though there were rather detailed witness descriptions of the perpetrator quite early on. Furthermore, the operator at the Nordre Buskerud Operations Center did not provide Delta Force with correct information regarding the meeting point, apparently due to a misunderstanding. In sum, the operational level was marginalized and both strategic and tactical decisions were taken by the Incident Control Officers. The authority of the Operations Control Officer in coordinating the operation was bounded, and not in compliance with the descriptions in the police emergency response system.

Moreover, our analysis of emergency exercises before and after 22 July shows that the marginalization of the operational level, the Operations Center, is a recurring problem in police emergency organizations and that the inadequacies seen on 22 July are not unique to the course of events on that day.

Our interviews show that working at the Operations Center is regarded as a "low-status" job within the police. We have also identified a schism between two groups of informants within the police. Members of the first group consider themselves active personnel, different from non-police professionals and "clerks." Members of the second group describe themselves as analysts or as investigators and regard themselves as "underdogs" with minimal influence compared to typical emergency experts or the "sharp end" personnel within the police. The schism between the two groups in our sample reflects informal aspects of the police organization that contribute to explaining the institutionalized marginalization of the Operations Control Officer and limited attention directed towards intelligence and investigation.

Our analysis complements the more psychosocial explanations provided by Johannessen (2013). He explains the actions taken during the events as caused by stress, panic and groupthink. Stress leading to panic is used to explain the actions of the local police officer at Utøya quay, displaying similarities with Weick's (1993) analysis of the Man Gulch disaster according to Johannessen. Furthermore, the overloading of the high-speed vessel is also explained by stress, partly due to a growing awareness of earlier inadequate actions (Johannessen, 2013: 94). In the case of Delta Force, the stress does not develop into panic.

Instead, it promotes a process of social cohesion, which counteracts the threat of panic and the disintegration of the group, resulting in an inclination to stick together (Johannessen, 2013).

The dysfunctional focus on finding the new meeting point is explained by Johannessen (2013) in terms of stress leading to conformity and groupthink, and a situation in which the actors are only capable of performing the most routine and drilled practices, regardless of the actual situation they are facing. Translating this into the terminology of Rasmussen (1983), we could claim that the processes within the group limit and strengthen the performance within specific skill-based modes, hindering both rule-based and knowledge-based performance. Our analysis does not contradict Johannessen's explanations. However, it shows that organizational arrangements designed to ensure adequate knowledge-based performance do not function as intended due to a mismatch between the organizational design and established cultural practices and conventions within the police force. Arguably, explanations for the choices made in this frenetic situation can be found in established informal patterns of trust and authority. The high status of experienced tactical "sharp end" personnel and Delta Force operators formed the basis for improvisation in which critical information was lost. Curnin et al. (2015) highlight the need for the role clarity to establish swift trust and thus effective coordination in temporary organizations. In our case, the trust and authority, based on which the policemen coordinated, relied as much on informal roles established and reproduced over time in the organization. Trust-based situational coordination followed informal structures of trust instituted in the organization. We have earlier argued for the constructive roles of such informal organizational qualities (e.g. Almklov and Antonsen, 2010; 2014). In this case, however, it led to loss of important information.

7.1. Centralization, decentralization and recentralization

The lessons from the Norwegian police's handling of the terror attacks suggest some modifications to the relationship between centralization and decentralization described in HRO theory. HRO theorists tend to emphasize the process of decentralization in high-tempo operations (LaPorte and Consolini, 1991) and the need to deal with complexity by pushing decision-making "down and around" (Weick and Sutcliffe, 2011).

The breakdown in coordination in the handling of the Oslo terror attacks was largely due to a lack of *re*-centralization as the situation changed from being centered around one emergency situation to dealing with two different emergencies and with the relationship between them unknown. For fast-response organizations, the situation may escalate in a way that calls for the centralization of decision-making authority while still being in the midst of

the emergency. The challenges they experienced in this mode switching have clear parallels with those observed in Schakel et al. (2016), reporting on a situation in which a surveillance operation needed to be reconfigured into a manhunt. These organizational switches are challenging and require both competence and authority among central decision makers and a swift cognitive reorientation of operative personnel.

7.2. Skill-, rule- and knowledge-based task performance

In hindsight, based on our representation of the Gjørv report, it is clear that the police could have arrived earlier at Utøya. The ability to combine new information in developing situational awareness during the event was limited. The orientation towards investigating and gaining a strategic overview of the situation was overshadowed by the initiation of various emergency responses. Thus, the situation revealed a lack of knowledge-based performance in the organization as a whole. The Operations Control Officer, who according to the emergency preparedness system of the police (Politidirektoratet, 2011) should be in charge, served mainly as an information hub for the Incident Control Officers at the sites. All significant decisions were taken by the Incident Control Officers, even evaluating the reliability and making sense of incoming intelligence. It is therefore not surprising that the effort was directed towards the ongoing situation in the GQ, rather than focusing on the possible perpetrators or the risk of follow-up attacks.

The measures that have been implemented within the police in the aftermath of the terror attacks have mainly been aimed at areas of expertise in which the police also trained prior to the terrorist attacks. Few of the training measures have been directed towards resolving the coordination problems, either in terms of resource allocation or information management, that occurred during the terror attacks, as well as during large-scale scenario-based exercises before and after 22 July. In the early years after the terror attacks, the focus was on increasing the extent of training on *how to do* tasks for which the personnel were already prepared, instead of revising *what* kinds of tasks that are important to train for. We argue that this lack of organizational adjustment can partly be explained by the same informal organizational conditions that explain the marginalization of the Operations Control Officer. The training measures implemented are directed towards improving skill- and rule-based performance, rather than knowledge-based performance, which we consider to have been inadequate during the events of 22 July.

7.3. Actor complexity and uncertainty

Fig. 5 illustrates two intended key functions of the different organizational levels of the emergency response organization of the Norwegian police. The organizational design is partly intended to handle an increase in the involvement of organizational units with similar or different responsibilities, which calls for an increased need for coordination. We denote this as increased *complexity* in terms of the number of actors involved. Second, the levels in the organizational design are also intended to handle an increase in the need for intelligence, investigation and strategic judgment. In the terminology of Rasmussen (1983; 1985), the different levels are also supposed to handle an increased need for *knowledge-based performance*. We denote this as increased *uncertainty* related to the actual threat and the adequate tasks to be performed.

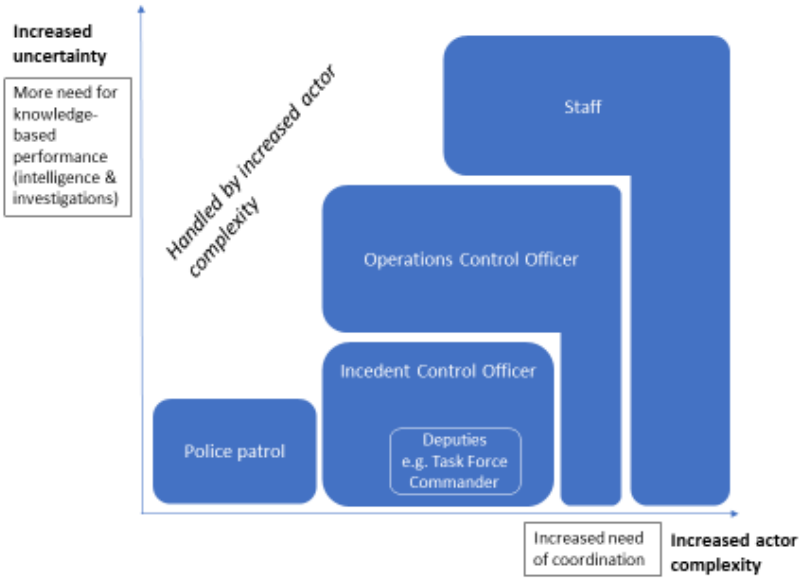

Fig. 5. Change in the head of decision-making related to uncertainty and actor complexity of the event.

One could imagine highly complex missions but with relatively moderate uncertainty, for example a large traffic accident, a large fire, or a natural disaster. These may be situations in which performance at a predominantly rule-based and skill-based levels is sufficient to accomplish the mission. In the case of the events of 22 July, the situation entailed both increased actor complexity and high uncertainty. Actor complexity increased due to an escalation of the event, which called for coordination between different incident sites and between different task forces. It involved an unknown perpetrator with unknown intentions

and the potential for further action. This increased the need for more intelligence and investigation to develop an adequate understanding of the situation and ultimately prevent a further escalation. High uncertainty calls for more knowledge-based performance, for example an ability to evaluate ongoing strategies and develop new strategies to handle a problem if pre-existing solutions are not sufficient. It demands more active involvement of the Operations Control Officer and the staff with dedicated responsibility to evaluate the adequacy of the ongoing task while simultaneously retaining a sufficient distance from the ongoing events. While emergencies in the typical HRO organization are managed by decentralization, the uncertainty in situations such as this requires centralization of information management and analysis.

The official principles of decentralization in emergencies, in combination with informal conventions and views regarding the status and role of the Operations Control Officer and the Incident Control Officer, support the ambiguity in the authority of the Operations Control Officer. The Operations Control Officers both in Oslo and in Nordre Buskerud seemed to rely on and accept the authority of the "sharp end" leaders: the Incident Control Officers/Task Force Commanders and the Delta Force commanders. This weakened the emergency organization's management of the uncertainty and complexity of the situation. The safety research literature also contains other cases in which deference to authority has had fatal consequences. One famous example is the miscommunication between the first and second officers in a KLM aircraft, contributing to the Tenerife disaster of 1977 (see Weick, 1990). In our case, interestingly, the strongly institutionalized *informal* structures of authority, with high trust in sharp end leaders, led to misunderstanding and hampered the ability of the organization to analyze incoming information in a systematic manner. Thus, although the design of the system would mandate a switch to a more strategically oriented response, the speed of events and uncertainty led to an improvised response based on the informal, socially embedded structures of trust and authority.

7.4. Barriers to change

One cue that may help us to understand the weak standing of the Operations Control Officer is the tendency towards a polarization among our informants regarding how they perceived and evaluated the terror attack, the performance of the police and what they consider to be the main challenges for the police. Investigators and analysts portray themselves as outsiders from the dominant "police culture," while the active police officers see themselves in

opposition to the "bureaucracy."[8] This outlines two informal communities within the police with pronounced boundaries and alignment among their "members." These communities are asymmetrical in terms of influence and status, with the investigators and analysts as the self-proclaimed "underdogs." When we consider the measures the informants recognized had been implemented in the aftermath of the attack (section 4.2), it is apparent that the "*emergency responders*" are mainly oriented towards capacity, equipment and skills-oriented training and in this they are echoing those aspects that are considered important among "real police officers." The remedy becomes "more of the same," not addressing or dealing with the lack of knowledge-based performance during the events.

8. Conclusion

Large emergency responses are demanding in terms of coordination. There are many actors involved, complex interdependencies between the activities and decisions and very little time and information to manage these interdependencies. This was also the case for the 22 July events. We have labelled this *actor complexity*. An unprecedented number of actors within and outside the police force were mobilized. In addition, some events, particularly terror attacks, may contain uncertainty necessitating advanced information management and analysis in a rapidly developing situation. Our analysis shows that the ability to handle this aspect of the attacks was weak, and that several organizational characteristics in the police force make this a persistent problem. The switch to a more centralized response mode, necessitated by the complexity and uncertainty during the event, was countered by strong institutional traits in the police force.

The events and the police force's emergency management system were first analyzed using Rasmussen's (1983; 1985) and Reason´s (1990; 2008) models for skill-based, rule-based and knowledge-based performance (integrated in Fig. 1). The *modus operandi* of the police force was oriented towards practical, on-site management and could not deal with the complexity (in terms of actors involved) and the uncertainty (which necessitated advanced information analysis) of the event. These shortcomings were not peculiar to the events that day. They are persistent institutional traits in the police force. Our analysis of interviews and exercise reports suggests that they were present before the incident and also in the years after

[8] These findings correspond partly with Johannessen's (2013) analysis of what he identifies as four different practices and identities within the Norwegian police.

it. Importantly, these organizational traits may be strengths in other situations in which the uncertainty and coordination demands are different.

The time pressure and uncertainty during emergencies require quick mobilization and action based on incomplete knowledge. Acting based on trained skills and simple rules in the "fog of war" is the only option when one does not have time to wait for more information. What we have discussed here should not be seen as a criticism of the officers involved. Rather, we point to and explain some organizational causes for the inability of the system as a whole to transition into a mode with more centralized information management and coordination.

The emergency response suffered due to issues such as insufficient staffing and weak communication systems. However, we believe that an improvement in these conditions would not necessarily have solved the inadequacy of the response. The marginalization of the operational and strategic levels of the emergency organization and inadequacies in the "knowledge-based" parts of the work contributed to the ineffective police response with regard to tracking and capturing the perpetrator. This stems from established conventions of what "proper police work" is about. These same conventions seem to contribute to a reproduction of conventional improvement measures.

While the structure is in place to manage more complex situations, deeply instituted organizational traits and path dependencies shape the response in other, more unpredictable ways. Although the response, seen in hindsight, turned out to be sub-optimal in this case, our mission here is not to attack the informal structures as such. The operational focus and trust in operational experience are sources of efficient policing and emergency response in most cases. Rather, we argue that these institutional traits must be recognized as fundamental sources of the patterns of action that occur when the organizations are faced with overwhelming complexity and uncertainty.

By presenting a contextual analysis and discussing how informal patterns of trust, authority and group identity influenced decisions and actions during the crisis, this paper illustrates the need to include broader organizational analyses in the study of emergency responses to crises.

Acknowledgements

This paper is based on the project "The Next Disaster" (NEXUS) funded by the Norwegian Research Council's SAMRISK 2 program. The authors would like to thank the interviewees, the NEXUS project group.

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