Intimacies of Remote Policing

Innovational Experimentation and Drone Use by the Dutch National Police

A thesis submitted to the Board of Examiners

in partial fulfilment of the requirements of the degree of

Master of Arts in Conflict Studies & Human Rights

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July 21st, 2024

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Date of Submission: 21-07-2024

Program Trajectory: Research and Thesis Writing Only (30ECTS)

Word Count: 20.782

Acknowledgements

This thesis has been written for the purpose of finalizing my graduate degree in Conflict Studies & Human Rights. It has been a long and intense programme, but it has been a true privilege to have been part of a class full of bright minds while working to understand some of the most complex representations of the human condition. At the same time this period has been marked by the ongoing COVID-19 pandemic, which has affected both students and staff of this MA programme and the rest of the university. Life events have caused delays in finalizing this thesis, which is why it is submitted at this time whilst having started the programme in 2020. I would like to extend sincere appreciation for all those that put worked so hard to make the study environment as pleasant as possible under the circumstances. In my personal case I can say that without the motivating and supporting supervision of Prof. Dr. Jolle Demmers and later Dr. Lieneke de Visser, this research project would have been much more difficult to complete. Additionally, I would like to thank Jugal Bhinde and Claartje America for a thorough peer review and checks on spelling and grammar. Last but not least, I wish to give special thanks to my loving wife. Without her support I would not have been able to finish this programme.

I would like to issue special thanks to the following Units of the Dutch National Police for their cooperation:

POLITIE

Police - National Unit
National Air Support Unit
Team Unmanned Aviation

Amsterdam Police Unit
Regional Operational Cooperation Service
Manned and Unmanned Aviation

Abstract

This thesis explores the innovational experimentation and utilization of drones by the Dutch National Police within a securitized context. By examining the intersection of drone technology and domestic policing, this research analyzes how theoretical frameworks of securitization and drone theory apply to practical policing scenarios in the Netherlands. The study delves into the Dutch police's policies and rules of engagement regarding drone usage, emphasizing the culture of experimentation and the implications for democratic surveillance and privacy.

Through a comprehensive analysis of policy documents, interviews with police personnel, and case studies such as the Rotterdam Housing Protest, the research identifies discrepancies between the official protocols and the practical deployment of drones. The findings reveal that the Dutch police often frame deviations from standard procedures as part of an experimental approach, particularly under emergency conditions like the COVID-19 pandemic. This approach raises critical questions about transparency, accountability, and the balance between security and civil liberties.

By applying Marijn Hoijtink's concept of "experimental warfare" and exploring the bureaucratic nature of police work as discussed in drone theory, the thesis provides a nuanced understanding of the potential risks and ethical dilemmas inherent in operating police drones. The study contributes to the broader discourse on the technologization of policing and offers recommendations for future research on the integration of surveillance technologies within democratic societies.

This research aims to bridge the gap in social science literature regarding the use of police drones in Europe and to initiate the development of a theoretical framework for understanding domestic drone usage in urban policing contexts.

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Introduction

> *"I will not be conducting a sociologist study here. We have the Police and they're doing a fantastic job."*
> *- Mark Rutte, Prime Minister of the Netherlands (NOS, 2021)*

On October 17th, 2021, a protest titled 'the housing revolt' was held in the city of Rotterdam in the Netherlands. This protest received a lot of media attention for numerous reasons, one of which being the considerable amount of force used by riot police on certain protesters belonging to the so-called 'anarchist bloc' (Koning, 2021). The protest organizers deemed it 'reprehensible police violence' and the Netherlands Lawyers Committee for Human Rights (NJCM) stated that 'there was no warning. There was no visible reason for the use of force' (Ibid.). Rotterdam Police Chief Fred Westerbeke replied that he finds it of 'utmost importance that the right to demonstrate is freely exercised in the Netherlands' and that it is the police's task to facilitate it (Politie, 2021). However, he has completely countered the negative public opinion and felt it was 'inappropriate, especially of certain politicians and media, to ventilate one's primary reaction without thorough inquiry into what happened' (Ibid.). Next to this statement the Rotterdam police department decided 'enough is enough'. The criticisms were branded as a 'trial by (social) media' by Westerbeke, and footage of the police drone that operated above the protest was released to show the 'real reason why the use of force was appropriate and necessary'.

This came as a shock to the Dutch Jurists Commission for Human Rights (NJCM) -who independently attend and monitor protests and are a part of the Genève-based International Commission of Jurists (ICJ)- as they warn for a 'chilling effect': people might be discouraged to exercise their right to demonstrate with the knowledge that the police are filming them (NOS, 2021). Another member of the NJCM, Marjolein Kuijers, adds that it will become even more difficult to monitor protests if police are spreading footage to defend their own actions. 'It can be seen in the footage that the group of demonstrators is already surrounded by riot police without it being clear why having them surrounded was necessary' (Ibid.). Besides, Kuijers raises an important question, namely what is done with the drone pictures and videos made by the police?

According to the website of the Dutch Police, drones can be used during events to monitor the amount and flow of people and to help with making sure everyone present remain safe in case of a panic. Additionally, in the age of the COVID-19 pandemic, drones have been used to monitor compliance with social distancing measures (Trouw, 2020) The website does not mention the use of drones to monitor demonstrations. But since the Dutch Minister of Justice and Security, Ferdinand Grapperhaus, later defended the publication of drone footage, what is the legal framework for such a decision? (NOS, 2021b)

Relevance and demarcation

In short, there is no doubt about the relevance of the theme at hand -especially given that as this thesis is being written, the topic is very much alive in the media landscape, among policy makers, and with police officers themselves. While the first chapter of this thesis dives more into the theoretical and analytical framework that this research builds upon, it is necessary to briefly map the field of play here. It was Deukmedjian who posed the question in a 2013 article:

> If Foucault showed us how nineteenth- and twentieth-century surveillance functioned through the disciplinary armature of Bentham's Panopticon, how might we identify the functions of surveillance in the present day? (Deukmedjian, 2013: 53)

The case at hand shows that there are certain incompatibilities or 'gaps' to be identified between the Netherlands' law enforcement and security framework concerning technological policing applications and the way these applications are used in practice. This thesis will attempt to identify these gaps and make sense of them through historical context and the analytical frame of policing and domestic securitization.

In the age of information and digitalization, governmental and military institutions are increasingly investing in algorithmic, automated systems. There is also a recent rise in motivation and excitement in using artificial intelligence in multiple areas of society. The field of law enforcement is no different, police workers are in the process of investigating how AI- and other technology can help in the line of duty (Asaro, 2019). While academic/independent research on algorithmic and predictive policing, and predominantly 'policing from the sky', in for instance the United States is on the rise, the case of policing in the Netherlands is rather under-studied. This is intriguing, especially if one considers that the Netherlands are leading in the field of algorithmic policing in Europe (VICE, 2020).

In the public debate, AI and drone initiatives invoke more negative feedback in the wider media and civil society than positive. The general trend is that people are worried about their privacy, about racial profiling by algorithms and about the absence of a comprehensive legal framework regarding this new phenomenon. In the area of social research, the existing literature focuses mostly on improving technologies in the field without considering societal effects of the implementation of said improvements, or on how all predictive policing efforts should be halted as they carry too many racial discriminatory and other risks that are harmful to society (Egbert and Leese, 2021). Here is where a gap in the debate can be identified; little has been done to research whether drone policing in the Netherlands is compatible with the Dutch official police protocols, rules of engagement, mission statement or vision in comparison with how police execute its duties in practice.

Mind the gap

This thesis aims to address this gap in the debate as described in the last paragraph. There will be an elaboration of the Dutch police's drone policy 'on paper', subsequently followed by one for the practice side of this phenomenon. The theoretical vehicle that is necessary to properly analyze both drone policy and practice, will be found in the areas of securitization, experimentation, and drone theory.

We have seen in the literature review, which discusses of the ontology of this thesis' analytical frame, that securitization theory is a means to demonstrate state actors elucidating a potential threat or risk to public security. Drone theory as described by Chamayou is about zooming in on augmented rhetoric on drones in commercial and governmental spheres of the security apparatus (2015). And Davis goes even further by saying critical drone theory should be about why the drone is being promoted so much and why it has become so 'fetishized and freighted' (2019: 346). These questions are answered in the first chapter, as these answers are necessary for the remaining three sub questions -which will be discussed in the remaining three chapters of this thesis.

I wish to address the public debate surrounding the topic as well, for the purpose of illustrating the importance of public opinion to the Dutch government and police institutions, as well as their desire to invest in experimentational securitizing advancements. This has led to a comparative analysis of the way police use drones in practice as opposed to what is mentioned in their policy. This has been done through two 'lenses', namely the Hoijtink's concept of experimentation as well as securitization theory.

Research Question and sub questions

As mentioned in the introduction, the following research statement gives a clear purpose to this thesis: *How can securitization theory and the concept of 'innovational experimentation' help to make sense of the gaps between Dutch police drone policy on paper and how police drones are used in practice between 2017-2021?*

This statement draws upon elements of securitization theory and drone theory, as well as what Marijn Hoijtink defines as 'experimental way of warfare', with the goal to illustrate what gaps exists between police drone policy 'on paper' and its execution 'in practice'. With the aim arriving at an answer to this question, I was able to derive four sub questions which will demonstrate that technological securitization is the most logical analytical frame through which this empirical occurrence should be approached.

The first sub question aims to break down the analytical frame into its constituent analytical components and elaborate on their relationship with each other. By doing so, it will become clear how innovational experimentation as a concept identifies gaps in security policies by nature. Therefore, I have formulated the first sub question as follows: *What is the policy regarding the use of drones by the Dutch police?*

The second sub question goes *What is the practice regarding the use of drones by the Dutch police?* For this question we will look at protocols as mentioned on the website of the Dutch police (politie.nl) and other open-source data provided by the police. These are not available in abundance, which is why I shall mostly look at secondary sources on the matter - such as policy papers written by police scientist and public servants from the Justice and Security Ministry. Regarding drone use in practice, most information will have to come from journal articles.

The third sub question is *How is the use of police drones perceived by Dutch public opinion and popular media outlets?* In November 2018 the UAV team of the National Unit opened a twitter account called *@politiedrone* where many instances of drone use were documented between January 16th, 2019 and April 14th, 2021. It is unclear why the tweets stop after this date, except for one retweet mentioning the team visiting a school for vocational education on June 1st, 2021. For some of these instances there is even a link to a media article, news item, a late-night show and a police press release. These sources show a pattern, namely the one that critical drone theorists warn against: abundantly positive promotion of drone use and some might even say 'fetishization'.

And lastly, PR communication and the vision of the men and women 'behind the remote' are two separate things. Which is why I added a fourth sub question, namely *How is the gap between policy and practice in the use of drones explained and justified by police and government members?* I included this last question because I wanted to see if the drone enthusiasm is something to be found only in the top levels of the Dutch security establishment, or with the ones who must carry out their policy as well. This will be addressed briefly in the last chapter.

Thesis Outline

In this thesis 'surveillance' is only analysed through the use one security tool: the 'unmanned air vehicle' or 'drone', I will combine the analytical explanatory powers of both securitization theory and drone theory as defined by authors such as Oliver Davis (2021), Chamayou (2015), Ian Shaw (2016) and Majed Akhter (2014). This will be further elaborated in the second chapter. In order to arrive at an answer to the research question at hand, I have structured the thesis as follows.

Following on this outline, the second part of the introduction describes the methodology for the research project. I will explain my research strategy and how I have gathered different sources pertaining to the empirical case at hand. I will also zoom in on the complexities that I have come across when tackling a research topic that has not been approached that much by local academics in the field. Additionally, it has also been a challenge to gather enough empirical, open-source data -I shall discuss that briefly as well. I close the introduction with a brief discussion of practical limitations and ethical considerations.

The first chapter will elucidate the theoretical and analytical frameworks of innovational experimentation, securitization and drone theory.

The second chapter will discuss Will discuss the protocol and rules of engagement regarding the use of police drones. Furthermore, I will explain how the 2020 COVID-19 pandemic has catalysed technological surveillance policy hrough the urge to monitor presence and compliance with health measures and how drones have been found a useful tool in doing so. In the end it will be shown how police personnel and government officials assess advantages and risks to using police drones. Lastly, the origin of Dutch drone policy will be analysed according to the theory of experimentation with technological security innovations.

In the third chapter I will further dive into the way police drones are used in practice. I will use parts of the interviews I conducted with police officers as well as public communiqués made by police and government officials. This will demonstrate a discrepancy between the use

of drones ‘on paper’ and ‘in practice’, and that the rules of engagement are formulated in such a vague manner, that police and policy makers can frame their way out of various kinds of discrepancies.

The fourth chapter will discuss how drones are perceived by the Dutch public and media outlets. This will be done through different media interviews by police (drone operating) officers, policymakers in charge of and responsible for the National Police and YouTube videos where the police drone is represented.

In the fifth chapter, I will look at the way police personnel and government officials look at the discrepancies between regulations and communications and the way drones are used in practice. We will specifically zoom in on the case of the Rotterdam Housing Protest, where the Rotterdam Police felt it necessary to defend their use of force by releasing drone footage to the public. The way which police and government officials legitimise this, will be subjected to a securitization theory-based analysis.

The thesis will end with a conclusion in which the findings will be summarized and where possibilities for future research will be explored.

Methodology

I will outline my research strategy and method as well as reflect on the ontological and epistemological nature of my research by using theory from Jennifer Mason’s *Qualitative Researching* (2017).

Research Strategy

To synthesize a research strategy, it is important to look at what Mason calls the ontological position of the research question. This comes down to the question of the ‘nature’ of the phenomena, entities and their social context that will be investigated (Mason, 2017: 4). Mason also offers a series of ontological properties that can be identified within different research topics. Out of these properties I have identified a) technologies, hybrids, the digital, b) institutions, structures, markets, and c) underlying mechanisms, causes (Mason, 2017: 5).

The focus will be primarily on which elements within securitization theory and drone theory facilitate the kinds of decisions like publishing police drone footage for the purpose of defending the use of force on protesters, without there being any precedent for it. Next to that I will use Oliver Davis’ theories surrounding (weaponized) drone use through Chamayou’s drone theory (2019; 2015). The cases employed by these authors, mostly belong to US context.

Therefore, I also present the views of Dutch police researchers as Engberts and Gillissen (2016), Custers and Vergouw (2015), and Gulijk, Coen and Hardijns (2015) -who all have written on the challenges and opportunities of drone use within the Dutch National Police.

Next to the ontological nature of the research topic, Mason also discusses epistemological approaches in social studies (2017: 8). This thesis is looking at the historical and social context of an organization to determine causes for discrepancies in the Dutch police's drone policy. The fact that the Dutch National Police, being an organization which possesses the State's monopoly on violence, is the topic here makes that power relations are in play. It is the goal to highlight these and to 'question' what Mason calls 'the taken-for-granted' (2017: 8). For these reasons, the epistemological nature of this thesis will be critical theory.

Mason lastly talks about types of intellectual puzzles that lie at the core of a research outline. Given that this research will investigate traces and influences of technological securitization on the gaps between drone use 'on paper' and 'in practice' -a causal relation so to say. For that reason, it is most logical to describe this research as a 'causal/predictive puzzle' (Mason, 2017: 12). Mason offers the option of extending the causal puzzle into a predictive one, by looking at a 'likely outcome', which this research will briefly touch upon as well (Ibid.).

Data Sampling and Collection

To understand what precisely will be sampled and used in this research, it is important to breakdown the empirical properties of the topic at hand. In other words, the 'who', 'what', 'when' and 'where' of my specific case study. In terms of 'what', I will be researching the technological turn that led to the implementation of drones in police work. The 'when' entails the period between 2017, when the police drone programme officially started as a pilot, until now. The 'who' will be mainly the Dutch National Police but given that permission for drone use needs to come from the appropriate authorities, the Dutch Prosecutor's Office (*Openbaar Ministerie* or *OM* in short) and several Mayoral Offices will from time to time briefly feature in the research as well. Then finally the 'where', in principle drones can be used across the entire territory of the Netherlands. Given the special circumstances surrounding the publishing of drone footage by the Rotterdam Police, the research will mainly focus on this and other big cities in the Netherlands.

The gathered data is from the period as mentioned above (2017-now) and can be divided into four categories.

Theoretical journal articles and reports

When diving into potential answers to the first sub question, my primary goals was to get a clear and coherent understanding of securitization theory and its relevant constituents: technological securitization and neoliberal securitization. Next to that, given that technological securitization dives into all kinds of (ideas of) technology, I felt it necessary to include (critical) drone theory into the analytical frame. There is one minor complication with this, and that is that existing literature on critical drone theory mostly discusses weaponized drones -which is not relevant at all for the case of the Netherlands. What is particularly relevant, is the optimistic and promoting rhetoric that often exists when security actors discuss the use of drones. The way I collected theoretical articles and empirical sources pertaining to the topic of drone use by the Netherlands police, is through key words on various academic search engines -such as google scholar and in journals such as *Security Dialogue* and the Dutch Police Academy.

Police data and policy papers

The second category are police communications, PR, annual policy reports as well as reports coming from the ministries of Justice and Security (responsible for National Police) and Infrastructure and Water Management (responsible for UAV regulation). This also includes tweets and other social media posts made by the police's drone team. Due to the scarcity of these sources, I have also added police press releases and videos from 'police vlogger Jan-Willem' who follows his colleagues around during their shifts to give the citizen a glance at police work 'behind-the-scenes'. There is one video where he tags along with the so called 'drone team' of the National Unit. This data will outline police protocol and rules of engagement regarding drone use.

Police PR and public (social) media

The third category of gathered data contains media articles and audio-visuals of reports of drone use by the Dutch police, as well as media coverage of the sharing of drone footage in the aftermath of the Rotterdam Housing Protest of October 17th, 2021. The media started covering more instances of drone use during the COVID-19 lockdown measures, so it is likely these instances will be overrepresented in this thesis. Journalists tend to ask critical questions surrounding 'state power' and specifically potential abuse of power by the state. In other words, it specifically looks for instants where the use of the police drone 'in practice' is allegedly in conflict with police protocols and rules of engagement. This data has been found by entering

the Dutch words for ‘police’, ‘drones’, ‘manual’, ‘rules’, into different search engines in different versions and orders.

Oral interviews

Lastly, I have been able to interview three police officers that work with drones in their line of duty. The purpose of the interviews is to determine the perception of police personnel that have crucial roles within the field of drone policing on possible gaps in drone policy. Two of them work with the Team Unmanned Aerial Vehicles of the National Air Support Unit and one works with the Amsterdam Unit’s UAV team. These interviews have been conducted over the phone or through video chat due to COVID-19 safety measures and the nature of the time schedules of the police personnel themselves. Among these people are two drone pilots from the National Unit who have granted me an inside look in their operations. I have specifically asked about their thoughts on the sharing of drone footage for the purpose of tackling media perception on the way the police used force during the Rotterdam Housing Protest. Answers to these and other questions mentioned below will be compared to the findings in the theoretical framework of technological securitization and drone theory.

I have formulated a series of questions that could possibly be asked during the interviews. However, I have chosen not to stick to these questions too strictly as subjects could independently start offering other kinds of stories and information that could proof useful to this research. The interviews have been conducted in Dutch, but for the sake of consistency I have translated the stories and quotes to English. The list of questions can be found in this thesis’ appendix.

I have chosen to work with different kinds of sources that focus on police drones or even mentions them is since this topic has not been widely researched yet in the Netherlands and has only recently become a highlight in Dutch public opinion. This has proven to be a challenge and is a good reason to execute follow-up research projects on the same topic. Especially if one considers that there is a high chance that more sources will be available in the years to come, and that the 2021 Annual Report of the National Police has yet to be published.

I spoke with two members of the Team Unmanned Aviation (*TOL*)[1], Arjen Stobbe the team leader and Adeline van den Berg, who bears the title of UAV Flight Manager. Due to the

[1] Dutch: *Team Onbemande Luchtvaart*

informal nature of our conversations, I have chosen to mostly paraphrase the output of our interviews. TOL is a part of the National Police Air Support Unit, who also operate the police's helicopters. Their main task is to police the Netherlands' air space and upholding the law and regulations regarding aviation (e.g., pilot licenses and aircraft registration).

Hans Schenk

Mr. Hans Schenk is Head of the 'Manned and Unmanned Aviation' at the local Amsterdam Police Unit. The Amsterdam Unit is the first local unit in the Netherlands to have their own drones at their disposal. Before this pilot, local police units depended on TOL for drone support.

Adeline van den Berg

Ms. Adeline van den Berg is Flight Manager at TOL. Adeline interestingly told me that she had written her dissertation at the Police Academy on drone use as well, but more specifically focusing on traffic accidents. As she was looking at added value of drones, she concluded that it only added in quality to police work -it was at that point impossible to lighten the required police capacity in similar scenarios. (A. van den Berg, personal interview, January 7th, 2022).

Practical Limitations and Ethical Considerations

It is never easy to research a topic that is 'alive' in the sense that the topic is featured regularly in the media, and developments might change the nature of my research. It is even more difficult when there are few open-source data to be found on the matter. Furthermore, personal circumstances made me end up in time pressure, resulting for example in me having to somewhat 'rush through' the research steps.

Furthermore, I chose to conduct interviews in the era of the COVID-19 pandemic, where some of my participants chose to speak to me over the phone or through a video conversation. Only one out of the three participants invited me to his police station in Amsterdam. In my experience this conversation was easiest to conduct as I find body language and reactions to silences important to witness in person.

In terms of scientific work ethics, all three interview subjects have granted me orally informed consent to use their stories, statements, and quotes for the purpose of this research. I would have preferred to be able to speak to more than three persons, however, this is mitigated by the fact that these three are experts in their field and fulfilling leading roles in their respective police drone teams.

Finally, having a lot of acquaintances within the Dutch police system and being born and raised in the Netherlands granted me an ideal position to find the appropriate sources and interview subjects for the purpose of this research project.

Chapter 1 – Theoretical Framework of Drone Use in Domestic Policing

In the context of protection of (digital) privacy, use of video camera drones by government institutions such as the police is not without controversy. Whenever drones are used, those responsible for them will need to justify them to the public. This by itself leads to the securitization theory such as described in the introductory chapter. At the same time, the speed of technological advancement is considerably higher than the pacing with which new policies and legislation regarding such advancement is enacted.

Due to this phenomenon government institutions tend to present the use of unlegislated technological innovations as being in their experimental phase. This will be referred to as innovational experimentation. I have found that within securitization theory -specifically the securitization of technology- as well as within the field of Science and Technology Studies there are helpful building stones for synthesizing a definition for the concept of innovational experimentation. However, it is important to stipulate how these theories are used in context of the case at hand: experimentation with police drones in the Netherlands. For instance, techno-securitization in the US bears a much more militarizing element than the same phenomenon in Europe and more specifically, the Netherlands. In the last case, I will argue there is a more experimental way in occurring securitization mechanisms. Marijn Hoijtink's 'experimental way of warfare' framework will help us illustrate this (2022).

This chapter will discuss securitization theory in general and explain the concepts of experimental warfare and innovational experimentation. It will also briefly discuss drone theory.

1.1 Innovations in a Securitized Setting

To begin to understand what securitization precisely entails, we must first look at the core definition of securitization theory. According to Balzacq et al., securitization theory is focused on rhetoric -also called a speech act- from a political or security actor focusing on potential imminent threats from a specific subject, such as a foreign power, a group of individuals belonging to a social identity group or a collective organization (2015). This rhetoric is aimed at the community which the political or security actor serves and is designed according to the community's perception of what does and what does not belong to 'a good way of life' (Ibid.:

495). In other words, securitisation theory posits that, in order to justify extraordinary measures that in ordinary circumstances would be prohibited, governments convince domestic audiences that there is a grave and imminent threat to their safety and way of life.

Another dimension of securitization is about actually protecting the community from perceived threats and to anticipate potential risks (Petit, 2020). Patrick Petit mentions Dillon who argues that this protection from perceived threats and risk assessments have become the core of how contemporary societies are governed (Dillon, 2008 in: Petit, 2020).

According to Petit, the origin of the technologization of the security apparatus can be traced back to the UK's fight against the IRA, and the U.S. government's *War on Drugs* which took place in the 1980s (2020). In short, it is nothing new. But what is new, is the abundantly availability and industrialization of security technologies as well as the 'socio-political climate' that facilitates the catalyzation of (the desire to) technologize security for the sake of security (Ceyhan, 2008 in: Petit, 2020). Petit explains:

> To be sure, authors have rightly questioned the role terror attacks such as 9/11 or the 7/7 bombings in London play in securitization narratives (Toros, 2017). The recourse on terrorist attacks and alleged terrorist plots often serves to legitimize state violence, Western hegemony and ultimately the excessive deployment of technologies of control and security (Petit, 2020).

Moreover, he goes on to state that terrorist incidents have created an environment where politicians, security actors and other stakeholders, have publicly embraced the imminence of so-called 'technologies of securitization'. Take this in the context of Balzacq et al.'s definition of securitization, and there will be a phenomenon where once a topic has been given enough momentum and prominence, (technological) securitization becomes enacted through a broad apparatus of policies at the disposal of security actors, including military, police, intelligence etc. (2015: 495).

1.1.1 Innovational Experimentation

This thesis focuses on drones, which means innovational experimentation will mainly be approached through the context of hardware technological innovations.

Hoijtink's conceptualization of experimentation in the context of contemporary warfare, is characterized by an 'emerging technoscientific regime' (2022: 328). Where in the past security apparatuses would conduct and organize themselves using long-term sophisticated strategies and hierarchies, we now see a departure from traditional hierarchical structures in

military planning and execution. Instead, experimentation fosters an environment where multifaceted actors contribute to and participate in experimental endeavors related to warfare, or in our case: policing (Hoijtink, 2022).

Critical to this evolving paradigm is the reconceptualization of experimentation itself. Unlike the historically prevalent notion of experimentation as a scientific pursuit involving meticulous replication and controlled testing, the contemporary understanding prioritizes a more speculative and entrepreneurial vision (Ibid.). Drawing inspiration from Silicon Valley's ethos, this vision values agility, risk-taking, and -most importantly- an acceptance of failure as integral components of the experimental process (Ibid.).

Hoijtink states that in adopting this speculative perspective, the experimental way of warfare becomes nearly immune to criticism concerning effectiveness or failure (2022). The emphasis shifts from rigid expectations of flawless execution to a more adaptative or 'trial-and-error' approach. Lessons learned from failures become integral components of a continuous process of improvement and innovation (Ibid.). This forward-looking orientation allows proponents of the experimental way of warfare to deflect criticism by highlighting the ongoing evolution and refinement of strategies. Every mistake made, is explained and framed as progress and positioned as a reason to continue with the experiment (ibid.).

Finally, Hoijtink mentions the effect of emergency situations on the culture of experimentation. Crises and urgency grant securitizing actors the opportunity to further roll out their experiments (Ibid.). These are then taken directly into the field, especially when it concerns experimentation with data collection or mass surveillance (Ibid.). This phenomenon is particularly crucial to this thesis, as it will be pointed out in the following chapters that the COVID-19 pandemic had a significant effect on the use of drones by the Dutch National Police.

1.1.2 Drone Theory

The phenomenon of technologization or digitalization of police work can be split up in two divisions: the algorithmic and cyber division, which focuses mainly on developing and countering 'software technology' in line of police work, and the 'hardware technology' division, which entails all kinds of technological hardware and tools used in line of police work. This can be modern firearms and other weapons, speed-o-meters, CCTV or bodycams, the robotic dog called 'spot', and of course the drone.

Oliver Davis has researched 'drone theory' particularly in the case of the killing of Micah Johnson by a teleguided exploding robot operated by the Dallas Police Department (2019). In the case of the Netherlands, it is deemed unlikely that the National Police would go

as far as to adopt weaponized drones. However, for the purpose of this research it is important to cover as many aspects of 'drone theory' -as described in the work of Davis- as possible. It gives us insight into the effects cultures of experimentation can have on universal human rights and democratic rule-of-law.

Davis describes himself as a sceptic of drone theory and its application in the field of (predictive) policing (2019). He zooms in on Chamayou's theory that drone pilots are in some form or another a representation of bureaucratic infrastructure (Chamayou, 2015 in: Davis, 2019: 354). Davis further explains this by drawing upon the works of Ian Shaw and Majed Akhter as well, who themselves used the 'analysis of the bureaucratization of violence and politics' in the works of Hannah Arendt, to come to the notion that drone mechanisms in both the military and domestic police can be defined within a paradigm of 'bureaucracy' (2019: 354). What this precisely entails, is best explained through a quote from Shaw who states that:

> Today, a hyperrational form of bureaucratic authority governs technological civilization. Arendt called this a 'rule by Nobody', an abstract system of control, a 'tyranny without a tyrant', in which Nobody is held accountable for their actions. With the sophisticated machines that enclose the planet, there is a sense that the rule by Nobody is fundamentally a rule by technics. (Shaw, 2016: 24 cited in: Davis, 2019: 355)

A continued culture of experimentation as defined by Hoijtink, where failures and crossing of lines and regulations are exhaustingly explained as innovations being in their experimental phase, has a potential of a securitizing bureaucracy able to proceed as it deems so necessary (2022; Davis, 2019). For instance, Davis mentions how Amitai Etzioni, a staunch defender of U.S. foreign drone policy, would suggest that where militaristic drone policy would assess gathered data from a group of individuals and decide where a specific target was hiding -hence minimizing the risk of collateral damage- the group of individuals in a policing drone context would have to prove themselves not associated with suspicious targets, or risk being annihilated by the larger and generalizing police operation (Etzioni, 2010 in: Davis, 2019: 357). Davis calls this the 'the strong form that normalization takes in neoliberalism's police order of governance.' (2019: 357) More interestingly, Davis draws on the work of David Graeber who said that

> most police work has nothing to do with fighting or solving crime: "it has to do with regulations, or, to put it slightly more technically, with the scientific application of physical force, or the threat of physical force, to aid in the resolution of administrative problems.... Police are bureaucrats with weapons." (2015: 74 in: Davis, 2019: 355).

Davis concludes based on this statement that Arendt's theory of a 'rule' or 'tyranny by Nobody' is not entirely functioning as such in Graeber's 'bureaucratic structure', under which the policing drone would serve (Davis, 2019). This is mostly the case because Graeber has indicated that the current-day citizen spends more time 'reading books, watching movies, or viewing TV shows that invite them to look at the world from a police point of view' and thereby to participate in its 'exploits' (2015: 74 in: Davis, 2019: 355). A citizen, according to Davis, is lured or seduced into acting as the State's prosthesis, to become the 'subject of security' and not only the object, to remain vigilant in public spaces and watch out for suspicious activities (Davis, 2019: 355-56). The citizen, therefore, comes to understand the necessity for the culture of experimentation within the securitizing bureaucratic structures that operate innovations such as the police drone.

'Fear justifies volunteering your pair of eyes and your alert attention to a seemingly universal security machine' (Hardt and Negri, 2012: 20 in: Davis, 2019: 356). This social phenomenon may add to an understanding of the effect of police experimentation on those who are on the receiving end.

1.1.3 Academic Debate

Simon Egberts and Matthias Leese discuss technologization, the software technology, and more precisely, algorithmic warfare in their book, *Criminal Futures, Predictive Policing and Everyday Police Work* (Routledge, 2021) They offer a brief overview of existing literature on police technologization. Authors that have written on this topic can be divided into two camps: social theory-oriented critics of technologization who warn against abuse of power and privacy breaches, and applied scientist looking to create policies and improve technical and software applications without considering societal implications or 'solve taken-for-granted problems' (Egberts and Leese, 2021: 5-6).

What is under-studied in the academic debate, is a middle ground. Social scientists raise awareness for important issues like algorithmic discrimination, over-policing and privacy risks, however given the fast rise of technological capacities -specifically among undermining criminal organizations- it has become impossible to halt the progress of police technologization and digitalization. On the other side it does seem too irresponsible to keep on looking to improve technological capacities of the police without thinking of possible risks to the broader society.

When applying Egberts and Leese's consideration to the case of police drones, a matching situation occurs. In public and academic debate, there are two clear camps: pro-privacy sceptics, who state drones are a violation of basic human rights and should be used either under very limited legal conditions or not at all. And the applied scientist, who only investigate how to improve the technology and implementational strategy and policy -without considering the effect of their suggestions on the wider society.

For instance, Louise Amoore is one of the authors whom Egberts and Leese mentioned as being theory-oriented in algorithmic security research. She stated in her article 'Algorithmic Warfare: Everyday Geographies on the War on Terror' that algorithmic methods are becoming more and more integrated in the national security strategies of the United States (Amoore, 2009). Amoore's theoretical basis is not that algorithmic warfare is a form of societal militarisation, but rather a form of Foucault's reversal of the 'Clausewitzian' notion that 'war is the continuation of politics by other means' (2009: 50). Taking into consideration that the police is the state's means to enforce political power, Amoore quotes Foucault who said that the state's role is to conduct some sort of 'silent war' to 'reinscribe the relationship of force in institutions, economic inequalities, language, and even the bodies of individuals.' (Foucault, 2003: 16-17 cited in: Amoore, 2009: 50) Amoore observes that algorithmic security is war-like not because algorithmic policing brings military attributes closer to individuals (eg. airport check-in), but rather because it draws lines between self/other; us/them; safe/risky; inside/outside. This systematic othering is reminiscent of processes that make going to war possible (Amoore, 2009: 51).

As has been demonstrated, algorithmic policing entails the perpetual experimental advancement of security-related technological innovations. This raises questions regarding its impact in democratic societies.

1.2 Securitization and Experimentation in Democracies

One of the most important authors in the field of theory-based research, and who is also mentioned by Egbert and Leese, is Rosamunde van Brakel. In a book titled *The Algorithmic Society* (Routledge, 2020), she wrote a chapter on working towards a more 'holistic' approach of predictive policing. Her analytical starting point is the first introduction of 'algorithmic surveillance' in the 1990s when CCTV footage was processed by systems that converted images to numerical data which then could be analysed by sophisticated algorithms (2020: 104). Brakel then raises the question whether the way algorithmic surveillance has developed over the

decades is compatible with the values of a democratic system (Brakel, 2020). She argues that democracy and 'surveillance' are not inherently contradictory to each other, as the latter 'can be both about care and control -which raises the ethical question whether 'democratic surveillance' should be possible at all (Brakel, 2020: 106).

According to Torin Monahan, and mentioned by Brakel, surveillance systems should then be locally based and designed and have local accountability mechanisms attached to them. Only then these systems will be 'inherently more democratic' and less likely to be abused (Monahan, 2010: 101 in: Brakel, 2020: 106). Brakel also mentions Richard Sclove (1995), who conditions democratic surveillance to it not limiting the citizens ability to 'influence the basic social circumstances of their lives' (2020: 107).

> This implies organising society along relatively egalitarian and participatory lines and subordinating managerialism and neoliberalism to democratic prerogatives. Only then can surveillance begin to actively support, rather than coerce or constrict people's chosen ways of life (Sclove, 1995 in: Brakel, 2020: 107-8).

The problem in practise, as researchers like Tyler Wall and Julian Go would argue, is the fact that much of the domesticised security technologies and tactics stem from a military structure or context (2013; 2020). Wall explains in his abstract that police drones are an 'importation of actual military and colonial architectures' into the everyday places of the "homeland" (2013: 32). This means that foreign strategies that had the goal of controlling a foreign 'colonised' populace against their will and for the benefit of the 'metropole', are now executed within said metropole in the name of security (Ibid.). Given that it is now indicated of how thin the line is between democracy and surveillance, and how the role experimentation influences that balance, it raises the question if anti-democratic elements and mechanisms because of algorithmic and drone police policies in the Netherlands can be found.

Several reports point to such phenomena that are incompatible with democratic and egalitarian norms and values. In 2019, Manchester Metropolitan University and the European Network Against Racism (ENAR) published a report on data-driven policing across Europe. According to the report, several minority ethnic identity groups consistently report experiencing a form of over-policing. For example, it states that people of North African origin were significantly stopped by the police in the Netherlands and that 19% of the prison population in the

Netherlands are "foreigners. In addition, 33% of respondents stopped by the police in the previous five years were of sub-Saharan African origin (Williams and Kind, 2019: 8-9).

The report also discusses location-based predictive tools. The problem illustrated in the report primarily for ethnic minorities and other groups overrepresented in police records is that predictive policing systems will use data obtained in the context of an already overcrowded community and assess that, based on the high volume of police responses, the police should continue to prioritize said community (Williams and Kind, 2019: 25). Thus, as the report concludes, while the availability and (mis)use of predictive technology is defended under the guise of crime reduction, risk assessment, and risk management - in reality, racial profiling and over-policing are "hardwired, codified, and hidden within the technological tools of policing and law enforcement" (Ibid.: 28).

1.4 Chapter Summary

In conclusion, this chapter navigates the intricate landscape of securitization through innovations and experimentation within securitized contexts and through the lens of drone theory, with a specific focus on police drones in the Netherlands.

This chapter has explored securitization theory, emphasizing its role in framing the discourse surrounding police drone experimentation. It delineates the process by which political or security actors justify extraordinary measures by convincing domestic audiences of imminent threats to their safety and way of life.

The chapter delves into the concept of innovational experimentation within the framework of securitization theory. It highlights Marijn Hoijtink's framework of 'experimental warfare,' which underscores a departure from traditional hierarchical structures towards a speculative and entrepreneurial approach. The reconceptualization of experimentation prioritizes agility, risk-taking, and the acceptance of failure as integral components of innovation.

A critical examination of drone theory is presented, drawing on Oliver Davis's analysis of bureaucratic infrastructure and David Graeber's insights into the role of police as bureaucrats with weapons. Davis's scepticism of drone theory within the context of policing is explored, along with Arendt's notion of 'tyranny by Nobody' and its application in Graeber's bureaucratic structures. The chapter also examines the societal implications of drone experimentation within the framework of securitization theory.

Finally, the chapter discusses the tensions between the theoretical ideals of democratic surveillance and the empirical realities of surveillance technologies rooted in military

structures. It examines reports of over-policing and racial profiling, highlighting the anti-democratic tendencies embedded within predictive policing systems. Rosamunde van Brakel's exploration of 'democratic surveillance' underscores the ethical dilemmas inherent in the integration of surveillance technologies within democratic systems.

Chapter 2 – Dutch Drone Policy and Rules of Engagement

This chapter will discuss the first sub question: *What is the policy regarding the use of drones by the Dutch police?* To answer the question, I introduce the Dutch police mission statement and vision of their task, and then discuss how this relates to police policy regarding technological innovation. This is then analysed by using Marijn Hoijtink's concept of "experimental warfare."

2.1 Mission and Vision

When looking for the mission statement and vision of the Dutch National Police, one will arrive at the following text on their website [own translation]:

> Unchangeably, the police are "vigilant and serving" regarding the values of the rule of law. The police fulfil this mission by protecting, limiting, or empowering -depending on the situation- solicited and unsolicited. (Politie, 2021a)

It was formulated first in the Layout Plan National Police of December 2012. They further elaborate this mission statement there as serving the goal of 'making the Netherlands safer and offering space for the professionalism of the police and police personnel' (Politie, 2012: 6). It is also mentioned that the then newly established National Police needed to achieve better police results and nurture more trust by civilians in their police force (Ibid.). This goal can be found in the vision and identity features of the Dutch police as formulated on the website as well [own translation]:

> The police wish to accomplish its missions by:
>
> - nurturing trust in the ways it accomplishes its goals;
> - operating in all cases in an alert and decisive way;
> - being decisively involved in assistance, de-escalating and use violence only when necessary;
> - to collaborate intensively with citizens and partners based on involvement, information sharing and reciprocity;
> - to learn, innovate and rely on its professionals;
> - to be one corps: from neighborhood to world. Locally rooted and (inter)nationally connected. (Ibid.)

The National Police positions itself here as a securitizing actor by emphasizing their role of protectors and 'vigilant protectors'. It aligns with the idea that securitizing actors, such as the police, play a pivotal role in defining and responding to perceived threats to societal values.

The vision statement provides a lens through which to analyze the police approach to the use of drones. The emphasis on fostering trust, vigilant and determined action and collaboration with citizens and partners reflects a commitment to adaptability and continuous innovation. Specifically, the police's goal to learn, experiment, innovate, and rely on professionals suggests a willingness to explore new approaches, technologies, and strategies in the pursuit of enhanced accomplishments.

2.2 Technological innovations and Police (re)organisation

In 2012, the Dutch National Police introduced the Layout Plan which discusses the process of 'technology driven innovation' as being based on periodical assessments of scientific and technological developments (Politie, 2012). Recognizing which technological innovation could prove valuable to the police is noted as a challenge, yet crucial for technological development is what grants a police force access to international top tier policing (Ibid.).

The Layout Plan defines innovation in police context as the application of 'new (scientific) insights or technologies' which leads to 'fundamentally different ways of working'. (Ibid., 79) It furthermore acknowledges that innovation sometimes comes from outside partners, and that it mostly brings about more uncertainty and risks. If the aim is bettering the quality of work, then at one point results should be presented accordingly. With innovation the results do not always present better quality. (Ibid.) Due to the risks and uncertainty, the policy focusses on establishing reasonable 'requirements' and 'managing expectations' (Ibid.). At the same time, the Layout Plan aligns the existence of higher risks with the potential for higher rewards (Ibid.).

The 2012 Layout Plan discusses technology in general as being predominantly used for searching and information gathering. It goes on to say that the new tactics and technologies carry big expectations for their efficiency, while at the same time occur in contexts where secrecy and confidentiality are crucial. For this reason, the task for innovations does not lie with a widely supported governance model, but with the National Operational Cooperation Service (DLOS)[2] of the National Unit (Politie, 2012). They are among other things responsible for

[2] Translated by author from Dutch: *Dienst Landelijke Operationele Samenwerking*

operational support of covert operations carried out by the police, such as undercover tasks, phone taps, witness protection, and working with specialized animals. (Politieacademie, 2021)

In 2013, the Dutch Police Corps was reorganised. Before the reorganization there was practically no oversight on use of innovational technological devises in police work, let alone evaluations of said technologies (Ernst et al., 2021). Realisation grew that the police had to step up technological developments in order to keep pace with the rest of the world (Ernst et al., 2021).

Regarding policy on the use of new technologies, then Minister of Foreign Affairs Frans Timmermans likened technological development to a 'sports game: when the basic ice skate is innovated into a 'clap skate', the question will be asked whether the rules of the game must be changed (Gulijk and Hardijns, 2015: 1).

In 2016, Bart Engberts and Edo Gillissen from the Dutch Ministry of Security and Justice, wrote elaborately on the topic for drone policing in a book titled The Future of Drone Use (2016). They explain that there are certain legal and other conditions when it comes to using drones during a police operation. For instance, drone use must be in accordance with Dutch aviation law (i.e.: pilots and drones must be licensed and registered by the appropriate

Project name in *Dutch*/translated	Description	Innovation stage January 2017
Raffinaderij/Refinery	Big data applications to quickly unlock and analyse large quantities of data in operational context.	Pilot
Intelligente aangifte/Intelligence crime report	Automated processing of reporting crimes via internet using artificial intelligence.	Proof of concept
Robotica/Robots	Development of a modular robot system for safety tasks with one universal controller.	Proof of concept
Programma Onbemande Luchtvaart/ Programme Unmanned Aerial Vehicles	Autonomously operating drones for various applications within the police.	Pilot
Bodycams/Bodycams	Police officers wearing bodycams with a view to decreasing violence by citizens.	Pilot
Camera in beeld/Camera in Focus	Database of available public and private cameras in the public domain to support police investigations.	Implementation
Digitaal Buurt Onderzoek/Digital neighbourhood survey	Approach citizens for additional information with an app within a certain radius of an incident.	Pilot
Sherlock app/Sherlock app	Development of an app for citizens to assist with criminal investigation of offenses.	Idea
NFiDENT/NFiDENT	Development of a probative drugs analysis process (incl. equipment) carried out at police laboratories.	Implementation
MEOS PDO/MEOS CSI	On-site administrative registration of crime scene investigation using smartphones, to gain more speed and return on investigations and providing real-time intelligence.	Proof of concept
@ppsporing/@investigation	Digital support with a tablet for officers of criminal investigation departments during on-call shifts.	Implementation
Augmented Reality Pro/Augmented Reality Pro	Development of a tool for location-based augmented reality, proactive real-time information provision for police work.	Pilot
Computer Criminaliteit III/Program Computer Crime III	Development of a specific unit, tools, and process for legal hacking to support criminal investigations.	Proof of concept

Table 1 Overview of 13 Dutch police innovation projects since 2017 (Ernst et al., 2018: 1822)

aviation authorities) and there must always be a clear added value of involving drones next to already existing police instruments (Ibid.: 97-98). Furthermore, there are also operational conditions, such as the kind of 'payload' that is attached to a drone. This ranges from a video camera, microphone, infrared heat scanner or a payload that produce a light beam or aroma to influence a crowd's behaviour (Ibid.: 99).

Ernst, Ter Veen and Kop did a study in 2018 where they presented technological developments within the Dutch police over the years. They assessed that the police had to keep up with international developments, especially to adapt to the criminal world which is keeping up accordingly (Ernst et al., 2021). This thesis discusses drone policy at the Dutch police specifically, but it is important to view drones in a wider context of technological innovations that have been implemented since 2017. Ernst, ter Veen and Kop have put these innovations in an overview, which can be seen in Table 1.

Interesting notes made by these authors are that some of these projects have been in development for over 10 years, and that there is no correlation between duration of the project and the innovation stage (Ernst et al., 2018: 1822). The *Programma Onbemande Luchtvaart* - the official name of the police drone programme- started as a pilot back in 2017 yet is still today in its pilot stage. The authors elaborate as follows:

> One of the projects just started with shaping ideas, five projects were actively developing the technology to build a working example or prototype, four projects tested the technology developed in the operational environment and three focused on implementing technology in the police organization. (Ernst et al., 2018: 1822)

Figure 1 Front view of the AscTec Falcon 8

However, the National Unit of the former KLPD *(Dutch abb.: Corps of National Police Services)* already started experimenting with drones back in 2011. The most used drone (figure 1) was the German *AscTec Falcon 8*, which had 8 propellers, possessed a camera, could hold its position as soon as it designated a specific GPS location, and was only used for *situational awareness* purposes (Gulijk and Hardijns, 2014: 7).

What can be deducted here is that the police organisation regardless of any reorganisations or layout plans, seem to suspend their innovation projects in the pilot phase.

I discussed the developments in the use of drones since that time with Ms. Adeline van den Berg, Flight Manager at the Dutch National Police Unit. Interestingly, I asked her if the pacing of technological progress forms a risk for use of police drones in the future. Van den Berg stated that in her experience, the police and the wider government always fall behind the rest of society (A. van den Berg, personal interview, January 7th, 2021). She said that by the time a pilot has been drafted and approved, the appropriate people are hired and trained, and the materials purchased, new technology is already on the market. 'It might take us another while to keep everything up to date', she added (Ibid.).

While still in the pilot phase, drone use became in fact fully operational. An interview with Mr Hans Schenk, who leads the Amsterdam Unit's 'Manned and Unmanned Aviation' department, made clear how emergency situations offered opportunities in this regard. This department hosted the first regional roll-out of the National Police's drone programme, according to Mr. Schenk (H. Schenk, personal interview, January 11th, 2022).

Schenk explains to me that in May 2020 there was a request, as air traffic was grounded due to the COVID-19 pandemic, for crowd control operations of protests in Amsterdam. 'The higher ups asked me to run point on that, as I already was air space observer and worked a lot with the police helicopter', Schenk said. Usually, police can only request drone assistance from one of the three national drone teams.

> While they were happy to help, at one point you must be able to run independently as well. So, we were talking with the Dutch Human Environment and Transport Inspectorate (ILT) which now had already seen drones being operated professionally by the National Unit. Due to the positive feedback from the period May-December 2020, we received permits to do so ourselves at last. Starting January 2021, we started drafting a formal plan of a regional drone team, hired people, and purchased material. We became fully operational in October 2021. (Ibid.)

Previously, all regional and local police units had to request drone support from TOL. At the time of the interview with Mr. Schenk, there is an ongoing roll out of regional drone teams for each of the 10 regional teams, starting with the Amsterdam region (Ibid.). Each of these teams can choose to operate drones for three types of cases, all of them on the condition that the operation occurs in a controlled environment and where the drone always remains in sight (Ibid.). The first one is the forensic investigations of crime scenes, think of places where a crime like theft, breaking and entering, or murder has been committed (Ibid.). Second is the forensic

investigation of traffic accidents (Ibid.). The third type is in support of public order and safety, for instance demonstrations, festivals, or disasters such as floods and fires (Ibid.).

Regarding the *how* the police describe their protocol for the use of drones as follows: for every drone-operation there are three police officers involved. First there is the *pilot*, who is responsible for drafting a flight plan and flying the drone. The pilot must be licensed and have completed all necessary trainings (Politie, n.d.; Politiedrone, 2020a). Second there is a *payload-operator*, who controls any apparatus the drone may be carrying -which is often a video camera. The operator also controls the audio communication with the operational (command) centre. Then finally there is the *observer*, who is tasked with monitoring the airspace and keeping onlookers at a distance. 'When we fly a drone in a specific area, we will make our presence clear with visible signs', it says on the website (Politie, n.d.).

For the moment, police drones only use video cameras and loudspeakers. However, tests are being with the release of tracing materials from above' (Ibid.). The cameras also have a heat function as well as night vision. The heat function allows the detection of locations where illegal drugs are being manufactured. However, reasonable grounds for suspicion are needed and houses cannot be scanned without proper cause (A. Stobbe, personal interview, December 22nd, 2021).

The police mention privacy as something that is heavily important to them. It is policy to first make an assessment whether specific information can be obtained by other, maybe less rigorous means (Politie, n.d.). Furthermore, the acquired drone footage needs to be in compliance with the Personal Data Act[3]. This pertains to recordings of footage, and the way recordings are saved and stored, as well rules regarding access. (Ibid.).

In my interview with Van den Berg, I sketched a scenario where a drone would be needed but the three required officers, the *pilot*, *payload-operator,* and *observer*, are not all present. Van den Berg said that this rule only applies for the larger drones, the small drones which are used in ad-hoc operations, can be used with only a pilot and a payload operator. For the larger drones it is possible as well to overlook protocol, but the officers then would need to call TOL and ask permission to do so (A. van den Berg, personal interview, January 7th, 2021).

2.2.1 Privacy

[3] Dutch: *Wet Persoonsgegevens (WPG)*

In 2015, the Ministry of Security and Justice published a manual titled *'Drones and Privacy: How to Use Drones in Compliance with the Safeguards for Privacy Protection'* [translation by author]. The document consists mainly of questions and answers on drones in general, their capacities and in what way they can form a risk to civilians' privacy. It also zooms in on legal framework and regulations for police drones. Next to that there has also been a European Commission-sponsored report called the *Study on privacy, data protection and ethical risks in civil RPAS operations* (Remotely Piloted Aircraft Systems) (2014).

According to the manual, the police is bound to legal time periods under which personal data can remain stored -which fall under the Police Data Act (MinVenJ, 2015: 24). The manual states that there is currently 'no specific legal framework' for the use of police drones for the purpose for searching for potential criminal offenses. Legal precedent has been established by the Dutch Supreme Court (*Hoge Raad*), leading to the fact that articles 3 and 141 from respectively the 2012 Police Act and the Criminal Procedure Act can be used as legal framework for police drone usage (MinVenJ, 2015). Furthermore, police drones must be operated under the condition that 'infringement of citizens' fundamental rights are limited' and that the drone operation does not carry too high a risk to the integrity and manageability of the police mission at hand (MinVenJ, 2015: 27).

2.3 Analysis of the Culture of Experimentation

In the previous chapter a mapping of the field of theories and arguments surrounding experimentation with technological innovations was offered. It has been concluded that instances of techno-securitization within governance structures can provide the possibility to freely experiment with technological innovations for the purpose of achieving security-related ambitions. One of these ambitions can be keeping up with societal technological innovations and keeping up with the ever-innovating criminal circuits. In one of the interviews I conducted with members of the Dutch National Police, this was confirmed. At the same time securitizing agencies tend to keep their experiment alive as they -among other things- provide valuable data and use emergency settings to experiment even further with innovating security technologies. These phenomena shall be cross analysed with the Dutch police drone policies that have been elaborated above. Marijn Hoijtink's notion of 'experimentation' will be used for this.

The first component of Marijn Hoijtink's theory is about securitizing actors not being concerned with failures, public (media) criticism or even possible sanctions for misuse of that which they

are experimenting with (Hoijtink, 2022). Rather, any possible result of the experiment is a representation of valuable data or 'lessons learned' (Ibid.).

Furthermore, failures are rarely a reason to stop experimenting, any failure is presented as described above and pointed to as a future potential of other experiments to follow. All at the same time, the experiments are not conducted in controlled testing environments or labs, but are taken directly into the field, especially in the field of AI-technology or algorithmic policing where experimental practices and data collection and analysis are essential (Ibid.).

This sentiment can be seen in the 2012 Layout Plan, which discusses technology-driven innovation as a process that can bear greater risks and proves less predictable. The document states that results are not easily measurable and that expectations should be managed as said results will not immediately or at all bear fruit (Politie, 2012).

Hoijtink's theory on experimentation explains how emergency situations are reconfigured as opportunities to experiment. In the previous section of this chapter, it has been laid out how police had been developing technological innovations since 2011/2012. Not only did they improve the innovations themselves and the way of operating them in the field, they have also redeveloped their governance structures accordingly and on multiple occasions over the years.

Before the opportunity provided in the context of the COVID-19 pandemic, drones were only used in this area by officers working in the national TOL-unit. Not only has a local police unit has been granted the same opportunity, but the Amsterdam Unit is only the first regional drone unit, after which many more will be rolled out across the Netherlands as has been explained before.

2.4 Chapter Summary

This chapter has delved into the policy landscape surrounding the use of drones by the Dutch police, and analysed the Dutch approach through Hoijtink's concept of "experimental warfare." The mission and vision of the Dutch National Police, emphasizing vigilance, compliance with rule of law, trust, and collaboration, provide a foundational understanding of their commitment to adapting and innovating in the pursuit of safety and professionalism. The Dutch police express a need for rapid adaptation to the evolving landscape of criminal tactics and technological advancements. This underlies their exploration of technological innovations. The police do have certain policies in place, but on the other hand, as the analysis has shown, they seem to try keeping a free hand in order to experiment.

In summary, this chapter provides a comprehensive exploration of Dutch drone policy and rules of engagement within the broader context of police technological hardware innovation. It lays the groundwork for understanding the complexities and dynamics of experimentation within a securitized context, setting the stage for a deeper analysis of the implications and challenges associated with the use of drones by the Dutch police within Dutch society.

Chapter 3 – Piloting the Drone

In this chapter, the second sub question of this thesis will be answered, which is *What is the practice regarding the use of drones by the Dutch police?* The question is aimed at dissecting the experimentational element in the police's use of drones in practice – hence displaying a gap or discrepancy between this and their policy as outlined in the previous chapter.

While the National Police's pilot with drones had commenced back in 2017, the COVID-19 pandemic of 2020 led to a considerable rise in drone use by the Netherlands' police drone unit. I will first focus on the catalysing effect the pandemic had on the use of drones, and what the use of police drones looked like during the Covid-19 pandemic. In the second part of this chapter, an analysis will follow using Hoijtink's theory.

3.1 COVID-19 and Public Surveillance

On April 1st, 2020, Dutch newspaper *Trouw* published an article titled 'Drones are checking to see if you are following corona rules, but is that actually allowed?' It reported the police sending in drones across various locations in the country to see if people were following social distancing measures. The involved police units (Eastern Netherlands Region and The Hague) answered that the operation did not focus on filming individuals and that no recordings were made of the situation.

As for notifying passersby about drone coverage, the police did not notify people about drone coverage, as in the case of The Hague mentioned in the Trouw article (2020). A police spokesperson explained 'we only briefly flew above the Kaapseplein'. The police unit of the Eastern Netherlands Region in the city of Apeldoorn also failed to notify passers-by, as they were only looking for a 'total picture' of the area (Ibid.).

Adherence to the policy regarding warning signs was illustrated in a video, released on May 28th, 2020, at the request of Dutch Minister of Justice and Security Ferd Grapperhaus (Politiedrone, 2020a). Here a former flight manager of the National Unit's drone team demonstrates how he and his colleagues go about using the drone with a loudspeaker payload to remind passersby on the beach to adhere to the social distancing measures (Ibid.). On the video it shows how the flight manager puts down a large warning sign showing people that a police drone is operated nearby.

Terpstra et al. (2021) wrote an article titled 'Policing the coronacrisis: A comparison between France and the Netherlands'. While the article at hand assesses that the French police had a much more strict and repressive approach to policing the pandemic than its Dutch counterpart, it makes interesting points vis-à-vis the use of drones during this period. Drones have been used to warn people that social gatherings were not permitted (three-makes-a-crowd-measure), to remind them of the social distancing rules, and for surveillance of places that were too crowded (Ibid.: 174).

Remarkable is the fact that the French Interior Ministry has clear numbers regarding drone use, while the Netherlands' authorities have not. Terpstra et al. mentions that between March 24 and April 24, 2020, French police drones were used in 251 surveillance operations and in 284 warning operations (Sénat, 2020 in: Terpstra et al., 2021: 172). The Dutch National Police's Annual Report 2020 makes no mention of drone use during the pandemic at all. In fact, it only contains a general discussion on the use of drones (Nationale Politie, 2020). For instance, the report mentions there has been a 2,51 billion euro purchase of 'all kinds of products and services: from motorcycle gloves and office supplies to vehicles and boats, helicopters, drones, weapons, consultancy services and construction supplies' (Ibid.: 78). There is no mention of how many drones were purchased, let alone how many times drones were actually used during police operations in general or corona measures enforcement operations in particular.

The official twitter account of the National Unit's Unmanned Aerial Vehicles team (UAV) (@politiedrone) offers a clearer picture of how many times drones have been used during the corona pandemic. The account tweeted 167 times between January 8th, 2019 and June 1st, 2021 (Politiedrone, n.d.). All but a handful of these tweets were reporting instances where the National Unit assisted a local unit by sending one or multiple drones in the sky. The remaining tweets were about training days and testing of new equipment (Ibid.). According to the UAV-account, in April 2020 the unit assisted in monitoring compliance with corona measures for the first time. By April, drones had been used in 28 different locations (Politiedrone, 2020). In the previously mentioned video, a police officer explains that on a peak weekend, drones had been dispatched to a hundred different locations (Politiedrone, 2020a).

On October 17th, 2021, people came together in the city of Rotterdam to protest the shortage of affordable houses in the Netherlands. It was one of the many housing protests that took place in the country in that period, as there is an ongoing housing crisis. While the protest was

peaceful at first, at one point it resulted in clashes between the (riot) police and members of a group called the ‘anarchist bloc’ (NOS, 2021d).

The organisers of the protest, a group called ‘Woonopstand’ (Translation from Dutch: Housing Revolt) called the police’s actions ‘absurd, reprehensible and violent’ (Ibid.). Many human rights organizations, such as Amnesty International and politicians from Rotterdam’s municipal council and the Dutch parliament had reacted shocked, stating the police overstepped its limits and transgressed people’s right to demonstrate (Ibid.).

According to Dutch news broadcaster NOS, the police had received signals that a specific group was conspiring to disturb the demonstration (2021d). The police explain in the same article that due to the signals they received, they had to ‘isolate’ a hundred protestors to perform a check on them. ‘After the group was isolated, a small group of other protesters reacted with violence against the police. The police felt compelled to intervene, which led to a brief confrontation.’ (Ibid.) Nine arrests were made for illegal possession of weapons, desecration, sedition, and insult (Ibid.).

As a result of this mass criticism, following many shared videos of riot police attacking protestors, the police leadership in Rotterdam decided to ‘display its own truth’ by publishing footage from a police drone that was dispatched in the sky (NOS, 2021a). Rotterdam Police Chief Fred Westerbeke issued a press release where he wished to counter what he called a ‘trial by (social) media’ (Politie, 2021)

> In no time, the notion arose that the police had used excessive force, without reason. The danger lies in the fact that these videos offer no context but provide a frame and a judgment based on assumptions. To blindly accept these images as 'complete' is unjustified and shows little sign of respect. (Ibid.)

The press release stated that large demonstrations, in this case 7000 attending, asks a lot of preparation and effort from the police. Westerbeke explained that the police mostly assumes that demonstrations will be peaceful, but nevertheless they do prepare for other scenarios (Ibid.). He said that after the demonstration he received reports from people on the ground who were not sure what had happened and what prompted the violent response from the police. ‘With this [drone] footage, I hope to shed some light on the matter’, Westerbeke said (Ibid.).

Since the start of the national drone pilot programme in 2017, TOL has established a separate air traffic organization, meaning they have a flight manager, a compliance team, a flight safety team, and an education programme for police officers who wish to become drone pilots (A. Stobbe, personal interview, December 22nd, 2021). The flight manager is responsible for the operationalization of police drones. The compliance team checks whether police drones are used according to Dutch civil UAV regulations. The flight safety team conducts safety investigations after incidents and ensures that drones do not form a security risk to physical constructions and other air traffic participants.

TOL is divided into many 'specialties', as explained by Van den Berg (A. van den Berg, personal interview, January 1st, 2022).

> We have a lot of departments, for example traffic accidents, crime scenes, public order tasks - such as demonstrations and events […] and pursuit, and search and rescue [SAR, *own addition*]. We also have a 'pilot emergency situations' where a drone is always available in the police car and can be used when necessary. In their case, time is of the essence so they will likely skip certain rules of the book as opposed to officers executing a planned operation. (Van den Berg, 2022.)

Due to the special training police drone pilots undergo, the police have received several exemptions from the Dutch Human Environment and Transport Inspectorate (ILT), which allows them to operate drones in spaces that are prohibited for recreational drone use. For instance, they have permission to fly near buildings and airports (Ibid.).

Drones are also used to create 3D-models of existing buildings by flying around them, Stobbe explained (Ibid.). This can prove helpful during for instance forensic investigations or identifying possible exits in preparation of an arrest operation. Drones can livestream footage to a command centre of the police district that requested drone assistance. Stobbe explained that TOL does not record footage, and that it is up to the people at the command centre who are receiving the live footage to decide if they want to record the livestream or not. Footage that can be streamed is coloured and can be assisted with heat sensors (Ibid.).

Mr. Hans Schenk of the Amsterdam Unit's 'Manned and Unmanned Air Traffic' department, explained the local roll out of the pilot in Amsterdam. This plan started a couple

of years ago, but stakeholders in the area were not keen on the prospects of drones in the sky. 'Amsterdam falls within the 'controlled traffic region (CTR)' of Schiphol International Airport, and they were not very enthusiastic about the idea of having loose police drones in the area' (Hans Schenk, personal interview, January 11th, 2022 [translation by author]). In the meantime, the police went ahead with training and running pilot tests.

> For a while there were only three drone teams in the Netherlands: Eastern Netherlands/National Unit, Unit Zeeland-Western Brabant [ZWB], and the Unit Limburg. All of them have their own specialties: Eastern Netherlands and Limburg worked a lot with forensics and search operations. ZWB invented the so-called *tethered drone*, which proved very useful in crowd management operations to have a drone in the air for longer periods of time. (Ibid.)

Schenk elaborated how crowd management operations, such as are deployed at protests or demonstrations, generally occur in big cities. These big cities are mostly -in part or entirely- designated CTRs. Meaning that the appropriate authorities were somewhat hesitant to issue permits and licenses to the police for the use of drones.

In January 2021, there were three pilots and three payload-operators working at the Amsterdam Unit. By July 2022, it was Schenk's goal to add three additional pilots. Schenk noted that the current drone team was enough to be operational for regular tasks, but that for bigger operations they still relied on assistance from the National Unit. The tasks that Schenk described were limited to events and demonstrations. Major protests are registered with the Staff for Large-Scale and Special Interventions (SGBO) (Ibid.). 'We always fly for the SGBO's. And in case a smaller event shows a complication whereby units on the ground for some reason cannot access an area, we assist there as well (Ibid.).

Schenk described his team's main task as getting as much information and footage as possible to the operational centers, so that commanding officers can anticipate on that information and dispatch personnel accordingly (Ibid.). '

> We only do planned operations, nothing ad hoc. […] Incidentally we might assist with a missing person case, but we really must be in the vicinity by chance for such tasks', he said.

He went on to say that for example Search and Rescue (SAR), traffic teams and arrest teams all have their own, smaller drones. They use them in other ways, which are more fitting to their line of work (Ibid.).

In 2022 Schenk's team was due to start a pilot with emergency assistance drones. The province of North Holland already uses this system. These drones will be present in police cars and controllable from the operational center. The aim is to have drones at the ready in case of missing persons or suspects at large.

3.2 Drones in Practice Analysed

To be clear, there are no specific numbers available for how much police drones were used in 2020 as opposed to the years before. Nevertheless, there is considerably more communication to be found on the use of police drones in the period of the pandemic than the preceding period, as previously discussed. The rise in communications can be interpreted as an increase in the (public) use of drones by the Dutch police.

According to Terpstra, the police have found the pandemic to be a suitable pretext to make more use of relative new police technologies (2021). This is another indication that Hoijtink's notion of an emergency situation is being used as an opportunity to experiment is valid here.

Regarding the video of May 28th, 2020, which demonstrates how drones should be used by police officers, the very nature of this video seems to be reactionary. It is confirmed by the very fact that a minister who was politically in charge of the National Police, requested the release of the video. It shows that a key-member of the leadership of the Dutch security apparatus finds it important that critical narratives such as displayed in the *Trouw* article, are countered by the notion that the police are using innovational technological devises while still officially being in a pilot phase and are in compliance with Dutch law and their own rules of engagement.

It is the politically responsible minister telling the citizens of the Netherlands: 'look here, the experiment is going well, and we play by the rules of the book.' This happens in contrast to the multiple occasions outlined in the previous section of this chapter where rules were not followed by the book. Besides that it fits into the policy of managing expectations that was stated in the 2012 Layout Plan (Politie, 2012).

In the end a lack of transparency can be identified. There is no official public record showing the public where and how drones were used. When projects are in their experimental phase, monitoring and (re)evaluation should be standard procedure in the public domain.

What can also be drawn from the above is that it is questionable whether police protocol is always followed. The *Trouw* article shows two instances where the public was not notified

of drone use in their vicinity, while -as has been illustrated- it is part of protocol when drones are used in line of police work.

The Rotterdam Housing protest shows drones being used in a way that is not written anywhere in the National Police's drone policy. At the same time, in police officials' reaction to this, no sign of accountability or admitting fault is detected -rather it is being justified. Furthermore, the phenomenon is being encouraged and presented as the police finally being able to counter narratives and accusations of police brutality. Hoijtink would point to this as a case where authorities react indifferently to failure, rather they show more enthusiasm regarding the results and effects produced.

Regardless of the further content of their 2016 article, what we see in practice today are several factors that Engbert and Gillissen would classify as '(legal) incidents' that require the legal framework surrounding drones to be adjusted or at least reinterpreted as drone use evolves in society (2016: 96).

3.3 Chapter Summary

In the second chapter it became clear that local teams must submit a request with the National Unit's UAV team for drone assistance, which raises the question whether the peak in the team's schedule meant certain protocols or rules of engagement were overlooked, as was described in the *Trouw* article mentioned in this chapter.

In summary, there seems to be a discrepancy between how the police want to use drone technology 'on paper', and how this is then implemented in practice. Several factors account for this and have been outlined in this chapter. It is mainly due to a fast development in technological capabilities, a top-down national-level implemented protocol for surveillance which then must be implemented locally and the bureaucracy that brings along with it. There is also the issue of the desire of the police to perform their duties more efficiently, while defending their actions against public criticism, and the effect this has on the fundamental rights of citizens.

Regarding said protocols and the legal framework for the use of drones by the police, it is safe to say that the law needs an update, whereby rules and instructions regarding different circumstances under which police drones can be used are made clearer.

Chapter 4 – Elevating the Police Drone

In this chapter, the third sub question of this thesis will be discussed, which is *How is the use of drones perceived by Dutch public and media?*
Furthermore, this chapter will focus on the perception of the public and media on drone use in the public space.

4.1 Police Drones and Media

Public response to drone use can be positive. On November 16th, 2020, a Dutch televised talk show 'BEAU' received officer Peije de Meij, head of operations at the National Unit of the police, and Jan Eltink, a certified police drone pilot. Both gentlemen attended the programme in uniform and even brought a drone with them to show to the audience and the people watching at home. The drone pilot explained how cameras are attached and provide footage to the operational centre on the ground. (RTL XL, 2020)

Talk show host Beau van Erven Dorens was invited -with enthusiasm- by the police officers outside for a demonstration. He stated: 'this is of course toys for men, the women at home must think: "what is this all about?"' (Ibid. [translation by author]) Afterwards he called drones 'impressive things' (Ibid. [translation by author]). The demonstration takes place outside during the night and we see the drone footage, guided with artificial lighting from a lamp attached to it. The footage shows a clear view inside a window of a nearby building.

The police team also demonstrates the heat function of the drone camera. What can be seen now is a completely dark screen except for the quite detailed silhouettes of the persons present in the demonstration area. Beau then starts running but the drone can easily follow his whereabouts (Ibid.). He closes the segment by saying:

> So, the drone is perfectly capable of pursuing suspects […] gentlemen, thank you very much for your demonstration. Continue the good work and catch those thieves, and make sure there is order and safety on the streets. (Ibid. [translation by author])

Regarding privacy regulations, Van den Berg stated that from the pilots she works with she only hears positive feedback from passing civilians (A. van den Berg, personal interview, January 1st, 2022). This is due to the fact that they are enthusiastic about the drone itself and

what the police can do with it. 'I do realize however, having written a thesis on the subject, that civilians can become nervous as it is not clear if a drone belongs to the police or not. But we did not receive any complaints regarding privacy from civilians -although I realize that does not necessarily mean there are none.' (Ibid. [translation by author])

The second item I wish to discuss are the reactions to the video[4] made by the National Police's own inhouse vlogger, officer Jan-Willem Schut -at the request of the Minister of Justice and Security. Note that Schut is a popular police vlogger in the Netherlands, he has a YouTube-channel with many followers and interactions.

Schut follows a SAR operation which took place in 2020 when weather and surf conditions led to the disappearance and loss of five (wind)surfers. The police units participating in the search had requested the National Unit's drone team to assist them (Politievlogger Jan-Willem, 2020). The first five minutes of the video show a briefing and how the team prepares the material for their flight. The video shows the drone team, the pilot, payload-operator and observer, perfectly according to protocol (Ibid.).

The tone of this video is exclusively positive, no downsides of drones are mentioned nor are negative opinions on the matter discussed. There is also an element of enthusiasm to be found from everyone involved in the video. Two police officers on horseback who happened to have their surveillance shift at the same location even dropped by out of curiosity. The general message is to give the viewer an inside peek behind the scenes. This is true for all of Schut's videos.

The video has been watched tens of thousands of times with approximately 2.100 likes (Ibid.). Looking at the comments they are overwhelmingly positive. One comment stands out: username @nielsvanderveer expresses his enthusiasm, but at the same time finds it 'a bit creepy' saying the drones remind him of the popular futuristic videogame 'WatchDogs'. In this game law enforcement has been entirely privatized and digitalized, drones chase the player during car pursuits, and surveillance robots guard the streets (Ibid. [paraphrase and translation by author]).

Public response to drone use has of course not been exclusively positive. For instance, a Trouw article quoted legal experts who raised concerns that monitoring people with drones during COVID-19 as a law enforcement method might go too far (2020). In the *Trouw* article,

[4] Link to the video: https://www.youtube.com/watch?v=ZSAAIyNSdRk&t=9s

the Dutch Authority for Personal Data (AP)[5] did not react to the question if the use of drones by the police in this instance was legitimate (2020). However, an AP spokesperson did indicate that drones constitute a higher risk for breaches of privacy than regular video surveillance (Ibid.). Wouter Dammers, a specialist in Privacy Law, questioned the necessity of a drone in this instance 'when you can also send in officers to both sides of a marketplace to see how many people are arriving and leaving and assess the situation accordingly' (Ibid.).

The release of the drone footage to defend the use of force by police to contain a crowd during a housing protest, which occurred in Rotterdam on October 17, 2021 (NOS, 2021), received a considerable amount of criticism. Engbert and Gillisen's article does not mention that drone footage is likely to be used for any purpose such as the police's desire to 'display their own truth' in the face of massive criticism of the alleged excessive use of force and what Rotterdam Police Chief Fred Westerbeke calls the 'trial by (social) media' (NOS, 2021).

Interestingly, the Dutch Lawyers' Committee for Human Rights (NJCM) reacted "with astonishment" to the publication of the drone footage, as the possibility of being "filmed" could discourage people from participating in demonstrations and protests -which are fundamental rights in a democracy (NOS, 2021). This assessment is confirmed by a survey conducted by the Ministry of Infrastructure and Water Management on the 'public perception of drones.' While 80% of the 1,524 respondents said they were comfortable with the use of drones by the police, 65% felt that their privacy would be compromised if a drone flew over their home, and 36% were not comfortable with drones monitoring the number of people in a certain area (Rijksoverheid, 2021).

Bart Schermer, associate professor in Privacy Law, voices a concern about 'an individual's sense of privacy the moment a drone is hovering above him in the sky. And then the drone is also able to speak to the public, Big Brother becomes quite tangible' (Trouw, 2020 [translation by author]).

The Dutch public broadcast NOS presented a further risk that Chinese DJI drones, currently used by the Dutch police, may store data on servers in China (NOS, 2021c). This data can be accessed by the Chinese government at any time, as DJI is a large company and is legally required to provide the data upon request (Ibid.). What effect would this data have on potential protests against the situation of Uyghurs or the political situation in Hong Kong?

[5] Dutch abbreviation: *Autoriteit Persoonsgegevens*

4.2 Analysis of Public Responses

We have seen a series of samples about public and media reactions to drone use by the Dutch police. Through these sources the representation of drones in police work is met with positive and negative responses.

4.2.1 Positive response

On the one hand police drones are depicted as a 'breath of fresh air' in the tough daily challenges the police must face in the Netherlands.

What is striking, is how the talk show host of BEAU did not ask any critical questions at all but was rather very positive about the police officer's explanations and demonstration. The latter two barely had to fend off critical questions. The BEAU item concluded with words of praise. The concept 'unconditional fetishization' that was discussed in the theoretical chapter applies here, because the talk show host refers to the drones as 'being like toys' for instance. With this he displays the notion of regardless for what reason or in what manner drones are used: these gadgets are cool, without condition (RTL XL, 2020 [translation by author]). Furthermore, he waves the police officers off at the end of the show by saying 'catch those thieves' – to unconditionally support the use of new technologies in their crime fighting jobs (Ibid. [translation by author]).

Then there is the video of officer Jan-Willem Schut, which was made at the request of the Dutch Minister Ferd Grapperhaus of Justice and Security (Politievlogger Jan-Willem, 2020). Jan-Willem is a vlogger next to his actual job of being a patrol officer, tasked with offering the general public a peek behind the scenes of police work. The fact that the minister asked him to highlight TOL-officers in action, shows that the police and the government want to reassure the public that drones are being used in a professional and legal manner. The message so to say is: nothing out of the ordinary here, just regular police work with some new tools. It is also a show of transparency, the vlogger gives the general impression that the police can share their behind-the-scenes with the public. The overall positive comments below Schut's video show the effectiveness of this approach.

4.2.2 Negative response

On the other hand the use of police drones receives a lot of criticism, especially regarding citizens' privacy concerns. Public critical response to drone use mainly focuses on a number of aspects.

The first concerns citizen's privacy. In the academic debate section of the first chapter we discussed that social scientists tend to raise awareness for algorithmic policing, over-policing and privacy risks. Pro-privacy sceptics want police drones only to be used under very limited legal conditions or not at all. NCJM, for instance, protested the use of drones as a means to show the public that use of force during the Housing Protest was proportionate and justified.

The second concerns the potential of drone use to discourage people from exercising their fundamental rights to participate in demonstrations and protests. In the theory chapter we discussed securitization and experimentation in democracies. Authors like Brakel questioned if the way algorithmic policing is conducted resonates with core democratic values. Monahan and Brakel argued for locally based surveillance system with local accountability mechanisms attached to it. Brakel warned that surveillance mechanisms could 'influence the basic circumstances' of citizens' lives (Brakel, 2020: 107).

A third criticism concerns the 'Big Brother' or 'creeping' effect. This relates to the bureaucratization of violence and politics, as has been discussed in the theoretical chapter (Davis, 2019). Earlier it was shown that drone use in the Netherlands lacks transparency. This echoes a conceptualisation of bureaucracies as abstract systems of control, a 'tyranny without a tyrant', in which nobody is held accountable for their actions (Shaw, 2016: 24 cited in: Davis, 2019: 355). As Bart Schermer mentioned the Big Brother- effect (Trouw, 2020), whereby the presence of a police drone can cause people to behave differently as opposed to when that drone would not be there (Manual Drones and Privacy, 2015: 7). Moreover, legal experts from the NCJM warned for a 'chilling effect' drones may have on participants of peaceful protests as well. They might not show up to exercise their democratic right if the state is watching from above.

4.3 Chapter summary

This chapter explored both positive and negative responses to police drone usage in public spaces. In the media there are those who react with great enthusiasm to the existence and use of drones within police work. It is sometimes even 'fetishized' as Balzacq et al. would describe it as the tools itself have an element of coolness about them.

Government and police alike, invest quite some time in creating 'good PR' and even offering the public a peak behind the scenes -as requested by the Minister of Justice and Security. Securitizing agents wish to reassure the public that the new tools are handled responsibly and within legal frameworks.

At the same time legal experts and privacy advocates raised alarms about potential privacy and human rights violations. For instance, the monitoring of crowds with police drones is seen as excessive by some. The use of drone footage to justify use of police force during the Rotterdam Housing Protest was widely seen as unacceptable. The NCJM is worried that such releases of footage could deter civilians from participating in demonstrations.

Next to this chilling effect there is also a 'Big Brother effect' meaning a sense of constant monitoring which leads to affected public behaviours which raises ethical questions about such extensive surveillance. Lastly there are also concerns from experts about the use of Chinese DJI drones by the National Police. These drones tend to save sensitive data on Chinese servers, granting the Chinese government access to them.

Chapter 5 – Perception of Police Personnel on Drone Policy

In this chapter the last sub question of this research will be discussed: *How is the gap between policy and practice in the use of drones explained and justified by police and government members?* For this chapter, a series of interviews have been held with police officers who are -in one way or another- involved in the use of drones in line of police work. The candidates I was able to interview are from two police teams, namely the National Unit's Team Unmanned Aviation (*Team Onbemande Luchtvaart*) and the Amsterdam Unit's (local) Drone Team. Central to this chapter lies the police's view on the identified gaps in the Dutch police's drone policy. Reactions by the minister of Justice and security Ferd Grapperhaus are also included, as the government official responsible for the National Police.

We have seen in the chapter regarding the theoretical frame that police drone-related communication and rhetoric tends to occur in an enthusiastic -even fetishized- fashion (Davis, 2019). It is the intention for this chapter to show that this can be seen in the PR of the Dutch National Police, its affiliated branches of government and other actors within the Netherlands' security establishment. This will be illustrated by evidence from police participation in media interviews, televised talk shows as well as police and ministerial press releases, communiqués, and social media posts.

5.1 Drone use: Police and government justifications

One of the people I interviewed was Mr. Arjen Stobbe, Head of TOL - National Unit. Before I even had the chance of asking him on scepticism from civilians, Stobbe started explaining how TOL is -next to their core tasks- working on 'nurturing dialogue' with Dutch citizens (A. Stobbe, personal interview, December 22nd, 2021). He assessed that CCTV in cities and for example around Schiphol Airport have existed for a long period of time, yet people are often concerned when considering a police-operated camera drone above their heads. Stobbe would like to reassure civilians that there are no special features on drone cameras that normal CCTV does not have. They do not record or safe footage by themselves either (Ibid.).

Regarding the (legal) boundaries of drone use, Mr. Stobbe related an instance where a colleague offered to use his personal drone during an investigation (Ibid.). However, this is absolutely prohibited, more so since the colleague was not a trained drone pilot. Stobbe

emphasized that laws on drone use exist for police as well. Stobbe even told me that he went as far as to threaten his colleague with a legal fine if he went ahead with his idea (Ibid.).

5.1.1 Rotterdam Housing Protest

I also discussed the release of drone footage by the Rotterdam police in the aftermath of the Housing Protest with Stobbe. He told me he was familiar with the news coverage surrounding the controversial release, and that it is important not to draw quick conclusions when footage of police violence is released to the press. I then asked what his thoughts where on the use of drone footage to defend the use of force by the police. He replied that it must have been a deliberate choice from police chief Fred Westerbeke and he was indeed surprised to see the footage in the news, but that he subsequently did not think too much of it. When I followed up with the question whether there was any kind of risk to this kind of drone use, Stobbe replied 'what risk would there be?' and said that the only effect he could think of is that people attending demonstrations would become more aware of drones. 'But that is not a secret', he added (Ibid.). Stobbe continued that the police chief could also have chosen to release CCTV or bodycam footage, and that it is in the end not that different from existing camera technology (Ibid.).

I asked Van den Berg on the matter of the publishing of drone footage in the aftermath of the Rotterdam Housing Protest, in order to offer a counter narrative to the criticism on the use of force by the police. 'I found that quite a remarkable decision as well', Van den Berg said (A. van den Berg, personal interview, January 7th, 2022 [translation by author]). It is not usual for police to disclose evidence like that to the public, she explained. Regarding legal concerns that civilians might be scared off joining a demonstration if they realize they are being filmed by a drone, Van den Berg said that she cannot help but approach the matter from a police perspective. 'If you join a protest and behave yourself, then you should have no issue with being filmed' (Ibid. [translation by author]). She acknowledged that it is quite a black-and-white statement and stated that as a police officer she is quite happy that suspects can later be recognized and brought to justice (Ibid.).

In the end, I stated that I have a difficulty comprehending the discrepancy between the written rules of engagement regarding working with police drones and a Police Chief who decides that drone footage can be used to legitimize the decision making and conduct of his colleagues in the field. Van den Berg replied that she can only agree with me.

> I find it curious as well that the footage was released. I can imagine there was a department higher up that made that decision in order to show that the police acted justly, so it is somewhat above my paygrade. I would have argued to keep the footage internal in coherence with the guidelines under which it was made (Ibid. [translation by author]).

She added that the police try to be transparent with the *when*, *how*, and *why* regarding drone use, but that it subsequently is important not to deviate from the written rules of engagement that have been communicated to the public. At the same time, she recognizes it is difficult to receive that much outcry while so many police colleagues are doing their best and sacrificing so much to protect society (Ibid.).

Remarkable is the understanding shown by the Minister of Justice and Security, Ferd Grapperhaus, for this controversial decision (NOS, 2021b). The Minister received critical questions during a parliamentary session, mostly because the police had done what they accuse other parties of doing: cutting and editing the footage (Ibid.). Grapperhaus even stated that the police 'for once also says that there are more sides to a case.' (Ibid.) The Minister did however affirm that the police should not make a habit out of this specific method. 'It should not be the case that every time a [civilian, *own addition*] video is published, it is countered by own drone footage' (Ibid. [translation by author]).

Lastly, I discussed the Rotterdam Housing Protest with Schenk. When asking him on his take, he stated that he could not bring himself to understand civilians 'en masse' filming other people during demonstrations and even posting those videos on the internet without any trouble, but when the police post blurred videos of perpetrators of a crime 'it is suddenly a matter of privacy' (Hans Schenk, personal interview, January 11th, 2022 [translation by author]). When I briefly countered with a hypothesis that the difference between the two could be a matter of consent, Schenk answered that he finds it important that

> if you are being framed as a police organization, which could lead to unwanted societal implications, you should counter that narrative and sometimes we are not very good at that. So I am happy we are working on that. (Ibid. [translation by author])

In other words, he would argue social criticism often exist because of incomplete facts on cases where police violence was necessary. And if the police have the evidence that something happened to legitimize that violence, then it should counter more often that way. 'However,'

Schenk said, 'it should bring added value'. He does not think the police should react to every criticism it receives and publish material evidence in all cases. Rather it needs to be thought through, and 'in the end we have the court who can decide if our actions were legitimate or not, the police are bound by law as well after all'. (Ibid. [translation by author])

When asked about legal concerns regarding human rights and privacy infringements, Van den Berg agreed with Stobbe that there is not really a difference between drone cameras and longer existing video technology employed by law enforcement (A. van den Berg, personal interview, January 7th, 2022). She used the example of a demonstration on Museumplein (*Museum Square*) in Amsterdam, where 'plenty of people are filming anyway' (Ibid.). Moreover, she explained how people are filmed quite more often than they are aware of.

> I was once stationed at Museumplein and walked into the security building [CCTV building, *own addition*]. I never could have guessed there were so many street cameras there. I realize a drone is more distinctive than street cameras, which probably makes them more exciting, noticeable, or perhaps scary for civilians. In the end it is just another camera, but from the sky. (Ibid. [translation by author])

When I asked Van den Berg if any decision made with regard to the use of drone footage made her uncomfortable, she replied 'not really'. She elaborated by pointing at the riots that took place at Museumplein in 2021 following protests against COVID-19 measures and explained that perpetrators of the riot were apprehended after they were recognized on recorded drone footage. 'I do realize that it is a sensitive matter as we first say it is there for public safety and then we use it to apprehend suspects', she added (Ibid. [translation by author]).

5.2 Drone use: Positive police representations

The Dutch police present many benefits of drone use on their webpage, especially as drones help them in their task to maintain the law, conduct search operations and deliver aid where necessary (Politiedrone, 2020a). 'The drones are our eyes in the sky and the camera footage provides oversight in complex situation. A drone can fly at low heights, can be rapidly deployed and is relatively easy to control [as opposed to police helicopters, *own addition*] (Ibid. [translation by author]). Another reason they mention is to prevent public safety risks, where timely anticipation is a crucial factor. They see the drone as an important tool, next to their own eyes, ground camera footage and information from witnesses (Ibid.).

This is illustrated by a press release issued on November 13, 2020, by the police. It says that a tanker was fined for illegally releasing dangerous gas into the environment during its journey (Politie, 2020). The local police were assisted by a special drone team that filmed the tanker from above.

> Shortly after 1 p.m., the officers saw, with the help of the drone, that two people on board an empty tanker sailing on the Waal towards Nijmegen opened all the lids of the flaming devices and the flaming device itself. Furthermore, they saw that a flexible hose was connected to the fan and that this hose was also connected to the piping system. All of this indicated that degassing was going to take place. (Politie, 2020 [translation by author])

As a result, the police intercepted the tanker. On board, the police officer conducted a check and noticed that two tanks that were containing flammable gas, were emptied. The press release indicated the convenience which comes to show with the use of drones.

The police also argue for the usefulness of drones in long-term search and rescue (SAR). Drones are also capable of making detailed overviews of severe traffic accidents, so that their causes can be traced (Ibid.). Drones are needed at major crime scenes, so that the police do not miss any clues and can enter the footage later as evidence. It can even provide the judge with a clearer view of the situation (Ibid.). During an event or a festival, drones are used to monitor the crowd and prevent injuries because of a scramble.

Lastly, drones can be used during natural disasters which in the case of the Netherlands are mostly floods. Drones can scan areas on where the water has reached so rescue services can be deployed accordingly (Ibid.). The website concludes that ‘for police officers, the use of a drone means that they can better assess “who” and “what” they need “where” in a complex, sometimes confusing situation. An extra pair of eyes.’ (Ibid. [translation by author])

The positive benefits of drone use are not only presented by police personnel, but also by government itself. Minister Grapperhaus, who in 2020 requested the release of a video regarding the correct use of drones by police officers, subsequently tweeted his approval, and fully endorsed the use of drones:

> “Drones are an extremely useful tool in many aspects of police work. In this corona period, @PolitieLE deploys drones to remind people of the measures. That this often

> results in a thumbs-up, as Tjeerd tells us here, is nice to see. (Ferd Grapperhaus, 2020 [translation by author])

Regarding police adherence to official policy, Ms van den Berg emphasized that most times the police will try to follow the rules of procedure but that the police also have certain special privileges to not follow protocols if they would compromise the integrity of the operation (A. van den Berg, personal interview, January 7th, 2022). Van den Berg explained that there is a standby shift which receives calls from local units asking if certain air traffic laws and drone laws can be transgressed to ensure the safety of the civilian. 'It sounds strange but sometimes it is more dangerous for the police *not* to fly than to fly, as the decision not to fly could make the police task at hand more complicated', she said (Ibid. [translation by author]).

The police state that they continuously consult their inhouse privacy-experts. Interestingly, they also mention a 'recent survey' which shows that people care more about the delivery of aid and assistance than 'privacy'. Unfortunately, there is no reference to said survey to be found on this page. According to the police: 'we want to live up to and keep this trust.' (Ibid. [translation by author])

5.3 Drone use: Future dreams

In light of the concerns I raised in my interviews, I was also interested in how police officers see the future of drone use. I asked them questions regarding the roll out of regional drone teams by the National Unit. This is the next phase of drone policing which aims to get all ten regional police units in the Netherlands their own drone teams. Currently, the Police Unit Amsterdam (*Eenheid Amsterdam*) is the only one that has their own drone team. I had the opportunity to talk to Mr. Hans Schenk.

I asked Schenk about the issue of police capacity, specifically if there are any gains or losses in that field. He said that being a member of a drone team is a secondary position, as drones are not needed all the time. The police officers that are selected to train as drone pilots and payload operators are mostly operational assistants who worked in surveillance and possess all authorisations, except for carrying a firearm. (H. Schenk, personal interview, January 11th, 2022).

> Police district base teams are already short on personnel […] These people are in a flex pool, which contains many other colleagues. This ensures that they can be dispatched for multiple

> days in a row, without any base team suffering the 'operational consequences' of their absence. (Ibid. [translation by author])

In other words, district bureaus and their officers can operate at full capacity even when drone assistance is required. Schenk saw this as a gain in the sense that the police can fulfill this extra duty, without losing any manpower of its base operation (Ibid.). He offered the example of a small demonstration. The usual protocol is to surround the small crowd with officers so that the crowd can be monitored on compliance with their protest permit and the public law. Having a drone in the sky means fewer officers are needed on the ground, since everything can be observed from above. (Ibid. [translation by author])

In the video of 2020, regarding the correct use of drones by police officers, TOL flight manager Tjeerd Tiedemann explains that he sees a future development where it will be standard procedure that drones accompany local police units to assist where necessary. This has already been introduced in the K9 units. In the further future he sees independent police boxes with drones in them, being controlled from operational centres. That way when a calamity or crime occurs the operational centre can immediately and easily dispatch eyes in the sky and issue orders for personnel on the ground accordingly (Politievlogger Jan-Willem, 2020).

In the televised talk show BEAU, talk show host Beau van Erven Dorens asked: 'is this the future? Will these drones make police work easier?' Peije de Meij answered about police drones in practice as follows:

> I think so. It is very nice to use them during festivals or events to get a nice view from above. But also, during smaller forensic investigations when for instance looking for a firearm left behind or other traces of the crime, then this is a very nice way to look for clues without compromising other potential evidence (RTL XL, 2020 [translation by author])

Beau asked as a follow-up if future use possibly includes the pursuit of suspects in the street, just like police helicopters do. He adds that it might be a more economic option given the costs of helicopter fuel for instance. According to De Meij, a helicopter has a considerably bigger range than a drone and can also carry persons and supplies, meaning the drone will not replace the helicopter. 'However,', De Meij says, 'it is a very nice addition to it' (Ibid. [translation by author]).

5.4 Analysis

There is a pattern to be found in the PR material mentioned in this section. The message is that drones add convenience and efficiency to police work. It is not so much about solving issues with capacity or replacing other branches of aerial policing with drones. Rather it is about what has frequently been called that 'extra pair of eyes from the sky' and creating more comprehensive oversight of operations.

In other words, even in a case where drone footage has been used for other purposes than described in protocol and rules of engagement, the drone is discussed in a police press release as a useful tool for this specific purpose -and even partly endorsed by the minister responsible for the Dutch security apparatus.

Drones are generally depicted as a tool of relief, as the police argue it is a way to dispatch police personnel based on better information. Moreover, there are the statements that drones can provide oversight of areas that are hardly or not at all accessible, and that in some cases a drone is more suitable than for instance a police helicopter. Lastly, even in the specific case where drone footage was used outside of the widely described purposes and protocols, the police felt it was the right thing to do to publish drone footage to the media with the purpose of countering mass criticism on its use of violence against protestors. This was described by the police chief as a true convenient way to provide an answer to such criticism.

Apart from the convenience narrative, a securitization narrative can also be detected in the presented sources, namely that in 'emergency' situations, the police argue that it is acceptable to ignore rules and protocols. This is illustrated in the interviews with the head of the Amsterdam unit, Hans Schenk, as well as Ms van den Berg who alluded to special circumstances in which protocols do not have to be followed.

This phenomenon is illustrated by Balzacq et al.'s conceptualization of the speech act. This means that as soon as a police or government agent rhetorizes regarding a potential imminent threat, it is done as a justification of the implementation of special measures and powers.

However, the fact that there was a specific request to make a video on drone use from the Minister of Justice and Security indicates that the security apparatus has an agenda of increasing understanding from the public for police drones and perhaps even technologization of police work in general.

This fact is curious on its own as it raises the question why the minister in charge of the National Police would specifically ask the inhouse vlogger - who has +290K subscribers on YouTube - to follow the Drone Team around and capture their work? Moreover, he requested a small vlog to post on his own social media account (see tweet above), after which officer Schut decided to make a more extended vlog for his followers.

Regarding a minister's motivation to issue such a video, only few things come to mind. The government is aware of the 'creeping effect' new police technologies can have on civilians, and thus they invest in PR and focus on familiarizing civilians with the way police handle the new technologies. At the same time, they might act in the hope to prevent public backlash that for instance occurred in the aftermath of the Rotterdam Housing Protest.

This interpretation is supported by the actions of police chief Westerbeke after the Rotterdam housing revolt. He speaks of 'countering the trial by (social) media' and uses drone footage to do so. This is a tool which is still in its pilot phase and of which the security apparatus feels it necessary to inform the public on through demonstrations and vlogs.

5.5 Chapter Summary

What can be seen throughout all three conversations is that these police officers would not necessarily agree with there being gaps between how drone policy looks like on paper and how they are used in practice. In general, they would argue that what they do is in line with protocol and the rules of engagement when it comes to working with drones. Moreover, they see no threat in drones as they use them the same way they so far have used other, similar technological tools for surveillance.

Ms. Van den Berg aside, who did not agree with the publication of drone footage in the media, the police officers felt that their colleagues in Rotterdam did the right thing by showing their side of the story of the escalated protest. They all would argue, however, that (social) media coverage of police violence against 'rioters' is often a misrepresentation of reality. Lastly, they agree that since technologization of society occurs at a high pace, the police and the rest of governmental institutions are in danger of falling behind due to laws and regulations requiring them to implement new technologies more gradually.

The other side of this story is that transparency regarding the use of drones is hard to find. At the same time, police and government institutions focus on the active positive promotion of drone use so that public support for them may rise. They seem to have motivations

to further roll out the drone programme and use them even more intensively despite reservations from legal and human rights expert groups.

Conclusion

This thesis aims to present the analytical traits of innovational experimentation in a securitizing context and connect the framework with discrepancies between the way police drones in the Netherlands are used ‘on paper’ versus how they are used ‘in practice’. This has been done by looking at minor deviations from protocol during the first wave of the COVID-19 pandemic as well as a more obvious deviation in the aftermath of the Rotterdam Housing Protest of October 17th, 2021.

Regarding the reason why this specific approach was chosen, is because the amount of social research done on the use of police drones in the Netherlands and the rest of Europe is close to nihil, while drone theory has widely been researched in the context of warzones and the industrially militarized police forces in for instance the United States. Technological securitization made me comprehend the complexities and reasonings behind the current role of drones in line of police tasks in the Netherlands -as described in protocols and policy papers, in police communications and PR, and through the eyes of the ones implementing domestic drone policing. I believe this approach to be a first step towards synthesizing a ‘drone theory’ for domestic (urban) police drones.

Marijn Hoijtink’s conceptualization of innovational experimentation has been used to illustrate the Dutch police’s ‘experimenting nature’ when it comes to innovative hardware technology -such as drones. It is now clear that police and government members do not (entirely) concern themselves with potential risks or failures, as any result of the experiment delivers valuable data, and enough reasons to ‘not pull the plug’. Critiques are ‘woven away’, either by framing discrepancies as ‘part of procedure’, for instance, ‘the police are allowed to do x with CCTV hardware, then why not with a camera drone?’, or by stating learned lessons and potentials for future experiments. This thesis has also shown that emergency situations, like the COVID-19 pandemic, granted the Dutch police the opportunity to experiment even more with police drones.

Research questions

Chapters 2 and 3 have shown a gap between policy and practice regarding the use of drones by Dutch police. However, this is largely masked by the lack of transparency that makes it very difficult to present precise facts regarding drone use.

Chapter 4 has shown that public resistance against drone use by the police focuses on three aspects, namely privacy concerns, concerns regarding the 'chilling effect' that can intimidate and suppress civilians from participating in protests, and the Big Brother effect which is the sense of constant monitoring that can affect public behaviour in general. The shown positive and negative feedback within Dutch government and society corresponds with the academic debate shown in chapter 1. In this research, an absence of the middle ground has been noted.

Chapter 5 shows that the response of police and government constitutes a dismissal of public concerns. For instance, that they downplay possible harm to citizen's rights, and instead focus almost exclusively on the benefits of drones. They actively promote a positive image to the public. Furthermore, police personnel pro-actively employ a securitization narrative, by which they argue that in case of emergency situations, the use of drones outside formal regulations is justified. As described before, in their personal experience civilians who have nothing to hide, have nothing to fear.

The research question was this:
How can securitization theory and the concept of 'innovational experimentation' help to make sense of the gaps between Dutch police drone policy on paper and how police drones are used in practice between 2017-2021?

The empirical evidence presented, particularly in the context of drone usage, underscores the importance of addressing legal and ethical challenges in the evolving landscape of security innovations and technologies.

The lack of an updated legal framework within which police drones -and other surveillance tools- are allowed to operate further complicates this empirical phenomenon. This is what likely resulted in the Rotterdam Police using drone footage -which they could only have obtained with the permission of the mayor of Rotterdam- to defend their use of force in the context of a protest. Additionally, the personal experience of police personnel in these events does not correspond at all with societal concerns and criticisms displayed in public media with regard to drones. What they see is colleagues that need defending from what their police chief has dubbed the 'trial by (social) media'.

Moreover, members of the police tend to have the opinion that if no illegal activity is conducted, then civilians should have no concerns at all about the use of CCTV, drone or any kind of footage obtained by police.

These are all ripple effects of a context that promotes 'innovational experimentation' and the use of securitisation rhetoric that allows the disregard of rules and protocols regarding drone use. Their promotion of technological innovations in policing have led to a relatively fast implementation of technologies, under the pretext of testing 'pilots'. This led to these technologies being used for other purposes then what could be drawn from the rhetoric by security actors in the first place.

While the COVID-19 pandemic had a catalyzing effect on the implementation of drone policing, and the Netherlands are leading in police technologization in Europe, the drone pilot, as indicated by Adeline van den Berg, is only just getting started. Having looked at developments with police drones through the course of my research, my expectations are that many more developments are set to happen in the years to come. With that I do not only mean the pending updates in drone and other technology, but mostly the development of the capacities and possibilities with current police drones. Not to mention the expected roll-out of local police drone units all over the Netherlands.

One thing is certain, and that is drones are present in the police system and they are there to stay, just like the enthusiasm for police technologization among members of the security establishment.

Discussion and recommendations

This research is founded in various academic disciplines: Science and Technology Studies, Security Studies, and Sociology. These three fields of studies form the axis of most research that I have used for this thesis, and my work can be seen as a contribution to them as well. I have attempted with this thesis to compare the case of drone use in the Netherlands with existing theories and literature on the subjects of securitization, technological and innovational advancements in law enforcement and the military in general, as well as the concept of experimental way of warfare and policing as conceptualized by Marijn Hoijtink.

As explained before, my work corresponds with existing theories that have been used as a basis for this thesis, and my goal for this thesis is to raise awareness regarding the different aspects surrounding the use of drones within the Dutch policing context and perhaps in countries neighbouring the Netherlands as well.

I have offered to the best of my abilities and with the limited information available a nuanced overview of the different perceptions regarding drone use. It was challenging to find academic literature that was less critical or more nuanced regarding the use of police drones. This might be noticeable in this thesis.

My research does not offer solutions to social problems or challenges, rather it highlights them in the hope that policymakers and stakeholders in the field might take note of them and act accordingly.

Based on the findings in this thesis I would recommend said stakeholders to establish a more clear and transparent monitoring mechanism regarding policing in the Netherlands in general, and the use of tools such as weapons, (air) vehicles, cameras or other equipment such as police drones in particular.

I hope that certain politicians in the Dutch political elite as well as the policing elite regard public criticism as a means to increase the quality of policing services, instead of treating criticism as a 'trial by (social) media' and blindly defend the status quo.

Lastly, I recommend to legal and human rights experts to exercise a more bottom-up approach. Criticism always good, and at the same time the Dutch political governance structure is built in such a way that solutions to problems and challenges mostly come from external expert groups instead from the government itself. Instead of limiting contributions in media to warnings and condemnations, I wish to suggest to lawyers and academics to increase researching possible legal frameworks for new police technologies in the short and long term.

Suggestions for further research

I would argue for a look at the development of drone policing in the Netherlands in retrospect after every two years. In retrospect, because this specific project has proven to be a real challenge as not many developments in drone policing in the Netherlands had been documented in official papers and reports. Most sources come from 2015 or before and have therefore become partly outdated. At the same time the use of police drones in the Netherlands is expanding rapidly quantitatively and qualitatively in such a way that after a year or five, more or different findings can be made within this context.

Furthermore, I recommend fellow colleagues and students in the European Union around the world to pose the same questions with regard to securitizing police drone use in their contexts.

Bibliography

Amoore, L. (2009). Algorithmic War: Everyday Geographies of the War on Terror. Antipode, 41(1), 49-69.

Asaro, P. M. (2019). AI ethics in predictive policing: From models of threat to an ethics of care. *IEEE Technology and Society Magazine*, 38(2), 40-53.

Balzacq, Thierry et al. 2015, '"Securitization" revisited: theory and cases' *International Relations* 30(4), pp. 494-531.

Brakel, R. van (2020). Rethinking predictive policing: Towards a holistic framework of democratic algorithmic surveillance. In: *The Algorithmic Society* (pp. 104-118). Routledge.

Croes, M. (2005). Leren van het verleden? Centraal of aangestuurde politie in Nederland. Tijdschrift voor Criminologie, 47(4), 395-401.

Davis, Oliver (2019). Theorizing the advent of weaponized drones as techniques of domestic paramilitary policing. Security Dialogue, 50(4), 344-360. https://doi.org/10.1177/0967010619843483

Deukmedjian, J. E. (2013). Making Sense of Neoliberal Securitization in Urban Uolicing and Surveillance. *Canadian Review of Sociology/Revue canadienne de sociologie*, 50(1), 52-73.

Egbert, Simon & Leese, Matthias (2021). Criminal Futures: Predictive Policing and Everyday Police Work. New York: Routledge.

Engberts B., Gillissen E. (2016). Policing from Above: Drone Use by the Police. In: Custers B. (eds) The Future of Drone Use. In: Information Technology and Law Series, vol 27. T.M.C. Asser Press, The Hague. https://doi.org/10.1007/978-94-6265-132-6_5

Ernst, Sander et al. (2021). Technological innovation in a police organization: Lessons learned from the National Police of the Netherlands. *Policing*, 15(3), **PAGES**.

Gulijk, Coen van and Hardijns, Wim (2015) De steile opmars van drones en de uitdagingen voor de politie. Cahier Politiestudies, 33. **PAGES**

Jansen, C. (2008). Twee eeuwen politiebestel en veranderend recht. BMGN - Low Countries Historical Review, 123(3), 386–393. https://doi.org/10.18352/bmgn-lchr.6844

Janssen, J., & Venderbosch, A. (2014). Politie en wetenschap. *Tijdschrift voor Criminologie*, 56(1), **PAGES.**

Mason, Jennifer (2017). *Qualitative Researching* London: Sage Publications Ltd.

Petit, P. (2020). 'Everywhere Surveillance': Global Surveillance Regimes as Techno-Securitization. *Science as Culture*, 29(1), 30-56.

Terpstra, J. et al. (2021). Policing the corona crisis: A comparison between France and the Netherlands. *International Journal of Police Science & Management*, 23(2), 168-181.

Willems, D., & Doeleman, R. (2014). Predictive policing – wens of werkelijkheid? Tijdschrift voor de Politie, 76(4/5), 39-42.

Empirical Sources

Berg, Adeline van den. Personal interview conducted on January 6, 2022.

Ferd Grapperhaus [@ferdgrapperhaus]. (May 28, 2020) *Tweets* [@ferdgrapperhaus]. Retrieved December 15, 2021, from https://twitter.com/ferdgrapperhaus/status/1265924060736880641

Geiger, Gabriel (2020, October 19). *The Netherlands Is Becoming a Predictive Policing Hot Spot,* VICE: Motherboard. Retrieved July 17, 2021, from https://www.vice.com/en/article/5dpmdd/the-netherlands-is-becoming-a-predictive-policing-hot-spot

NOS (2021, January 26). *Rutte bezoekt Schilderswijk: 'Ik ga niet zoeken naar sociologische oorzaken'.* Retrieved July 17, 2021, from https://nos.nl/video/2366092-rutte-bezoekt-schilderswijk-ik-ga-niet-zoeken-naar-sociologische-oorzaken

NOS (2021a, November 2). *Dronebeelden tegen 'trial by media': 'Drang om eigen waarheid te vertellen groeit'*. Retrieved November 11, 2021, from https://nos.nl/artikel/2404105-dronebeelden-tegen-trial-by-media-drang-om-eigen-waarheid-te-tonen-groeit

NOS (2021b, November 3). *Grapperhaus: begrip voor tonen dronebeelden door Rotterdamse politie*. Retrieved November 11, 2021, from https://nos.nl/artikel/2404232-grapperhaus-begrip-voor-tonen-dronebeelden-door-rotterdamse-politie

NOS (2021c, September 30). *Chinese drones van Rijkswaterstaat en politie mogelijk onveilig*. Retrieved September 30, 2021, from https://nos.nl/artikel/2399774-chinese-drones-van-rijkswaterstaat-en-politie-mogelijk-onveilig

NOS (2021d, October 18). *Verontwaardiging over politieoptreden tijdens woonprotest Rotterdam.* Retrieved November 11, 2021, from https://nos.nl/artikel/2402198-verontwaardiging-over-politieoptreden-tijdens-woonprotest-rotterdam

Oosterom, Eric AD, (2021, October 31). *Politie deelt beelden van arrestaties Woonprotest: 'We reageerden op aanval in rug'* AD. Retrieved July 17, 2021, from https://www.ad.nl/rotterdam/politie-deelt-beelden-van-arrestaties-woonprotest-we-reageerden-op-aanval-in-rug~a715f163/?utm_source=twitter&utm_medium=social&utm_campaign=socialsharing_web

Politie (2012). *Inrichtingsplan Nationale Politie* (Dutch: Layout Plan National Police) Retrieved December 15, 2021, from https://zoek.officielebekendmakingen.nl/blg-198148.pdf

Politie (2020). 'Tanker met drone betrapt bij het ongeoorloofd ontgassen van zijn tanks'. Retrieved December 15, 2021, from https://www.politie.nl/nieuws/2020/november/13/11-tanker-met-drone-betrapt-bij-het-ongeoorloofd-ontgassen-van-zijn-tanks.html

Politie (2021). *Politiechef Fred Westerbeke reageert op kritiek na optreden bij demonstratie 'Woonopstand' en deelt dronebeelden*. Retrieved November 11, 2021, from https://www.politie.nl/nieuws/2021/oktober/31/politiechef-fred-westerbeke-reageert-op-kritiek-na-optreden-woonopstand-en-deelt-dronebeelden.html

Politieacademie (2021). *Dienst Landelijke Operationele Samenwerking.* Retrieved December 15, 2021, from https://thesaurus.politieacademie.nl/Thesaurus/Term/9851

Politie (n.d.). *Drones.* Retrieved November 11, 2021, from https://www.politie.nl/onderwerpen/drones.html

Politiedrone [@Politiedrone]. (n.d.) *Tweets* [@Politiedrone]. Retrieved December 15, 2021, from https://twitter.com/politiedrone

Politiedrone [@Politiedrone]. (April 6, 2020) *Tweets* [@Politiedrone]. Retrieved December 15, 2021, from https://twitter.com/politiedrone/status/1247127151909974018

Politiedrone [@Politiedrone]. (May 28, 2020a) *Tweets* [@Politiedrone]. Retrieved December 15, 2021, from https://twitter.com/politiedrone/status/1265925082972553217

Politievlogger Jan-Willem (June 10, 2020). *Politievlogger Jan-Willem mee met een inzet van het DRONETEAM van de Landelijke Eenheid* [Video]. YouTube. https://www.youtube.com/watch?v=ZSAAIyNSdRk&t=9s

Rijksoverheid (2021). *Perceptie van Drones* (Report). Retrieved December 15, 2021, from https://www.rijksoverheid.nl/documenten/rapporten/2021/04/20/perceptie-van-drones

RTL XL (2020). 'Spectaculaire demonstratie met politiedrone'. Retrieved December 15, 2021, from https://www.rtlxl.nl/programma/beau/8ea62142-19fb-4cb9-9c80-f158c0f3350d

Schenk, Hans. Personal interview conducted on January 11, 2022.

Stobbe, Arjen. Personal interview conducted on December 22, 2021.

Teeffelen, Kristel van (2020, April 1). *Drones controleren of u zich aan de coronaregels houdt, maar mag dat eigenlijk wel?* Trouw. Retrieved July 17, 2021, from https://www.trouw.nl/binnenland/drones-controleren-of-u-zich-aan-de-coronaregels-houdt-maar-mag-dat-eigenlijk-wel~b3e551a4/

Williams, Patrick and Kind, Eric (2019). Data-driven Policing: The hardwiring of discriminatory policing practices across Europe. Project Report. European Network Against Racism (ENAR). http://e-space.mmu.ac.uk/624446/

Appendix

List of interview questions:

- How long have you been working with drones/in your position?
- What is the police protocol/rules of engagement for operating drones in line of police work?
- What is the difference between the National Unit's drone team and the regional drone teams?
- How do you experience operating/receiving information from drones? When is drone output being saved on a server?
- During which circumstances would you order/receive the order to send drones in the sky?
- What different kinds of payloads exist for Dutch police drones? Do cameras record/recognize faces and audio etc.?
- Have you ever been uncomfortable with a drone support request, or the way police drone output has been used in the end?
- In the media there are often critical voices expressing concern for general privacy, what is your take on that?
- Have you ever received any kinds of complaints from civilians about the fact that you operate drones in a specific area? What were those complaints?
- What is your take on the sharing of drone footage in the aftermath of the Rotterdam Housing Protests?
- Are there mechanisms in place for when a police drone has been used beyond the bounds of police protocol or rules of engagement?