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Technological Led Policing

Journal of Police Studies

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Lodewijk Gunther Moor – Projectsecretaris SMVP | smvp@smvp.nl | tel: +31 78 614 43 62
Antoinette Verhage – Onderzoeksgroep SVA, Universiteit Gent | antoinette.verhage@ugent.be | tel: +32 9 264 84 24

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Elke Devroe – Verantwoordelijke publicatiebeleid CPS – Onderzoeksgroep SVA, Universiteit Gent | elke.devroe@skynet.be | tel: +32 488 29 33 60

Assistant editors:

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Jannie Noppe – Onderzoeksgroep SVA, Universiteit Gent | tel: +32 9 264 91 92
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Technological Led Policing

Evelien De Pauw

Paul Ponsaers

Kees van der Vijver

Willy Bruggeman

Piet Deelman

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The Journal of Police Studies is a quarterly, which is oriented towards high standard, quality contributions on policing issues and phenomena that are of interest to the police. This journal appears in the form of theme numbers (topic-journals), in which the respective topics are approached from a specialist and (if required) multidisciplinary point of view. Once a year, an issue is being published in English in order to reach an even broader audience than the regular Dutch issues that have their main origin and audience in Belgium and The Netherlands. The editorial board sees to the quality of the articles offered to the journal. All articles are being judged anonymously and externally, through a international double blind peer review.

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Inhoudsopgave

A. General

- Editorial. Technology Led Policing – A new culture of crime control? 7
1. Technological Innovations in Crime Prevention and Policing. 17
A Review of the Research on Implementation and Impact.
Jim Byrne and Gary Marx
2. Technology-Led Policing in the European Union: An Assessment. 39
Monica Den Boer

B. Technology as a problem of security

3. Internet and Crime. 57
Wouter Stol, Rutger Leukfeldt and Miranda Domenie
4. Transactions under scrutiny: looking for privacy and proportionality 81
in financial crime investigation.
Antoinette Verhage

C. Technology as a means of control

5. The Sirens of « Malaga ». Impact of the CCTV system of the Belgian 95
National Railway Company on the conduct of police investigators.
Vincent Francis
6. Intelligent Sensor Networks for surveillance. 107
Judith Dijk, Yolanda Rieter-Barrell, Jeroen van Rest and Henri Bouma

D. Limits of control and responsibilities

7. The boundaries and the future of technological control: technological 125
control has its limits on ethical grounds, but also from a social control
point of view.
Willy Bruggeman
8. Policing, surveillance and law in a pre-crime society: Understanding 163
the consequences of technology based strategies.
Rosamunde van Brakel and Paul De Hert
9. Police Technology and Human Rights: A new quest for accountability? 193
Quirine Eijkman

E. Technology and the police

10. The role of technology in modern policing. 205
Bas Van den Heuvel

11. The Challenge of Change. Adaptation strategies for effective policing in practice. <i>Rutger Rienks and Jacques Tuin</i>	217
12. The Challenge of using Web 2.0 technology in the safety arena. Piloting with a Virtual Police Service in the Netherlands <i>Wim Broer</i>	237
13. Innovation and police work. "Follow the rules". <i>Maarten Nacinovic</i>	259
14. Virtual Honour: Violating and restoring family honour through the Internet. <i>Janine Janssen and Ruth Sanberg</i>	273
Author's guidelines journal of police studies	293
Contents of the 2010 series	295
Contents of the 2010 series	297
Contents of the 2010 series	299

Editorial

Technology Led Policing – A new culture of crime control?

1. Late modernity: risk, surveillance and technology

Over the last decade, personal safety and public insecurity have undeniably gained importance in public speech, political debate and scientific research. In the wake of our late modern Risk Society, individualisation and globalisation have an important and not to be neglected downside. A growing and general feeling of unrest and anxiety emerges, feeding the longing for safety, security and certainty. Safety has therefore become a first-rate priority and task for an increasing number of people and organisations, both private and public. Like Crawford mentioned: “crime and insecurity are on the move, they circulate in novel ways, penetrating public and private spheres, seeping through new technologies and turning apparently benign and taken-for-granted aspects of contemporary life – such as shopping, travel, working, using the Internet – into potential threats” (Crawford, 2002).

Like Young (1999) said, the crisis in criminology is a crisis of modernity. New tendencies in our late modern society like a shift towards a more individual life, the trend to have more international contacts, the fact that everything is going faster in our life, the disappearing of formal control and formalization and the upcoming use of informatization and technology brings more uncertainty and anxiety. This is what Bauman (2000) named the liquid modernity. It is a kind of chaotic continuation of modernity, where one can fluidly shift from one social position to another. This condition tends to more criminality and bigger risks.

In the late twentieth century a range of surveillance techniques, such as CCTV and biometric scanning devices (smart cards, fingerprinting, iris scans, hand geometry scans, voice recognition, DNA testing and digitized facial recognition) were deployed to reduce crime. According to Norris & Alii (2004) the growing presence and deployment of surveillance technologies can in part be explained by what they called ‘the globalised trends of the late modernity’. There has clearly been an expansion of CCTV surveillance around the world, especially in private sector surveillance to comply with the trends of our late modern society. The globalised trends of late modernity have accelerated this growth. Increasing urbanization has exacerbated the trend towards anonymity, leading to concerns over establishing and verifying identity. Increasing mobility, both locally and internationally, has given rise to a global ‘stranger society’, where social control and governance based on intimacy and face-to face knowledge are increasingly less viable. Risk management has also become the dominant mode of reasoning for both international corporations and governments alike. In the realm of criminal justice,

reformist ideals have given way to more modest preventative responses that focus on 'opportunity reduction', 'situational prevention' and 'risk management'.

This new culture of crime control no longer sees criminality only as the dispositional outcome of social deprivation but it also starts from prescribing situational engineering instead of social engineering. The aim towards increasing well-being is replaced by the aim to reduce dangers and risks. Crime prevention is not only the prevention of criminal offences, but in the philosophy of community safety, it also means risk-induction and risk control. The traditional police focus on deviance, control and order is displaced in favour of a focus on risk, surveillance and security (Ericson & Haggerty, 1997). This risk discourse cultivates insecurities, focuses them on scapegoats, and forces people to accept expert knowledge of risk – a knowledge that creates new insecurities – as the only viable solution (Bauman, 1992; Ericson & Haggerty, 1997). This tends out in insecurity and unsafety and focuses on the hope, technologies of risk management will help to manage this fear and anxiety. This shift will be discussed in this cahier. Technology needs to help police and other organizations with their crime control.

2. A new police culture

The shift to technological changes and opportunities works in both ways. First of all the increase of technological products raises criminal acts; the amount of targets is rising, such as credit cards, mobile phones, navigation systems, internet networks,... Technology also gives perpetrators more technical aids to reach their goals. Next to this, technology also gives police the opportunity to prevent and fight crime. Recent developments show that the use of CCTV is on the increase and DNA techniques are taking over the fingerprinting. New surveillance techniques like biometric entrance systems, iris scans and RFID systems are already introduced in police environments. Recent developments show that the role of ICT is getting more and more important and that the way the police are operating changes: the cars are equipped with highly sophisticated equipments, like computers, camera's, devices to check on alcohol or speed, to provide first aid in the case of hart diseases, automatic license plate recognition, et cetera. Some prefer to speak of 'mobile offices' instead of cars. The constable has personal gear available, like: a fire arm, a pepper spray, a mobile phone, a personal radio, a high-tech uniform and whatever. These are all the results of technological innovation. The same holds true for the detective branches. Apart from new methods of collecting data and analysing data bases, recognition technology (e.g. iris scans) and of course (wire) tapping and monitoring, technology also offers new possibilities in investigating crimes and tracing criminals. The advance for police work is that they can maintain public order on a distance and that they can save on the work force.

The question can be put if developments in police investigative activities are in line with developments in technology. This holds true for the four fields of technology that are of central concern, not only for the police but for society in general: nanotechnology, biotechnology, information technology and cognitive technology.

Police and technology are closely related and this will be even more so in the future. The role of technology in police work will not only grow, it will or it is also change the nature of policing and the relationship between police and society. For this reason it is important to present and discuss the role technology plays at this very moment

and to look into developments that are expected. In this cahier the developments of technology on policing and the role and position of these developments in society will be discussed. What will their impact be on the way of policing (quality, effectiveness) and on the functioning of the police in society?

Technology in this cahier will not only be discussed as a tool that can be used by the police. Its scope is much wider. Technology has changed many aspects of our social lives: communication, relations, the availability of information, financial and legal (trans) actions. This does not only mean that the way people interact has been changed and will continue to change in the future, it also offers new opportunities to commit crime, like for instance forgery via the computer, credit card fraud and money laundering. But also (child-) pornography and other illegal markets. Generally speaking, communication within and between illegal groups (terrorist groups, organized crime) has changed and asks for new police methodologies. National boundaries are of no importance in this regard. The police will have to adapt in the future, as it has done in the past, regarding both its working procedures and its organization. And, last but not least, by its own technological developments.

Some state that the police lag behind in developing new technology. Taking the past decades into account, the police can hardly be described as an 'early or proactive adaptor' in this field. Much of the technology the police are using nowadays, has not been developed specifically for the police. It was just available on the market. The police are, as far as this is concerned, quite different from for instance the military. An explanation for this can be that, in many parts of the world, the police are fragmented as organization. In most countries there are many different police organizations, all working independently from each other. This does not help in the development of nationwide, or even international technological innovation programs. Nevertheless, it can be seen that standardization is considered more and more important in many countries. The relationship between 'the market' (including the developers) and 'the police' is changing. This cahier wants to pay attention to the question how these two categories relate; who dominates who? How do developments take place?

Of old (traditionally?), the attention paid to the police by the social sciences (criminology, sociology, psychology, public administration) has been considerable. Over the past years, the role of the technological sciences in improving the quality, effectiveness and efficiency of the police is growing. The question addressed in this cahier is whether this role indeed will have a positive effect on the functioning of the police and what the possible negative effects may be. It is obvious that in this regard also attention will be paid to the different aspects of privacy in its widest sense and ethical aspects of the use of technology in police work.

3. Structure of the book

The contributions in this volume are split up into 5 parts.

Part I is an *general section*, in which the concepts of technological innovations and technological led policing, are described. It gives us a general overview of the recent developments.

In the first contribution **Jim Byrne** and **Gary Marx** from the Massachusetts Institute of Technology, USA are giving us a introduction in the *technological innovations in crime prevention and policing*. New technological innovations have been developed to prevent crime and to improve the performance of the police, but we know remarkably little about how and why certain innovations are adopted, and the consequences, both intended and unintended, of technology-driven solutions to the problem of crime. The authors provide an examination of a wide range of new technological innovations that have applications in the areas of crime prevention generally, and crime control (by police) in particular. They provide a description of recent technological innovations, summarize the available research on the extent of adoption in the United States, and then review the available research on the impact of each form of new technology on crime prevention and police performance. Also, Byrne and Marx discuss three key issues, namely, the militarization of crime prevention and policing, the coercive vs. non-coercive technology and the public vs. private sector control over crime prevention and policing.

The second contribution is written by **Monica Den Boer**, Academic Dean of the Police Academy of the Netherlands, Apeldoorn, and Professor in Comparative Public Administration, Police Academy Chair, at the Vrije Universiteit Amsterdam, The Netherlands. The focus of this contribution is on the new developments on TLP within the European Union. The author is starting from the idea that European police cooperation is not merely a matter of laws, regulations and instruments. Instead, modern technologies leave deep traces on the way police services are organized and how they conduct their activities. Due to the fact that new technologies create a constant gaze to which citizens are exposed when they work and travel, the relationship between police and society has undergone structural change. The author's contribution tackles the dynamic interchange between national and international actors from the public and the private sector, who together create vast security complexes which are propelled by the new technological possibilities. She focus on spatial surveillance, nanotechnology and biometric identification that are just a few technologies which are actively stimulated and applied by the European Union. To conclude, she discuss these technological developments as a prelude to the deeper transformations of policing, with pressing questions for accountability and legitimacy for national and international security agents alike.

Part II focus on *technology as a problem of security* and contains two contributions. This part discuss the effect of the use of technology in crime fighting. Sometimes police is becoming independent on the use of technology. This will be illustrated by to cases, the fight against cybercrime and the fight against money launderers.

Wouter Stol, **Rutger Leukfeldt** and **Miranda Domenie**, professor of cybersafety at NHL University of Applied Sciences and Police Academy, also professor of Police Studies at the Open University and two researchers in cybersafety discuss cyber crime and policing on the basis of theory and empirical data with respect to e-fraud and child pornography. The police are confronted with two types of problems. First, there are problems related to changes in workload. Because cyber crime has become a wide-spread phenomenon, all police officers must be able to deal with it. However, this is far from the case, since the police struggle with a considerable lack of knowledge in this area. Furthermore, cyber crime includes 'international petty crime', which is something the police do not know how to deal with. Moreover, in cybercrime we find more young perpetrators than is the case for offline crime and this places new demands on the youth police. Furthermore,

there are problems of a more technical (technological and/or legal) character. The first type of problems are the most challenging for the police, because they demand that the police develop counter strategies and implement changes in the organization.

Antoinette Verhage, assistant-professor at the department of Criminal Law & Criminology, Ghent University, Belgium, and co-director of the research group SVA, focuses in her contribution '*Our transactions under scrutiny*' on the battle against money laundering and terrorism financing. This depends largely on the use of technology as a tool for the detection of potential money launderers. In her article, she aims to show that the use of technology not only offers a number of opportunities in terms of fighting financial crime, but also impacts on fundamental rights. She illustrates this by describing the current practice of transaction monitoring within banks. Furthermore, she discusses two specific illustrations of these impacts: the Swift-case, representing the exchange of information on European citizens and their transactions with the US government on the one hand, and the Patricia Vinck-case, illustrating the question of privacy and proportionality with regard to the fight against money laundering on the other hand.

Part III study the use of *technology as a means of control*. This part wants to pay attention on the positive effect on the use of technology and his impact on crime control. This will be illustrated by to specific cases, a Belgian and a Dutch.

In his contribution **Vincent Francis**, Phd student at the Université Catholique de Louvain (UCL), presents the results of an empirical study into the use of a large CCTV-system, used by the Belgian National Railway Company (SNCB). This study is aimed at getting information about the impact of the CCTV-system on the criminal investigation practices of the railway police and some local police organizations, as a part of the wider strategy to make the premises of the SNCB as threatening as possible for persons presenting a risk.

Judith Dijk, Yolanda Rieter-Barrell, Jeroen van Rest and Henri Bouma, researchers and business consultants at TNO, Den Hague, The Netherlands, are suggesting that in our society, unwanted situations occur daily. To ensure public safety and security, incidents need to be prevented, suppressed or handled as quickly as possible. They are motivating that an adequate awareness of the situation plays a critical role for the different parties involved. The goal of surveillance is to support police officers and other users in the task of identifying potential incidents by supplying this awareness. In their contribution advantages of intelligent sensor networks for surveillance tasks are given, with a special attention to different tasks, techniques, added value and future developments. First, the current state-of-the-art for surveillance, and the different needs for information of different persons is discussed. After that, the authors are zooming in on two possible tasks, which can be performed automatically or semi-automatically within the intelligent sensor network: tracking of persons and detection of deviant behaviour. Finally, the researchers suggests possibilities for future developments concerning surveillance based on an intelligent sensor network.

Part IV wants to pay attention on *the limits of control and responsibilities*.. In late modern neoliberal times and the risk/information society, the Big Brother understanding of threats to privacy even becomes obsolete. The meaning of privacy is drifting away from a central concern with visibility and knowledge (Leman-Langlois, 2008). People become better educated and the technological-information revolutions no longer require

unskilled and uneducated work forces but just the opposite. A result was the emergence of a highly educated information society which displaced the older manual worker society of the previous period. Three contributions are giving the reader certain insights on the limits of the use of technologies.

Willy Bruggeman, Professor at the Benelux University center and Chairman of the Belgian federal police board wrote a contribution on ' *The boundaries and the future of technological control*'. In his article, he suggest that in recent years technological control has been amplified. New technologies pose challenges for law enforcement. He belief that understanding these issues is quite complex, because too much belief in the infallibility and reliability of technology is often at the origin of technological control utopianism. The author suggest therefore more research must be encouraged. The social consequences of technological control are clustered around democracy/accountability/transparency, ethical challenges, technological synergy and function creep, public trust, the impact of police control strategies on social boundaries, the blurring of public/private boundaries and the organisational impact. It is obvious to recall that the world is changing and will continue to change. The author posits that police should not just undergo future developments but, on the bases of its strategies and choices, influence the future in line with the limits and boundaries being subject of this study. The scenario methodology offers interesting capabilities for gaining strategic insight into the future and has to be used more frequently. Finally he has the opinion that the triangle of fundamental values, freedom of movement and security is central in this study and should become the leading basis for the present and future technological control.

Rosamunde van Brakel and **Paul De Hert**, members of the research unit Law, Science, Technology & Society (LSTS), Vrije Universiteit Brussel, Belgium, present a shift into the policing landscape. Technology is starting to play an increasingly important role in policing practices and recently new police models are more and more geared to predicting what will happen in the future. A first goal of this contribution is to explore new developments in policing and more specifically the focus will be on the huge expansion of the use of surveillance technologies by police, and the growing belief amongst both policy makers and police that it is possible, to a certain extent, by using surveillance technology to predict crime before it happens. A second goal is to explore a number of important unintended consequences that arise as a result of what we will call 'pre-emptive policing'.

For this exploration the authors draws from several disciplines; they have reviewed literature on policing, but they also have venture into surveillance studies and science and technology studies. The goal of this contribution is not to present empirical data to test the literature but to discuss certain unintended consequences that are raised by pre-emptive policing and to critically analyse how European law deals with these consequences through a discussion of several judgments of the European Court of Human Rights. For their exploration, Garland's much cited theory of the 'culture of control' is used as a theoretical backdrop to contextualize the trends in policing that have led to the emergence of pre-emptive policing. Van Brakel en De het contribution shows the fundamental importance of taking into account social and legal issues arising when deciding upon the deployment of new surveillance technologies by police and that proportionality, transparency, non-discrimination and due process need to take centre stage in the development of new police models.

In the last essay in part IV of this Cahier, **Quirine Eijkman**, Senior Researcher and Lecturer at the Centre for Terrorism and Counterterrorism (CTC) at the University of Leiden (NL), also President of the Dutch Sections of the International Commission of Jurists, questions whether the new developments in police technology require a new form of accountability in relation to human rights. She concludes that new police technologies, like biometric databases, data collection and analysis, Automatic Number Plate Recognition Systems and Conductive Energy Devices -as part of the 'surveillance society'- both facilitate and hinder compliance with human rights. In her contribution she first outlines the effect of these few specific technologies on police working methods and human rights. After that she reviews the concept of police accountability, followed by presenting the discussion on whether or not modern police technology should lead to new mechanism for police accountability. Finally she focus on human rights advocacy in relation to technology led policing. Her opinion is that although modern technology strengthens human rights advocacy and provides innovative opportunities to hold the police accountable, it simultaneously contributes to the depth and breadth of human rights violation. Therefore she posits that human rights advocates should focus on external non-legal accountability structures, such as social media and advocacy reports, which in addition to existent internal police accountability structures, function preventatively, randomly and transparently.

Part V is discussing *the use of technology and the impact on police*. Wherever policing has been seen as a vigilante action, this is changing. Research is showing that the core business of policing is not really prone to change, but rather the manner in which the police deals with problems is evolving (Stol, 2009; Verwee 2009). Police officers are expected to base their actions on the information they gather in their own community, i.e. intelligence-led policing and technological led policing. This last part focus on the police practice.

Bas van den Heuvel is an independent forensic expert working regularly for the police and the judiciary for more than ten years. As a result of his work, the relationship between the police and the expert puzzled him more and more. He discovered that a lack of communication often resulted in questions put to the expert that were not explicit enough, or the expert answering the questions only to a limited extend. His impression was that the results of the work of the forensic experts could highly be improved if only this relationship was better and the police policy concerning hiring external expertise was better organized. In his contribution he describes a research project he carried out in order to discover which reasons caused this lack of communication and he gives many examples of wrong (or too limited) conclusions that were drawn as a result of this lack of communication.

Rutger Rienks & Jacques Tuin, respectively Innovation Advisor in the machine sensing domain at Team Research and Development of the Dutch National Police Agency and Senior policy Advisor on the subject of digital expertise at Team Digital and Internet of the Dutch National Police Agency, posits that the police must always be able to prove its worth in making society a safer place. If it is no longer able to make good this promise, the legitimacy of the institution becomes questionable – an untenable situation. They suggest that in today's rapidly changing world, the challenge for the police is to keep one step ahead of criminals who are increasingly profiting from the opportunities opened up by technological advances. The race against criminals forces the police institution to

change, and the subject of the present article is the evolving police. For the authors, the Dutch police is a dogged organization, with a compulsive tendency to fall back on the familiar. Their contribution examines the current situation in line with four important principles from the theory of change management: vision, flexibility, implementation form, and motivation. They explain examples from policing practice to illustrate barriers, opportunities, and solutions. Finally, concerning the authors it will be crucial for the Dutch police to take a more flexible and open stance and to implement a clear strategy. The key lies in strengthening and expanding the organization's ability to learn and adapt.

In his contribution to this book **Wim Broer** – Program Director Virtual Police Service; Shared Service Organization Police of the Netherlands – suggests that re-balancing the information position of the police is needed. He concludes that the natural information dominance of the police has been disappeared now the Web 2.0 possibilities are overwhelming. Youth groups as well as organized criminals have a stronger stand than the police. He posits that police organizations should have a more than average interest in IT, because they are information driven to realize their primary goal: safety as the outcome of police work. Therefore he introduces his solution the program to launch a *Virtual Police Service*. He distinguishes two drivers for that: the need to rebalance the shift of information positions and the need to establish an integral approach by arranging a virtual platform where the police and other safety organizations can interact with the public. In his contribution he first gives a brief historical overview, specifying the four waves of using technology by the police. Secondly he describes the state of art of the usage of IT-technology by the Dutch police. Then he introduces his comprehensive model to approach technology as a mean for reaching personal and collective information goals, based on the knowledge value chain. Followed by the introduction of his program for a *Virtual Police Service*. In the concluding paragraph he concentrates on some key conditions.

Maarten Nacinovic, Head of the Department of Research & Innovation at vts Police, The Netherlands, gives a practical view on innovation and police work. In his article the author gives examples of innovative projects within the Dutch police and he converts his experiences into guidelines and even strict rules that could or (in case of the rules) should be followed in order to get successful innovative projects. This is done by presenting a Research Matrix for matching technology and business needs, then presenting characteristics of (potential) successful projects followed by an Innovation Model with rules that should be followed with innovative projects. The bottom line is that innovative projects shouldn't be managed like normal projects though there are some rules and characteristics that should be taken into account carefully. In the last part the author describes the current innovation trends within the Dutch police. As other organization, the use of data and consumerization of tools and devices is also apparent here.

Janine Janssen & Ruth Sanberg researchers at the Dutch National Centre of Expertise on Honour Based Violence (LEC EGG), are presenting the case of virtual honour. Although honour codes may seem old-fashioned, these traditions have found their way into virtual reality. Violent or threatening behaviour based on honour codes can be classified as either violating honour or as restoring honour. Police files of honour based violence contain examples of both types of behaviour and of individuals who use the Internet to reach their goals. This contribution deals with two key questions: how have honour codes found their way into virtual reality, and what does this imply for police practice

regarding honour based violence? These questions are addressed through a description of the current method for the police to handle cases of honour based violence and the work of the Dutch national centre of expertise on honour based violence (LEC EGG), an assessment of internet use among ethnic minorities in the Netherlands, cases from the archive of the LEC EGG and some considerations on policing cybercrime in general. This leads to the conclusion that to fully assess the risks in cases of honour based violence, it is necessary for the police to take into account the online activities of victims and offenders.

The editorial board,

Evelien De Pauw, Paul Ponsaers, Piet Deelman, Kees Van de Vijver, Willy Bruggeman

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