akademisk kvarter
academic quarter

Volume 15. Autum 2017 • on the web

Reassembling surveillance creep

Ask Risom Bøge

Postdoc at the School of Communication and Culture, Aarhus University. He wrote his dissertation on the Danish DNA database, and is currently participating in the research project "Childhood, Intimacy, and Surveillance Practices".

Peter Lauritsen

Professor at the School of Communication and Culture, Aarhus University. He is co-founder of the Center for Surveillance Studies and of the Danish Association for Science and Technology Studies.

Abstract

We live in societies in which surveillance technologies are constantly introduced, are transformed, and spread to new practices for new purposes. How and why does this happen? In other words, why does surveillance "creep"? This question has received little attention either in theoretical development or in empirical analyses. Accordingly, this article contributes by demonstrating how Actor-Network Theory (ANT) can advance our understanding of 'surveillance creep'. Based on ANT's model of translation and a historical study of the Danish DNA database, we argue that surveillance creep involves reassembling the relations in surveillance networks between heterogeneous actors such as the watchers, the watched, laws, and technologies. Second, surveillance creeps only when these heterogeneous actors are adequately interested and aligned. However, obtaining and maintaining such alignment may be difficult.

Keywords surveillance, creep, Actor-Network Theory, translation, DNA databases

Introduction

When the Danish police implemented their DNA database in the year 2000, it was a tool for preventing and investigating a limited set of serious crimes. Only a small group of individuals were to be registered in the database: those who had been charged with crimes such as terrorism, homicide, sexual assaults, battery, and arson (Justitsministeriet 2000). Today, however, the database is an integrated part of all types of police investigation. Anyone may be registered by the police in the DNA database if they have been charged with a criminal offence incurring a prison sentence of 18 months or more. The database has grown rapidly, and today it holds the DNA profiles of more than 110,000 people. In parallel with the increase in the database's scale and scope, the individuals registered in it are now subject to control not only by the Danish authorities but, following the European Union (EU) Prüm Treaty, by all EU police forces, who can order searches in each other's DNA databases.

Such developments are frequently described as "surveillance creep" or "function creep" (Nelkin and Andrews 2002; Marx 2005; Pierpoint 2011). Scholars of surveillance have characterised these phenomena as key dynamics in the formation of surveillance societies (e.g. Haggerty and Ericson 2005, 18). Yet these notions of creep are rarely distinguished, subjected either to empirical analyses or to theoretical discussion. Instead, they are used for criticising unchecked and undemocratic diffusions of surveillance in society (Webster 2009; Ball, Haggerty and Lyon ed. 2012; Fuchs 2013). Concepts and analyses are therefore in short supply which can guide our understanding not only of how surveillance technologies proliferate but also of how that proliferation contributes to the development of surveillance societies.

The purpose of this article is to demonstrate how Actor-Network Theory (ANT) can be used to understand "creep". ANT's focus on chains of translation is useful for understanding how technologies move through society and are transformed in the process. Although we focus specifically on surveillance creep, ANT is an approach that makes it possible to study all kinds of technological creep.

The choice of ANT as a theoretical framework has a number of implications. First, surveillance creep is not seen as an automatic

diffusion of surveillance in society. Rather, creep is seen to occur when actors take up and reassemble the heterogeneous relations in surveillance networks – between e.g. the watchers, laws, technologies, and the watched – to suit their own purposes. Surveillance creep is therefore not necessarily a negative phenomenon, but is simply understood as a relation between the spread and transformation of technologies. Second, surveillance creep can only happen when these actors are adequately aligned. Such alignments may be difficult to obtain and maintain. Betrayal or conflict may lead to disalignment, which could cause the new network to dissolve or end up in a state of limbo (Latour 1996).

In the article, we demonstrate these ideas through two stories of surveillance creep from the history of the Danish DNA database (Bøge 2015). The first case of creep concerned a shift in the purpose of the database from being a tool meant for investigating serious crimes to one aimed predominantly at burglary. This shift occurred as a local police district created a new practice of investigation by changing the relations between laws, technologies, and the people at whom they were aimed. The second occurrence of creep concerned the transformation of the DNA database from a national tool of investigation to a node in a European network of DNA databases. In this story, we see how making surveillance creep can be difficult when actors are disaligned, and how creep is stalled because of it.

Surveillance creep as translating interests and aligning actors

"Creep" is often used to describe a perpetually evolving undergrowth of alterations in surveillance practices and technologies which are often difficult to perceive and which can have negative consequences (Marx 1988; Pierpoint 2011). In surveillance discourses, creep has to do with changes which lead away from the original purpose of surveillance technologies or practices (Dahl and Sætnan 2009; Lyon 2007, 201). Such changes may occur when, for example, collected data are suddenly used in a different way when new functions are added to a surveillance system, or when technology spreads from one sphere in society to another (Bøge 2015). As mentioned, despite the importance of such phenomena for our understanding of the surveillance society, there has been little theoretical discussion or empirical investigations.

According to David Lyon (2007, 52), surveillance creep is often understood from a technological determinist perspective (Ellul 1964; Winner 1977). In this perspective, surveillance technologies will automatically spread through society and change it to fit an intrinsic logic. Such interpretations mirror public discussions of surveillance, which see it as an existential threat to democratic society. Although David Lyon and others warn against technological determinism, this understanding still seems to thrive in studies of surveillance.

Yet other interpretations also exist. For instance, Dahl and Sætnan (2009) employ ideas from Social Construction of Technology (SCOT) to explain surveillance/function creep. They argue that creep occurs because the users are creative, because surveillance technologies have interpretive flexibility, and because of shifts in the "moral terrain" once surveillance technologies have been installed.

In this article, we are also pursuing a constructivist line of thought, but from a different angle. In general ANT enables an understanding of surveillance as networks in which human and non-human actors are arranged and aligned. At the same time, ANT contains a specific theory about how creep can be understood. This is the *model of translation* (Latour 1984; Callon 1986), which is explained through its contrasting (technologically determinist) *model of diffusion*. In the model of diffusion, technologies are endowed by their creator with an original inner force or inertia which sets them in motion until they meet resistance. Conversely, society is understood as a medium of resistance, which stops or slows down the technology. In other words, the technology moves through an already existing society and if the technology has sufficient impetus, it will penetrate society without changing its character. Thus what needs to be explained and understood according to this model is not the successful spread of a technology, but rather the societal forces that set obstacles in its path. In the context of surveillance creep, this is akin to saying that cameras have spread from banks and high-risk areas to stores and public spaces because no social resistance was encountered.

In the ANT model of translation, the inertia of technologies and resistance in societies are taken away. There is no energy that can be conserved, and no *a priori* distribution of agency. Instead, it is argued that:

> "... the spread in time and space of anything – claims, orders, artefacts, goods – is in the hands of people; each of these people may act in many different ways, letting the token drop, or modifying it, or deflecting it, or adding to it, or appropriating it [...] In other words, there is no inertia to account for the spread of a token. When no one is there to take up the statement or the token then it simply stops." (Latour 1984, 267).

If we accept the model of translation, we must try to identify and describe the *moments of translation* in order to understand the proliferation of technologies or surveillance creep. Translations, in Latour's terminology, are processes by which actors are drawn together or apart. During moments of translation human and non-human actors are interested, enrolled, mobilised or displaced in networks around technologies or ideas, which are made more or less real in the process. The socio-technical is thus formed through translations, and both the ideas/technologies and the networks around them are likely to change when actors are added to the network. Importantly, these translations do not stop simply because technologies are implemented in practice. As de Laet and Mol (2000) have demonstrated, translations of technologies continue long after they are seemingly "black boxed," which makes them appear "fluid". When surveillance technologies undergo continuous translations of this kind after their implementation in a way that changes their purpose, we can identify them as surveillance creep. This idea is demonstrated in our first story.

Importantly, ANT asserts that aligning an adequate network of actors in a common cause and keeping them aligned can be a difficult task. Enabling surveillance creep can therefore be hard work. It may require creative acts of seduction, persuasion, brute force or even Machiavellian strategies to keep everyone in check (Latour 1987). Actors are considered to be volatile, and the betrayal of just a few actors can in the worst-case scenario lead to the dissolution of the whole network (Callon 1986). However, ANT also opens up the possibility that ideas or technologies can become stuck in limbo as the networks around them become temporarily disaligned without collapsing. Bruno Latour's (1996) study of the French high-tech automated subway system called "Aramis" exemplifies

a prolonged version of this state of existence in recounting the slow demise of a glorious project. A similar situation is demonstrated in our second story.

Lastly, in this game of "adequate alignment," technologies are not passive entities merely open to interpretation or objects that are simply "picked up." Technologies and other non-human actors have agency, according to ANT. They may interest human actors and ascribe roles to them or resist enrolment. They bend the space and time around human actors and are able to make them more (or even less) moral. For instance, Latour describes how speedbumps pose a threat to fast-moving cars and therefore force us to drive more carefully, while the availability of weapons may cause us to seek rapid and violent solutions to problems (Latour 1992; 1999).

Two stories of the Danish DNA database and surveillance creep

We turn now to analysing two historical instances of surveillance creep in the context of the Danish DNA database. Through these stories, we illustrate our two main theoretical points: first, that surveillance creep occurs when actors take up and reassemble the heterogeneous relations of surveillance networks; and second, that surveillance creep requires an adequate alignment in the new constellation, but that this may be difficult to obtain.

First story: from murderers and rapists to burglars and pushers

In January 2001, the Danish DNA database was six months old. It contained the DNA profiles of some 400 people in addition to 300 unidentified biological samples. At this point, the database software had found its very first hits. But the results were surprising, because the hits contained DNA profiles from burglars. This was surprising because the database had been implemented by the Danish parliament primarily to investigate homicide, sexual assault, arson, and battery. Burglary had never been mentioned in the six years of political debates or the stream of official documents on the DNA database prior to its implementation, and registration of burglars in the DNA database was not permitted. What had changed the purpose of the DNA database and caused this surveillance creep? In this first story, we show that this surveillance creep occurred because a local police department wanted to solve their bur-

glary problem and created a new investigatory practice by reassembling the relations between the law, new technologies and the burglars. Furthermore, we describe how other police departments take up the new practice and normalises it but also changes it for their own purposes.

The surveillance creep began in the autumn of 2000 on the Danish island of Bornholm. In order to combat "an epidemic of burglaries," the local police force decided on a new initiative and figured out a way to exploit the new police DNA database. As mentioned, the database had been implemented for investigating specific serious crimes; the police were not permitted to register persons who had been identified as having been charged with burglary. However, the Bornholm police force found a way to use the DNA database for their new purpose by aligning three actors into a new practice, which caused the database to creep.

The first actor was a new and improved DNA analysis technique (PCR). The old technique (RFLP) required visible amounts of blood or semen. DNA analyses had therefore not been used in burglary investigations. The new technique, however, made it possible to create DNA profiles from minuscule biological traces such as the saliva on cigarette butts or on used soft-drink bottles. In ANT terms, the new technique translated the police's crime scenes and filled them with new potential traces of DNA. The second actor was the burglars themselves. The police had observed that burglars tended to leave these specific traces behind. DNA profiles could now be extracted from the cigarette butts or soft-drink bottles that police frequently found left behind at crimes scenes. The burglars themselves thus became inscribed as actors in this surveillance creep (see also Albrechtslund and Lauritsen 2013). The third important actor was a loophole in the law regulating the DNA database. This loophole meant that although *identified* burglars could not be registered, the police could register *unidentified* DNA profiles from all the biological traces left at all crime scenes – including burglaries – in the DNA database.

In combination, these three actors allowed the Bornholm police to use the DNA database to target their burglary problem in a creative fashion. A new investigatory practice was established, whereby the Bornholm police would carefully search for and collect used soft-drink bottles and cigarette butts likely to have been left behind

by the unsuspecting burglars, then ask the national police to store the DNA profiles drawn from these traces in the DNA database. When individuals were charged with burglary, they were then also required to give a blood sample for a DNA profile. This was compared with the DNA database, but not registered in the database, as this would have been against the law.

The new practice was publicised in the early months of 2001, when the Bornholm police succeeded in catching a burglar whose DNA profile, when it was searched in the DNA database, matched four unidentified DNA profiles. The hit led to a wider investigation and the burglar was eventually charged with 44 counts of burglary and theft. This was a great success for the new practice, which had shown its potential. The case was reportedly followed closely by the national police, as this was the first time the DNA database had been used in this way. In the following years, the practice became normalised: most police districts took it up and applied it in their own work. Thus, in 2004, the number of unidentified DNA profiles from burglaries in the DNA database greatly exceeded all other types of identified and unidentified DNA profiles combined. But the practice had also been translated by different police districts for their own purposes. For instance, in Copenhagen the police began collecting DNA evidence from cigarette butts and soft-drink bottles during raids on hash markets, with a view to connecting pushers to the pusher stands they so quickly abandoned when the police showed up. Such different uses were possible because the connections made between the new DNA analysis technique and the loophole in the DNA database regulations were so broad.

A new practice had thus been created by the Danish police through the successful translation of technology, law, and the burglars themselves by a local police force enacted in order to solve a specific problem. The practice spread and became normalised after a spectacular success, which in turn informed other police districts and became the dominant way of using the database. But it was also taken up and translated by police districts for additional purposes. Finally in 2005, the Danish parliament agreed to expand the DNA database so that burglars, pushers, and most other criminals charged with crimes bearing prison sentences could be registered as well.

Second story: building an international surveillance network

In the first story, the burglars and pushers, the DNA technologies, and the laws were brought together quite easily by the police. However, this is not always so easy as the same kinds of actors may resist being enrolled and aligned. The following short account illustrates such difficulties of alignment. We describe the efforts made to translate the various national European DNA databases into a comprehensive surveillance network, as well as the problems with aligning laws, DNA profiles, software, and politicians.

When the Danish DNA database was decided on, it was intended as a tool for investigation and control by the Danish police. However, as with the first story of surveillance creep, the purpose of the database became imperceptibly broadened as it was used to support other European countries' police investigations. By 2004, the exchange of DNA profiles with other EU police forces had become normal. As the head of the DNA section at the Danish national police explains, "We have perhaps a couple of hundred DNA profiles from unsolved crimes in other countries in our database" (Søgaard 2004). This statement was made to the Danish press after the practice had helped connect a Danish man to a murder in Norway. But bilateral exchanges of DNA profiles like these were only the beginning of a much more extensive surveillance creep. Simultaneously, a development was taking place within the EU whereby member states sought to connect all their DNA databases in a European network. On 27 May 2005, representatives of seven EU countries gathered in the German city of Prüm agreed on a treaty intended to intensify EU cross-border police cooperation. Three years later, on 23 June 2008, important parts of the treaty became elevated to EU law. Among other things, the treaty envisioned connecting all EU member states' police DNA databases. Rather than providing full access, member state police forces would be able to ask each other's DNA databases to search for specific DNA profiles and get an automatic "hit" or "no hit" response within 15 minutes. The network was supposed to be in place by August 2011. However, a series of actors proved difficult to align. As Barbara Prainsack and Victor Toom (who have described the history in greater detail) have argued (2012), the story of Prüm has been "heterogeneous and halting" rather than "linear and harmonious."

First, not all EU countries had DNA databases in 2008. Those that did not had to implement them, and several governments had problems "with mobilising political majorities to adapt national law to the Prüm provisions" (Prainsack and Toom 2012, 75). Second, the DNA profiles differed from member state to member state, as they had been defined based on national genetic compositions. In 2008 there was only a partial overlap between the systems in the various DNA profiles. This was problematic because it was proven that the partial comparability combined with the hugely increased numbers of comparisons in the new network could lead to false positives. Only after intense collaboration between geneticists across Europe was it possible to create and standardise a set of common DNA systems, which has now been added to the member states' original DNA profiles. Third, many of the DNA database software systems controlling the member state DNA databases had been "home-grown" and so could not be made to communicate with the other databases. These systems had to be replaced. This proved not only technically difficult, but slow and expensive. This in particular is the reason why the network is only partially functional five years after it was supposed to be fully implemented. While the network is working for core countries such as Germany, the Danish DNA database, like those of some other countries, is not yet fully connected. Lastly, Britain's exit from the EU will mean that the largest DNA database in the union will cease to be a partner in the network.

The lack of DNA databases and political majorities, differing DNA profiles and differing DNA database systems are all examples of disalignments that have slowed down the effort to create an international network of European DNA databases. Several of these problems have been solved, or are expected to be solved soon, but the point remains: aligning actors and achieving surveillance creep can be hard work.

Conclusion

The concept of surveillance creep addresses a fundamental dynamic whereby surveillance societies are created and maintained. It is therefore surprising that so few attempts to study and discuss surveillance creep have been made.

In this article, we have demonstrated that ANT offers concepts and ideas that are productive for this purpose. Through ANT and our analyses of the historical development of the Danish DNA database we learn that surveillance does not creep simply because of creative actors or technological impetus. Rather, surveillance creep can be seen as the art of reassembling existing surveillance networks. This involves a translation of interests and the achieving of adequate alignments between heterogeneous actors such as laws, technologies, the watchers and the watched in order to shift the purpose of surveillance technologies or practices. Importantly, while these developments may appear fluid as actors continue to re-shape practices for their own purposes, the processes are not automatic. In fact, rearranging relations may be hard work.

ANT can contribute to our understanding of surveillance creep but further empirical and theoretical work is needed. In particular, studies are needed to understand phenomena like the rapid spread of surveillance cameras, the mushrooming of government databases, and parents' increasing surveillance of their children through smartphones.

References

Albrechtslund, Anders, and Lauritsen, Peter. 2013. "Spaces of Everyday Surveillance: Unfolding an Analytical Concept of Participation." *Geoforum*, *49*:310–316.

Lyon, David, Ball, Kirstie, and Haggerty, Kevin eds. 2012. *Routledge Handbook of Surveillance Studies*. New York: Routledge.

Bøge, Ask Risom. 2015. "DNA and Surveillance: ANT studies of DNA Profiling in Danish Police Work." PhD Dissertation, School of Communication and Culture, Aarhus University.

Callon, Michel. 1984. "Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay." *The Sociological Review*, *32*:196–233.

Dahl, Johanne Yttri, and Sætnan, Ann Rudinow. 2009. "'It all happened so slowly': On controlling function creep in forensic DNA databases." *International Journal of Law, Crime and Justice*, *37*(3):83–103.

De Laet, Marianne, and Mol, Annemarie. 2000. "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology." *Social Studies of Science*, *30*(2): 225–263.

Ellul, Jacques. 1964. *The Technological Society*. Alfred A. Knopf Inc.
Fuchs, Christian. 2013. "Societal and Ideological Impacts of Deep Packet Inspection Internet Surveillance." *Information, Communication & Society*, *16*(8): 1328–1359
Ericson, Richard, and Haggerty, Kevin. 2006. *The New Politics of Surveillance and Visibility*. Toronto: University of Toronto Press.
Justitsministeriet. 2000. "Lov om oprettelse af et centralt dna-profilregister". Law no. 434, May 31 2000.
Latour, Bruno. 1984. "The Powers of Association." *The Sociological Review*, *32*: 264–280.
Latour, Bruno. 1987. *Science in Action*: *How to Follow Scientists and Engineers Through Society*. Harvard University Press.
Latour, Bruno. 1992. "Where are the Missing Masses? The Sociology of a Few Mundane Artifacts." In Wiebe Bijker and John Law eds. *Shaping Technology/Building Society*: *Studies in Sociotechnical Change*. Cambridge: MIT Press.
Latour, Bruno. 1996. *Aramis, or The Love of Technology*. Cambridge: Harvard University Press,
Latour, Bruno. 1999. *Pandora's Hope*: *Essays on the Reality of Science Studies*. Cambridge: Harvard University Press
Lyon, David. 2007. *Surveillance Studies*: *An Overview*. Polity Press
Nelkin, Dorothy, and Andrews, Lori. 2002. "Surveillance Creep in the Genetic Age." In Lyon, David ed. *Surveillance as Social Sorting*: *Privacy, Risk, and Digital Discrimination*. Psychology Press.
Marx, Gary. 1988. *Undercover*: *Police Surveillance in America*. University of California Press
Marx, Gary T. 2005. "Seeing Hazily (But Not Darkly) Through the Lens: Some Recent Empirical Studies of Surveillance Technologies." *Law & Social Inquiry* 30.2: 339–399
Pierpoint, Harriet. 2011. "Extending and Professionalising the Role of the Appropriate Adult." *Journal of Social Welfare and Family Law* 33.2: 139–155
Prainsack, Barbara, and Toom, Victor. 2013. "Performing the Union: the Prüm Decision and the European Dream." *Studies in History and Philosophy of Science Part C*: *Studies in History and Philosophy of Biological and Biomedical Sciences* 44.1: 71–79
Søgaard, Jan. "Norsk sex-mord opklaret af dansk dna-register." *BT*, April 17, 2004.

Webster, William. 2009. "CCTV Policy in the UK: Reconsidering the Evidence Base." *Surveillance and Society* 6.1: 10–22
Winner, Langdon. 1977. *Autonomous Technology*. Cambridge: MIT Press