Article

A Prosperous 'Business': The success of CCTV through the eyes of international literature.

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Abstract

This article deals with a paradox: video surveillance becomes widespread, in more and more numerous social and national spaces, while its effects in terms of crime prevention and/or law enforcement and community reassurance are not demonstrated. Through a critical analysis of the international literature on CCTV, this article attempts to identify the reasons advanced to explain the 'success' of this technology. Three kinds of approach, which embody three ways of defining the political and social impact of CCTV, can be distinguished: Surveillance Studies, impact analyses and use studies. This paper discusses these works and the answers they bring to the understanding of CCTV development. It claims that micro-level case study analysis allows us to grasp subtly the locally observable mechanisms by which new actors can be enrolled in the device and new legitimizations are made possible.

Introduction

Studies concerning CCTV have grown in volume since the 1980s and the popularity of the topic continues today. This academic interest is closely related to the presence of CCTV devices in a growing number of countries (Norris 2012): systems have diversified (private areas, open-street, semi-public places) and progressed technically, while their supporters strive to legitimate CCTV, as illustrated in France by the replacement of the word 'vidéosurveillance' with 'vidéoprotection'.¹

Apart from noting the increased use of CCTV systems, most researchers seek to explain it and analyse its effects, using three different approaches to that end. Even though these different approaches have on occasions been part of various academic works,² they represent quite a spread because they embody three ways of defining the political and social impact of CCTV. The first approach considers CCTV as one of the elements of the contemporary 'surveillance society,' characterized by greater social and governmental control. The study of CCTV development is then contemplated as a way to analyse the modalities, scope and driving forces of surveillance. A second type of research assesses the effectiveness of CCTV. These evaluation surveys have flourished since the end of the 1980s, mainly in the Anglo-American world, and

¹ The word substitution occurred in 2008: the National Commission for CCTV, set up in 2007, ended with a 'Video-protection' plan (see *Le Monde*, 16 February 2010). This semantic swing was aimed at dissociating the setting up of cameras from the negative ideas of surveillance and breach of privacy to associate CCTV with the positive idea of safety, as illustrated by the following slogan 'Security for Liberty' (<http://www.videoprotection.interieur.gouv.fr/>). See Bauer and Freynet (2008), whose book title is precisely *CCTV and Video-protection*.

² See for instance the pioneer research by Pécaud (2002).

have triggered acute controversies in the academic field. Because of theoretical and practical difficulties, the effectiveness approach has undergone several shifts, especially under the influence of the 'realistic turn' that forced researchers into changing their goal: instead of studying the global impact of CCTV on crime, they preferred to focus on the conditions under which it is efficient. Since then, research has concentrated more on the empirically observed effects of CCTV (on neighbourhoods, sectors, professions and so on). Hence, CCTV returned to its implementation context. However, this kind of study remains prescriptive in the sense that it is designed to find the reasons for CCTV failures and describe how it can achieve the goals it was primarily assigned. Lastly, the third approach deals with the origins and development processes of CCTV. Whilst some general claims about factors involved in the development of CCTV appear in numerous studies, some focus more precisely on the underlying processes that encourage the use of particular CCTV systems. These latter studies are more interested in examining the different types of usage developed by CCTV operators and the way the tool is taken in hand by the numerous protagonists in charge of socio-technical CCTV devices within jurisdictions, local or national police or even in shopping malls. This kind of research places the emphasis on the sociological processes that help explain what can be qualified as 'successes' in the realm of CCTV, not as an efficient tool to fight against crime but as a policy tool that is increasingly deployed in the field of security.³

Surveillance and the impact and use of CCTV are thus the three main issues raised by the vast body of literature that exists on the subject of CCTV. A paradox has emerged from these works: CCTV systems have undeniably grown since the 1990s—mostly in the name of crime prevention and people's safety—whereas their effectiveness is far from proven, and their setting, running and maintenance is more and more costly in a very difficult financial context. In other words, how is it that the 'CCTV business' continues to do so well? This paper examines the answers derived from the three approaches mentioned above. Beyond the effectiveness argument (1), other proposals link the growth of CCTV to governmental rationalities, fed by new fears and old dominant interests (2). More detailed analyses of specific devices also help in understanding the growth of CCTV, often in a more convincing way, as they pay attention to the processes through which CCTV is defended, implemented and deployed (3).

I. CCTV as a tool to fight against crime: effectiveness and impact

Faced with the proliferation of CCTV equipment promoted by its supporters as dissuasive tools for offenders and reassurance for citizen-users, several researchers have set about identifying the impact of such CCTV systems on crime and people's sense of insecurity, especially in the Anglo-American world (Great-Britain, United States and Canada to a lesser extent). Initially carried out as part of a global perspective ('Does CCTV work?') (1), CCTV studies have transformed progressively to identifying the conditions under which CCTV can work (2). Most of the researchers questioning CCTV's effectiveness now agree on the importance of understanding under which circumstances it impacts crime.

1. Is CCTV working?

Impact studies, although extremely numerous, do not offer a satisfactory answer to the question of CCTV's effectiveness: while a number of studies conclude an impact on crime (Tilley 1993; Brown 1995), others find the opposite (Grandmaison and Tremblay 1997). A meta-analysis of CCTV impact studies (Welsh and Farrington 2008) revealed that CCTV slightly reduces crime and that its effectiveness depends upon context and type of offence. Hence CCTV is less efficient on public transport or in city centres than in closed areas such as car parks. The three existing French literature review papers (Heilmann and Mornet 2001; Heilmann 2003; Le Goff 2008)—based on a review of Anglo-American studies—come to similar conclusions.

³ For Clive Norris, the global growth of CCTV is the 'success of failure'.

Some studies have focused more particularly on CCTV's impact on people's feeling of insecurity. Whilst some concluded a positive effect (Chatterton and Frenz 1994; Ditton 2000), other research showed CCTV had no impact on the individual's feelings (Webb and Laycock 1992; Zurawski 2010). From a systematic review of twelve opinion surveys carried out within the framework of evaluations ordered by the Home Office, Martin Gill and Angela Spriggs (2005) suggest that the fear of falling victim to crime is more closely connected to the level of crime than the presence of cameras. On the one hand, the feeling of insecurity declined in the seven areas where reported victimisation decreased, whilst on the other, knowing that there are cameras does not necessarily reduce the feeling of insecurity: people surveyed who were aware of the presence of cameras were more anxious than those who were not. Moreover, CCTV does not transform radically feelings of safety and spatial perceptions as they 'precede attitudes toward CCTV' (Zurawski 2010: 273).

Beyond the profound discrepancies between these results, and the possible lack of objectivity of these studies,⁴ this kind of research suffers an intrinsic weakness that lies in its methodological design. Indeed, isolating, measuring and assessing direct or indirect effects of CCTV on crime is, methodologically speaking, a complex exercise.⁵ The first difficulty lies in the specificity of each CCTV programme. Indeed, each CCTV system is unique (number and type of cameras, topography of the site and crime hot spots, goals assigned to the system, etc.), which makes comparison difficult. The choice of test areas is also crucial. On the one hand, it requires the choice of areas where the number of registered crimes is large enough to be statistically processed, yet, on the other hand, control areas also have to be chosen (without any cameras) to control the impact of cameras on test areas.⁶ The temporal design of the study also needs to be defined carefully, including time periods long enough to help identify long-term trends and seasonal variations. Moreover, it is not only the robustness of CCTV effects that need to be measured but also their persistence over time. It is well documented for instance that the dissuasive effect of CCTV does not last more than two months (Mazerolle et al. 2002).

The analysis of results also has to be precise. To assess the dissuasive effects, account has to be taken of the fact that CCTV sometimes causes a rise in registered crime, which can distort assessment of actual crime trends. In addition, as crime is multiform, only a minute analysis of the different types of crime can show the true effects of CCTV: a decrease in global crime can hide a rise in certain types of offences. Similarly, some possible effects of CCTV such as crime displacement and benefit diffusion have to be taken into consideration. Care must be taken, particularly as CCTV is often just one of a number of measures in a broader crime-reduction programme, making it very difficult to isolate the effect on crime of this mechanism alone.

2. Differential effectiveness: looking for explanations

Under the influence of what can be called the 'realistic turn' of evaluation (Tilley 1993; Pawson and Tilley 1997), CCTV impact studies have moved on from looking at the overall effectiveness of CCTV systems to attempting to identify the *conditions* required for it to work. Such studies take into account a large number of parameters when dealing with the system and its targets, as well as the way it is included in a security policy and how it is used daily by those responsible for running the system.⁷ Analysis of the implementation context of CCTV systems shows that CCTV's effectiveness depends on the type of crime,

⁴ Academic works considered as reference studies in Great Britain (Webb and Laycock 1992; Tilley 1993; Gill and Spriggs 2005), were all funded by the Home Office, who supports CCTV expansion.

⁵ Out of the 92 studies analysed by Welsh and Farrington (2008), only 44 met the requirements that ensure a methodologically reliable study, in the authors' view. And only 41 studies were finally included into the meta-analysis.

⁶ For instance, comparing a city centre area to the rest of the city is not necessarily relevant.

⁷ On the difficulties of the realistic approach, see Gill and Turbin 1999.

the characteristics of the places monitored, the technical performance of the device and the workers in charge of the equipment (see the syntheses by Heilmann and Mornet 2001; Le Goff 2008).⁸

Simultaneously, further light has been shed upon the role of stakeholders in the implementation process, seen as a *sine qua non* condition to understanding the way CCTV systems work (Fussey 2004). In London, research into CCTV workers (Norris and McCahill 2006) showed that CCTV operations depend not only on the organisational setting but also on whether stakeholders have a good working relationship or not. For his part, Peter Manning (2008) claims that police culture deeply shapes the way technologies are used.⁹ By taking into consideration the specific conditions under which CCTV is implemented—in a particular context organized by explicit or implicit rules, power struggles, and values—these different studies tend to put into perspective the thesis of action ruled by technological determinism.

Workplace studies (Luff, Hindmarsh and Heath 2000) and studies about 'technology in action' (Heath and Luff 2000)¹⁰ clearly follow this research path by placing CCTV in the mass of tools that fill professional backgrounds and help achieve practical activities. In their study of the London Underground, Heath and Luff (1999, cited in Neyland 2006: 26-27) showed that CCTV workers complete a complex coherence-building process when they combine pieces of scenes obtained from screens, interpret their meaning and make inferences to understand what happened or was about to happen. Such exercises tend to put into perspective the effects of surveillance by showing the uncertainty that prevails around the existence and intelligibility of what is being observed (see also Neyland 2006; Smith 2004, 2007). Similarly, observation of the CCTV control centre for Dutch railway stations led to the conclusion that the technological design of CCTV systems intrinsically limits their surveillance abilities (Dubbeld 2005).¹¹ Other research sheds further light on the impact of CCTV use on working practices. The analysis of police chases showed that officers' perceptions of geography were usually affected by the fact that they were looking at a series of viewing angles distributed in space but centralised within the control centre to which they were permanently connected. Their usual representations of space, based on the notions of time, space and speed, tended to be replaced by new ones based on existing surveillance networks and the interconnection between different parts of the territory (Neyland and Kroener 2011). In a very similar way, Kevin Walby (2005) developed an institutional ethnography approach that allowed him to show that the CCTV operators he studied (the so-called 'control workers') fully adopted the norms of their host organisation. In summary, the results of these different studies are as follows: CCTV is part of a complex technological environment that actors interact constantly with, and fully participates in the development of its direct or indirect users' embedded activities, as in the case of CCTV operators. However, it is still difficult to make the jump between observing CCTV's practical 'integration' and its effectiveness in fighting crime.

⁸ In an attempt to synthesize and structure the conclusions of numerous studies, Maurice Cusson (2005) articulated eight proposals to explain the differential effectiveness of CCTV: (i) Determined offenders try to figure out the forces and weaknesses of CCTV devices and act accordingly; (ii) CCTV can reduce the number of crimes but enjoys greater success in fighting visible crimes committed by offenders afraid of confrontation; (iii) It is in close spaces, where delinquents can leave easily once they have committed their crime, that CCTV is the most efficient; (iv) A CCTV system that really enables security workers to detect problems and intervene immediately has a good chance of reducing crime; (v) CCTV can have an early effect but its effectiveness can decline in the course of time; (vi) Publicizing CCTV can increase its short-term results; (vii) CCTV usage has a good chance of having a strong effect when the volume of crime is high and when CCTV is used to intervene in a regular manner; (viii) CCTV has an effect on crime not by enabling the arrest of offenders but by shaming them or making them perceive higher risks.

⁹ See also research about CCTV usage in police context in France and Belgium (Devresse and Pierret (eds) 2009).

¹⁰ These ethnographic studies, inspired by ethno-methodology, highlight the way activities that involve individuals, technologies and objects are co-ordinated, performed and made understandable in a particular situation.

¹¹ The study highlights the following limits: distance between the control centre and police forces that are likely to intervene; high number of cameras related to few CCTV workers; diversity of the tasks performed by the operators; frequent technical failures (cameras, telephones, walky-talkies); equipment deterioration (spider webs, crackling, vandalism, etc.). See also Boullier's study on Paris public transport (1995).

The numerous studies that focused on effectiveness and, beyond, on CCTV effects, thus provide a quite stable view of the impact of CCTV on crime: its ability to prevent crime is limited. However, the history of CCTV appears successful as use of the technique has spread and become standard in numerous countries. This paradox might be explained by the fact that, beyond the sole intention of fighting crime, the presence of cameras is part of a larger societal process. That is the thesis supported by a certain number of critical works, which consider CCTV as the symbol of the upcoming 'surveillance society.'

II. CCTV as a technological surveillance tool: technique, power and 'social sorting'

Most CCTV studies form part of the research within Surveillance Studies, a trend that is well developed in the academic field of policing.¹² By definition, Surveillance Studies is concerned with all dimensions of surveillance and therefore encompasses a great variety of questions (modalities, functions, effects, driving forces, limits and so forth) in a cross-disciplinary perspective. Although different points of view coexist within this field of research, they share a common denominator: surveillance is seen as a major feature of contemporary societies. Introducing Surveillance Studies in a recent handbook, David Lyon, Kevin Haggerty and Kirstie Ball thus observe a 'momentous expansion and intensification of surveillance in almost all institutional spheres of contemporary existence'; they consider that 'over perhaps the past 40 years [surveillance] has emerged as the dominant organizing practice of late modernity... [This] is the starting point for any critical understanding of surveillance' (Ball, Haggerty and Lyon 2012: 1-2). From this perspective, the study of CCTV development is a contribution to the understanding of the 'surveillance society' (1). When it comes to explaining the spread of CCTV, the founding postulate of Surveillance Studies—i.e. surveillance is a general social phenomenon—favours macro-social factors, which can be unsatisfactory as this approach eventually highlights the known and potential dangers of CCTV use more than CCTV diffusion processes (2).

1. CCTV and the surveillance society

Sociologist Gary Marx (1985) was the first to propose the expression 'new surveillance' to qualify societies in which technology, by allowing total surveillance, definitely reconfigure the very same possibilities of social control. His work refers directly to Foucauldian analysis on the age of discipline—which peaked during the 19th century—and is based precisely on surveillance technologies of which the Bentham Panopticon is the most emblematic embodiment. As part of this trend, numerous researchers interested in video-surveillance make reference to the architectural device designed by Bentham for one-way detainee supervision: CCTV is described as a modern vision of the Panopticon (Vitalis 1998), an 'electronic Panopticon' where the subject is seen without being able to observe (Norris et al. 1998; Lyon 2001). In the same perspective, CCTV also often parallels the negative dystopias depicted by certain SF universes, in particular George Orwell's *Big Brother*. Henceforth, CCTV is presented as a technologically advanced expression of the 'surveillance society', which qualifies a situation in which 'precise details of our personal lives are collected, stored, retrieved and processed everyday within huge computer databases belonging to big corporations and government departments' (Lyon 1994: 3).

These analyses have been criticized as highly abstract and lacking empirical background (Marx 2007; Manning 2008). *De facto*, the very limited empirical elements upon which such studies are based often lead their authors to overestimate the rationality of power and its practice: they tend to overvalue the effectiveness of authority regimes.¹³ They also attribute a political goal to the tools without examining

¹² Between 1960 and 1969, there were only 6 articles associated with the keyword 'surveillance' in the database for *Sociological Abstracts*. There were 563 between 1990 and 1999! (Marx 2007). This research trend is becoming more and more institutionalized thanks to the publication of readers (Norris and Wilson 2006; Hier and Greenberg 2007; Lyon 2007) and handbooks (Ball, Haggerty and Lyon 2012) but also the creation of an online journal, *Surveillance & Society*. However, what 'Surveillance Studies' is still generates controversies, as illustrated by the debate between David Murakami Wood and Sean P. Hier and Josh Greenberg (Murakami Wood 2009; Hier and Greenberg 2009).

¹³ A British study of local policy networks in the field of security (Fussey 2004) came to this conclusion.

precisely their origins and mode of development. As such, these studies tend to separate the technique from the social by overrating the technological determinism that shapes action. These criticisms have borne fruit in at least two directions.

First, they have provoked discussion about the relevance of the Panopticon metaphor for describing our current situation. As an imperfect metaphor it continues to proliferate, in particular through the building of new expressions that use the word but re-define its impact by adding a qualifier. Thus, no less than fifteen expressions using the word 'Panopticon' were listed by Haggerty (2006). The Panopticon can indeed be qualified as 'myopic' (Leman-Langlois 2002), in the sense that CCTV would reduce criminal activities to directly observable behaviours and transform policing into a strictly reactive activity in view of observed facts. The reference to the Panopticon also gives way to the promotion of another image: the Synopticon (Mathiesen 1997). This term aims to underline the fact that modern technologies also allow a large number of individuals to direct their attention toward something common: the general use of surveillance also means surveillance of leaders by public opinion (in particular through the media). In a similar way, David Lyon (2005), one of the leading scholars in the field of Surveillance Studies, admits the limits of the idea that contemporary societies accommodate the development of a general use of surveillance by the powers that be: on the one hand, there is not a sole viewer but a plurality of watching places within society¹⁴; on the other, only a few individuals feel oppressed by this surveillance, a majority will even actively collaborate by giving personal data, considering the benefits to be higher than the cost. This statement then brings him to use the Lacanian concept of 'scopophilia' (the pleasure of watching) to characterize the coexistence of the panoptical and the synoptical dimensions of current societies that, following Mathiesen (1997), he henceforth terms 'viewer societies' (Lyon 2006).

Second, many authors (Leman-Langlois 2008¹⁵; Froment 2009) have suggested a subtler and empirically grounded view of the effects of technologies in the fields of justice and security. These researchers refuse to consider CCTV as a dystopian form of maximum surveillance by pointing out that CCTV can be both intrusive and protective at the same time. This is the position supported by Tim Newburn and Stephanie Hayman (2002) in their study of police monitoring of suspects in a London police station. The two scholars show that, thanks to this device, watchers are also watched, as the system also allows monitoring of the State representatives' behaviour. The surveillance system appears in fact as a 'surveillant assemblage' (Ericson and Haggerty 2000) in which multiple stakeholders, technologies and practices are associated to produce surveillance in public spaces. Although surveillance is becoming standardised, it is not completely centralised, in the sense that institutions remain quite reluctant to share information and the specificity of the software they use often prevents integrated surveillance systems being developed (Ericson and Haggerty 2006; Manning 2008). Lastly, ethno-methodological studies, sometimes combined with other approaches, tend to put the strength of this particular surveillance into perspective as they show that the content of the images broadcasted live, i.e. the meaning that has to be given to what is happening on the screen, is neither explicit nor unequivocal: it is produced in the course of located and local negotiations that several types of actors—such as CCTV workers and the police officers they are in touch with—participate in (Neyland 2006: 19-45). Doubt is once again cast upon the Panoptical metaphor since it ignores entire aspects of the surveillance process as embodied by practice (Haggerty 2006).

Thus, whilst CCTV helps qualify surveillance in contemporary society, the emergence of a surveillance society as such cannot be considered as a total explanation for the development of CCTV. This question has to be dealt with more directly.

¹⁴ Michaelis Lianos came to the same conclusion in his PhD dissertation (1996): he used the image of the peri-optical society to suggest that there would be remote surveillance at every level of society.

¹⁵ The book combines chapters written by leading Surveillance Studies scholars, but also an introduction, a conclusion and other chapters that vigorously debate this research trend.

2. Accounting for CCTV diffusion: when the search for causes meets effects analysis

If surveillance is considered as a phenomenon which has 'produced downstream social changes', an important question arises: 'what is driving this transformation; how are we to understand the factors prompting change of this magnitude?' (Ball, Haggerty and Lyon 2012: 2). As underlined by these authors, two lines of explanation can be contemplated: the first concerns the micro/meso level; the second focuses on general social phenomena. Ball, Haggerty and Lyon explicitly favour the second orientation: in their opinion, the first one 'helps foreground the local politics of surveillance, but leaves unaddressed the larger question of why surveillance appears to be proliferating so broadly'.

Following this orientation, Clive Norris (2012) accounts for the global growth of CCTV with three primary reasons: (i) the general disillusionment with the ability of governments to respond to crime, in a context of new perceived dangers; (ii) support of central governments, as 'in general police officers are only too aware that CCTV is not a panacea to the crime problem'; (iii) the reproduction of order. The first two points could be discussed but the third one is the most interesting as it is related to 'social sorting'¹⁶: it is about 'the power to watch, to deploy, to intervene, to identify and to regulate, often through exclusion' and is documented by 'numerous studies of CCTV [that] have found, the primary target of CCTV is the young male, often from an ethnic minority, displaying the visible symbols of working-class or youth subculture who...is deemed out of place in the consumption-oriented high streets and malls' (2012: 258).

Certain studies indeed highlight the existence of discriminatory practices, concluding that CCTV would be intentionally used to monitor certain groups of people. That is what Clive Norris and Gary Armstrong (1999a) showed based on their observation of three CCTV centres in England. They examined how CCTV workers developed, in practice, a set of operational rules to reduce the whole population to a group of suspects, which meant *de facto* discriminatory practices. For instance, the wearing of caps or hoods is consistently understood by the operators as the proof of a will to escape from the gaze of cameras and thus as revealing a criminal intention. Moreover, Norris and Armstrong calculated that 'the Black' were between 1.5 and 2.5 times more likely to be targeted by CCTV workers than their representation as a portion of the population, unlike women who, despite being a vulnerable group, were largely neglected by cameras. As a result, by targeting particular groups, CCTV tends to reinforce the gap between 'insiders' and 'outsiders'. In that particular sense, CCTV can be seen as serving a certain social order. That is the conclusion of many studies. Indeed, Roy Coleman and Joe Sim, who examined the implementation of CCTV in Liverpool city centre, consider CCTV as part of 'coercive aspects of power directed at dissenters from neo-liberal rule' (Coleman and Sim 2000: 634), i.e. as part of a social ordering strategy. In Wales, where they studied CCTV devices in two small cities (Aberystwyth and Cardigan), Katherine Williams and Craig Johnstone (2000) came to the conclusion that a 'mallings' of public space—and not a Panopticon in Bentham's view—had been made possible by the 'selective gaze' of the surveillance cameras.

If there is no doubt about discriminatory practices, the intention can be questioned. These practices can indeed be the product of CCTV workers' representations, all the more that the boredom they feel in the course of their job favours inappropriate behaviours (Le Goff 2011). The fact that CCTV produces exclusive effects in shopping malls as much as in public spaces does not mean that 'social sorting' feeds CCTV diffusion.

Surveillance Studies is therefore better at documenting CCTV's impact than explaining its development process. Other research has to be considered to investigate this specific issue, works that are less focused on the denunciation of the dangers of CCTV, but which pay attention to origins and development processes of CCTV devices.

¹⁶ See part II of the *Routledge Handbook of Surveillance Studies* (2012): 'Surveillance as sorting'.

III. CCTV as a public policy tool: origins and diffusion processes

In the end, it is public policy analysis that offers most answers to the question of open-street CCTV expansion. These works, which deal with varied national and local cases in a disparate way, do shed further light on the conditions of production of such devices (1), but also dissect the processes that are making CCTV standard and commonplace (2).

1. Implementing open-street CCTV: conditions of installation

There are many studies dealing with CCTV systems in British cities, not surprising given that Great Britain is the most heavily-equipped country in the world.¹⁷ These works—echoed by research carried out in other countries—highlight the legal, political and social factors that have contributed to the development of open-street CCTV.

Whilst the development of CCTV is often solely connected to the general social context—rising crime, declining confidence in the judicial system, in reference to the risk society theorized by Ulrich Beck, the spread of actuarialism in the penal field—political and institutional factors are also regularly advanced. Thus, while N. Fyfe and J. Bannister (1996) attribute the development of CCTV to the '*New Right Law and Order Policy*', Pete Fussey (2008) considers the advent of the Labour Government's crime reduction strategy the main factor in the spread of CCTV in Great Britain. Beyond the political orientation of the government, it is rather the evolution of governing modes that favoured the spread of CCTV. On the one hand, the implementation of New Public management principles in State agencies led them to define quantifiable priorities and develop performance indicators, which urged the police to embark on a rationalist project that involved producing strategic answers to the problems identified by research and evaluation. On the other hand, local partnerships of public and private stakeholders were promoted to fight locally-defined issues (feeling of insecurity, soft disorder, crime hotspots) (Mackay 2003; Fussey 2008). The involvement of well-skilled professionals possessing an orthodox criminological knowledge in local partnerships predisposed them to view CCTV as the best course of action amongst the range of available measures,¹⁸ particularly as the British Government strongly supported CCTV installation financially.¹⁹ However, the role of central Government is not always decisive: in other countries, initiatives were primarily from local governments. This is the case in Australia, where local governments were nevertheless supported—financially and methodologically—by Federal government (Wilson and Sutton 2004), and also in France. Encouraged by the central Government, who offered them security partnerships, and called upon to act by their communities, local governments took hold of security issues—all the more willingly on account of their greater powers brought about by decentralisation—and made an attempt to develop their own Policy tools, among which included open-street CCTV (Germain 2008). In France, central Government support for CCTV became standard only after 2007.

Legal rules are also taken into consideration in analyses of CCTV development. In Great Britain, the deployment of CCTV was made easier by the lack of a legal framework, as no explicit CCTV law existed.²⁰ The Criminal Justice and Public Order Act (1994) gave local authorities the right to install CCTV devices without prior authorisation requests in England and Wales; local authorities themselves

¹⁷ Norris and McCahill estimated that there may be 4.2 million publicly and privately operated cameras in the UK (Norris et al. 2004). Norris (2012) recently stated that the figure might be only 1.85 million cameras.

¹⁸ The Blair Labour Government developed 21 toolboxes that were made available for local partnerships. CCTV was suggested in nine of them, especially to fight soft disorder, feelings of insecurity, and repeated victimisation (the main problems identified at the local level).

¹⁹ Between 1994 and 1996, under the John Major Government, the Home Office financed 50 per cent of CCTV installation costs through calls for projects, to a total of £37 million. The fundraising effort continued under the Blair government which came to power in 1997: £38 million was used to finance 585 devices between 1996 and 1998 and £170 million between 1999 and 2001 (figures from the Home Office Policing and Reducing Crime Unit).

²⁰ E. Heilmann and M.-N. Mornet (2001) consider this point as a British peculiarity.

took responsibility for drawing up a code of best practice.²¹ In France, legal CCTV analyses, whether commissioned by the government (Sérusclat 1995) or the CNIL²² (Cadoux 1993), or in the form of academic comments on legislation,²³ suggest that the system of prior authorisation set up in 1995—and then modified (see Froment 2006)—emerged as a means of legitimizing CCTV use rather than a genuine constraint.

Another factor that could have contributed to the spread of CCTV is local population support, a factor often cited by CCTV projects instigators (Ditton 2000). Detailed analyses of public opinion on CCTV do however show that opinion is uninformed and relatively ambiguous.²⁴ A study conducted in Cardiff, Bristol, Birmingham and Coventry (Charman and Honess 1992) revealed strong public support for CCTV (85 per cent in favour) but found that it was based on a misunderstanding of the actual capabilities of CCTV devices. Public support for CCTV is also something of a paradox: according to the European survey 'Urbaneye', while respondents overwhelmingly favoured video, more than half of them felt its effectiveness was limited (Hempel and Töpfer 2004). A Canadian study using focus groups to understand perceptions and representations of CCTV (Leman-Langlois 2008) reported similar findings: respondents wanted more cameras but felt that the cameras already installed did not really change the level of crime in their neighbourhood. Finally, the balance of opinions on CCTV appears reversible, as suggested by a social survey carried out in eight areas equipped with CCTV (Gill et al. 2007). The poll showed a decline in public support once the device had been tested. Public support is therefore not univocal and has to be analysed in the light of arguments developed to legitimize the use of CCTV. Studying how people assess CCTV in two contrasted neighbourhoods in Hamburg, two researchers showed how general socio-spatial perceptions of the city feed the meaning ascribed to the technology. If residents of places with a low crime rate support CCTV in places with a high crime rate, 'it seems unlikely that these informants would expand their range of mobility to these places even if CCTV would be in operation'. As for the residents of the neighbourhood with a high crime rate, 'CCTV is not the option of their choice to tackle the problem in the first place' (Zurawski and Czerwinski 2008: 68).

To list the factors favouring the use of CCTV is thus not sufficient,²⁵ as it obscures the processes that lead ultimately to the decision to use CCTV. In other words, it still remains to be understood how these elements interact.

2. *From the quest for causes to process analysis*

Some research on CCTV focuses substantially on the processes by which, in a specific context, the use of CCTV is planned, deployed and strengthened. At least two approaches can be drawn from these works: the actors' coalition framework on the one hand; the study of innovation dynamics, based on Science and Technology Studies, on the other hand.

British works on CCTV above all focus on the role of actors' coalitions in the advent of CCTV projects: local authorities, police officers, shopkeepers and private security companies. Studies in Glasgow (Fyfe and Bannister 1996; Mackay 2003) and Liverpool (Sim and Coleman 1998, 2000) showed that open-street

²¹ For an analysis of the codes of best practice, see Norris and Armstrong (1999b). For a detailed examination of the limits of British local authorities' practices, see Buclos and Sarno (1996).

²² National Commission for Data Protection, created in 1978 by the Law No. 78-17 on Computing, Registries and Liberties (Data Protection Act).

²³ The Planning Security Act (1995), which comprises a section dedicated to CCTV, in particular, sparked off a certain amount of comment on the regulation mode established by the law and the application details (Darras and Deharbe 1996; Ocqueteau and Heilman 1997; Ocqueteau 2001).

²⁴ Not to mention that this argument is sometimes drawn on methodologically questionable social surveys: indeed, Jason Ditton (2000) showed that public support for CCTV varied by a margin of 35 points according to the questionnaire design.

²⁵ Other factors should be added to the list, such as the availability of technique and the existence of a CCTV market (Graham 1998; Ocqueteau 2004).

CCTV was the result of a strategic alliance between local government and local economic interests. These two categories of stakeholders were seeking to make their city more attractive by reducing crime in order to support economic development, while the police, perceiving CCTV as a low-cost management tool, gave their support (Williams and Johnstone 2000; Mackay 2003). This type of explanatory scheme was also applied to the French case: following the analysis by Rochette and Marchandet (1998), Frédéric Ocqueteau (2004) spoke of 'cross-legitimization' between network operators and localities, the coalition combining technology providers and local authorities in that particular case.

From another perspective, research focuses on CCTV by trying to take advantage of the achievements of Science and Technology Studies, using their theoretical contribution as much as the conclusions reached by studies on non-surveillance technologies. A first set of research emphasized the invention of uses: beyond the initial idea, the question is how the tool is adopted and lasts over time. In that particular sense, security technologies are no exception to 'the broad negotiation process' in which the various stakeholders associated with the device engage and thereby bring about its existence (Akrich and Méadel 1996: 56). In a similar way, the work of Frédéric Ocqueteau and Marie-Lys Pottier on a shopping mall (Ocqueteau and Pottier 1995) highlighted the deployment of 'unexpected' uses of CCTV. For instance, the CCTV system was finally integrated into a tactic for managing incidents with potential defaulters²⁶ although it was initially designed to identify the preparation of crime. Regarding open-street CCTV, while the official function is most often deterrence to reduce crime rates, actual uses are marked by a concern for offender tracking and identification (Germain, Dumoulin and Douillet 2012). Norris and Armstrong (1999b) propose the concept of 'expandable mutability' to underline the fact that surveillance cameras set up for a particular goal are actually used for other purposes.

Science and Technology Studies' modes of reasoning, and especially the sociology of translation (Callon 1986), can also highlight the enrolment process that fuels the development of CCTV. The mechanisms of buy-in to CCTV were the focus of a study on the use of CCTV in three French cities (Roché et al. 2007). Without supporting the whole theoretical background of the actor-network theory—especially the perfect comparability between human and non-human actors—the team of researchers used its *mode of reasoning*, taking into consideration the possibilities and limitations of the technological tool itself to understand its development. This approach prevented them from overrating technological determinism and thus allowed them to show that the use of technology is likely to enlist a number of actors: its users, first, through buy-in arrangements, but also its detractors, through the weakening of opposition, made possible by the development of the device itself (Germain, Dumoulin and Douillet 2012). Three mechanisms of CCTV buy-in by direct and indirect CCTV users were highlighted. First, the specialization of services in charge of the management of CCTV and / or viewing the resulting images made them new professional allies of CCTV development. Then, symbolic rewards that can be derived from the use of CCTV contributed to the enrolment of stakeholders such as municipal police officers, delighted to integrate a 'detective' dimension into their daily work, bringing them closer to criminal investigation, which would normally be the responsibility of the National, not Municipal, Police. Lastly, the National Police force appreciated the 'cost-free' resource of CCTV, using a device they do not have to finance but according their own professional priorities: law enforcement or criminal investigation in particular. In parallel to the tool buy-in processes, the very development of the device weakened opposition and the discovery of practical uses over time multiplied the arguments for legitimization, thus feeding the enrolment process. The extension of CCTV reduced, for example, the scope of the argument about the displacement effect at the same time as an ethics committee was set up, that opponents agreed to join, made them *de facto* actors in the use of

²⁶ One should check the validity of their checks (no credit allowed) while preventing the possibility of scandal. If it turns out that the check is actually invalid, CCTV allows one to keep track of the scene of the scandal that is perpetrated by the defaulter.

the device.²⁷ The uses developed through practical use—offender identification, police response proportioning and soft disorder management under ‘administrative police powers’ (Froment 2006: 439)—can legitimize CCTV not only as a deterrence tool but also as an element of logistics support and repression. As such, CCTV can ultimately be justified by its multi-functionality.

Conclusion

The growth of CCTV seems largely dissociated from its capacity to fight crime, while it remains hard to prove that it is in line with a global population surveillance project. The diffusion process of CCTV development rather results from the combination of several factors: political parties’ intention to announce safety concerns, headline-grabbing by local authorities, central government wishing to strengthen public-private partnerships at the local level (such as in Great Britain), growth of the security market, business interests, etc. CCTV can be analysed as a socio-technical device, able to aggregate different types of protagonists carrying various specific interests. As an actor-network, CCTV turns out to be able to enlist protagonists by different mechanisms, beyond the circle of its initial supporters. Indeed, CCTV users can take the object on board and progressively acquire its multiple uses that then become justifications for its use, fuelling the buy-in process in a specific place.

One stone remains unturned in this general overview of the international CCTV literature: is the diffusion of CCTV systems the expression of a new penology? This issue, raised in particular by Surveillance Studies, seems important, as contemporary cities, marked by a growing social heterogeneity, make up a background conducive to fear of strangers (Bannister et al. 1996). However, only systematic comparisons between observed CCTV uses and the adjudications made following case selection would allow the examination of two theses: the extension of State surveillance capacities and the emergence of a new form of social control (shaped by local authorities) focused on the management of specific targets and behaviours. Such a comparison would gradually lead to totally new conclusions about a blind spot in the literature: the effective capacity of CCTV to normalize behaviour.

Acknowledgements

This paper derives from research funded by the National Institute for High Studies in Security (INHES, now INHESJ) and carried out between 2005 and 2007 (see Roché et al. 2007).

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²⁷ In Lyon, for instance, whilst the Greens generally refused to show solidarity within the ‘plural Left’ local government, they were nevertheless enrolled into the device through the ‘Ethics college’ that played the role of a device that pulled people in. Under these conditions, it is less surprising to observe that the Greens have voted for some extension projects since 2005.

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