



""No shit Sherlock""! Canine DNA and policing public space.

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Introduction

In the theorising of surveillance, animals have been largely overlooked. Epidemiological studies proliferate, yet the role of animals in many aspects of everyday surveillance has been neglected. This paper considers a new initiative involving the collection of canine DNA, which illustrates how, like human animals, nonhuman animals (henceforth animals) are increasingly finding themselves the objects of routine, technologically mediated surveillance. Further, such surveillance situates animals as elements of the 'surveillant assemblage'.

This paper highlights the importance of animals to surveillance studies by establishing the extent to which animals are a part of the surveillant assemblage in their own right. It also demonstrates how nonhuman animals extend the reach of the surveillant assemblage. There are many examples of how animals are caught up in our webs of surveillance such as the rigorous testing and monitoring of 'food' animals which are increasingly viewed as a 'risk'. Other examples include social media, DNA testing, crime fighting, and in this instance, in the issuing of Public Space Protection Orders (PSPOs). As an example of contemporary routine biometric surveillance, this paper examines a pioneering DNA registration scheme launched in London in 2016: PooPrints. This uses a system devised by BioPet laboratories, Tennessee, and is flagged up "as a badge of considerate dog ownership" (Streetkleen.co.uk, 2018) designed to gather up samples of uncollected dog faeces and to identify dogs and therefore their owners, for action if by-laws are transgressed.

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3 The paper argues that DNA surveillance, in conjunction with a PSPO, is susceptible to
4 considerable 'function creep' where surveillance goes beyond its original purpose (Lyon,
5 2007a). This form of surveillance of animals may act as a conduit for more problematic
6 surveillance of humans, which may result in social sorting and curtailment of freedom and
7 enjoyment of both animals and their human animal companions. This paper considers the
8 ramifications of animal surveillance via the PooPrints scheme and argues that, in addition to
9 being seen as an attractive technological solution for a complex social problem, it has
10 potential to be yet another form of information gathering about humans. It argues that by
11 allowing animals companions, such as dogs, into systems of control we enable new forms of
12 scrutiny resulting in the social sorting of people with unforeseen consequences.
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23 This empirical study sources data from publicly available Cabinet¹, Select Committee² and
24 Scrutiny Committee records from the London Borough of Barking and Dagenham (LBBD). It
25 also draws on news media sources, publicity material from the company running the scheme
26 and from this and other local authorities. Methods include analysis of documents, semiotic
27 and discourse analysis. I chose to look at the scheme run by LBBD as it is the first of its kind
28 in London.
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36 *Surveillance, dogs and data*

37 There are difficulties in defining what is meant by 'surveillance' (Marx, 2004). A broad
38 definition was conceived by the Surveillance Studies Network (SSN)³ in its report for the
39 Information Commissioner:
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45 ¹ The directly elected Mayor's Cabinet is the council's primary decision-making body for matters which are not
46 otherwise delegated. The Cabinet meets approximately every four weeks. It is allowed by law to meet in
47 private, but all Cabinet decisions must be taken in public apart from the existing exceptions for things like
48 personnel matters, commercially sensitive information or confidential legal advice. Officers are not able to put
49 decisions into practice until the seven-day 'call-in' period has elapsed (except for decisions taken under
50 emergency procedures). Members of the public can request the right to address the Cabinet on an issue on its
51 agenda. <https://www.lbdd.gov.uk/meetings-agendas-and-minutes>
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54 ² Overview and Scrutiny committees ensure that the council is held accountable for the choices made and that
55 the decision-making process is clear and accessible to the public. <https://www.lbdd.gov.uk/meetings-agendas-and-minutes>
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59 ³ The leading international research and information network about surveillance (https://www.surveillance-studies.net/?page_id=2)
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5 Where we find purposeful, routine, systematic and focused attention paid to
6 personal details, for the sake of control, entitlement, management, influence or
7 protection, we are looking at surveillance (Ball *et al*, 2006, p.4).
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10 What usually springs to mind are Big Brother and CCTV and it is true that surveillance is about
11 'seeing things and, more particularly, about seeing people. But paradoxically people are not
12 what most surveillance sees today' (Lyon, 2007, p.1). What Lyon terms 'The culture of
13 surveillance' is ubiquitous and every day (Lyon 2018), as we are increasingly connected via the
14 Internet of Things, talking to Alexa and dazzled by the promise of smart cities. While
15 surveillance of humans has always been with us 'new' surveillance is mediated by digital
16 technologies, and that mediation sometimes renders it invisible. Furthermore, there is the
17 'convergence of once discrete surveillance systems' and 'rhizomatic' systems with hidden
18 linkages that are hard to detect and once broken, spring up yet again in another place and
19 space (Haggerty and Ericson, 2000, p618). The surveillant assemblage serves to extract
20 individuals from their 'territorial settings' and reassembles them into discrete data flows.
21 These ideas prompt Lyon to state:
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34 It is mistaken to think of surveillance only in terms of centrally organised systems, as
35 the Big Brother and Panopticon metaphors often do. Rather, fluid forces or 'flows'
36 work with mutating 'assemblages' of items that come together simply to operate
37 systems of power [...] Such information, as (Mark) Poster pointed out, becomes our
38 data double which is how we are 'known' by marketing companies and government
39 departments (Lyon, 2018, p120).
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43 As long ago as 2004, the then Information Commissioner, Richard Thomas, feared that the UK
44 was sleepwalking into a surveillance society (Ford, 2004) Since that warning the methods
45 and intensity of surveillance have increased and people have opted to give away even more
46 information about themselves, for example, via social media and networked wearable fitness
47 trackers. Thus 'surveillance capitalism unilaterally claims human experience as free raw
48 material for translation into behavioural data' (Zuboff, p8, 2019). The surveillance of
49 nonhuman animals has often been overlooked and Haggerty and Trottier have discussed the
50 lack of attention paid to nonhuman phenomena when it comes to surveillance (2013). Most
51 publications appear to be focusing on epidemiology, for example the transmission of parasites
52 to human and non-human species, (Melhorn, 2016; Despommier and Campbell, 2013) and
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3 this has come sharply into focus of late with the recent Covid-19 pandemic. Surveillance of
4 animals alone can be side-lined as being something on the periphery of human-animal
5 behaviour and is often looked at in relation to humans and their pets (Grandin and Johnson,
6 2009), hunting, (Carr, 1986) or how wild animals such as foxes (Baker *et al*, 2004), badgers
7 (Davison *et al*, 2008; Wallen, 2006) or animals such as feral cats (Griffiths *et al*, 2004) encroach
8 on our otherwise sanitised and orderly neighbourhoods. We are also very familiar with the
9 surveillance of animals as entertainment in documentaries and television programmes and
10 there has been writing on this form of surveillance by Mills (2017) and of the surveillance of
11 animals in zoos (Braverman. 2013).

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21 In the case of PooPrints, details are kept and the gathering of data about the dog and its DNA
22 is necessary to enable it to enter protected spaces. In addition, the harvesting of data about
23 ownership details is an example of one of the means by which individuals are 'known', in this
24 case, to LBBD and that information is also available as an enabler to other services marketed,
25 mediated and managed by a commercial enterprise, in this case PooPrints.

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Gary Downie, Managing Director of PooPrints UK, said: "We are very pleased to be introducing PooPrints to the UK with Barking and Dagenham Council. In this age of austerity local authorities are being encouraged to look towards innovation to help deliver important services including ensuring that pavements, parks and open spaces are kept clean". (LBBD, 2016)

The PooPrints website offers us a handy illustration of Schumpeter's theory of creative destruction (Freeman, 1997, pp. 325-326), describing dog DNA database usage as 'a disruptive innovation to create new value':

| Disruptor | v | Disruptee |
|---------------------------------------------|---|------------------------------------------|
| Localised Waste Conversion Units | v | Centralised Waste Collection & Disposal |
| DNA Database Usage | v | Dog Warden/Enforcement Teams |
| Mobile Apps, Smartphones & Geo Spatial Data | v | Media Campaigns, Posters & Communication |

(Streetkleen, 2018)

The implication here is that there would be no need for dog wardens and enforcement teams, media campaigns and posters as the technology, will be the solution and timeworn techniques swept away in the new world being created. This is typical of claims for new innovations where simplified, technologically determinist-led explanations are employed to ascribe positive characteristics to innovations and their claimed effects on society (Mackenzie and Wajcman, 1999). One of the most cited examples of this in terms of surveillance is the early introduction of CCTV into town centres (Norris, Moran and Armstrong, 1998, Ditton *et al*, 1999; Coleman and Sim, 2000).

The launch of the scheme gave rise to much mirth in the press prompted as a response to the location of the pilot, the LBBDD itself unable to resist announcing that “we’ve taken a lead on dog mess” (LBBDD, 2016a). Television news and the national press gleefully reported that there would be “Pugshots’ of the worst offenders’ (BBC News, 2016b) and ‘DNA-testing dog poo? You’d have to be Barking!’ (Cocozza, 2015). Yet, it is far from a laughing matter. Despite being promoted as a scheme to ‘improve civic pride and social responsibility in East London’ (Streetkleen.co.uk), the data could also be used to tie up with diverse income streams that may have repercussions for citizens (bbc.co.uk, 2016). When asked how much he thinks ‘the dog-mess industry is worth? Eric Mayer, director of business development at BioPet, replied that it was ‘limitless’ (Cocozza, 2015) and the owner, Tom Boyd is ‘pushing to get the program established across the UK, where he says, there are 9 million dogs providing a revenue stream “That has a value of \$365 million, so that’s how big I think it is.”’ (Wells, 2019). In 2017, it was reported that this scheme was to be rolled out in more areas and was moving from being voluntary to being mandatory and used in tandem with the enforcement of Public Spaces Protection Orders (PSPO) potentially necessitating outlay from dog owners to be able to access protected ‘public’ spaces. The next section will consider why dog waste has become such a financial opportunity.

Dog waste – risks and regulation

Dog fouling is rightly written about as being both an unpleasant nuisance and a danger to public health. Apart from being messy, dog waste can contain e-coli, salmonella and

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3 campylobacter bacteria and giardia parasites which can cause illness in humans; parasites
4 such as hookworm and roundworm and their eggs and be a vector for toxocariasis (Halsby *et*
5 *al*, 2016). In addition, dog waste can end up polluting waterways by promoting the growth of
6 algae and finally, it can attract a variety of insects and rodents. Gross (2015) presents this as
7 a significant social problem, for Western societies as
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14 Every day some 55 tons dog excrement are deposited on the streets of Berlin alone
15 (Kneiss 2011), while dogs in the US are said to produce 10 million tons of poop each
16 year (Browdie 2012). For the year 2000...in Paris alone US\$6 million have been
17 absorbed for the removal of dog faeces as part of park maintenance. (Gross 2015,
18 pp.38-47)
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22 While dog waste is a health and wellbeing issue, the dog is the only pet that we deliberately
23 encourage to defecate away from home (Gross, 2015). Gross writes about this phenomenon
24 to 'highlight the relational ties between dogs and humans that are manifested in strategies
25 for dealing with a highly important 'actant' in the collective: poop' (2015, pp.38-47). In doing
26 so he identifies three main types of strategy in dealing with this 'actant' and bases his analysis
27 on a complex Latourian network comprising humans and nonhumans (natural 'things,'
28 technologies, or animal droppings) (2015, pp. 38-47). Gross concludes that fear of being
29 judged makes us clear up after our dogs and therefore, if we are under cover of darkness or
30 otherwise hidden, we will consider leaving the faeces in situ or leave them in 'inappropriate'
31 places other than bins (2015, pp.38-47). Perhaps it is not surprising, then, that dog walkers
32 are seen as requiring surveilling when in public space. The Dog Fouling Act (2016) makes 'the
33 person in charge of the dog at the time of the misdemeanour' responsible for what it may do
34 although there are some exceptions, for example, those who are registered blind or have
35 mobility issues. Relatively recent legislation has changed the way dog waste is policed and
36 local councils have an obligation to make sure that dog fouling does not take place:
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51 Following the implementation of the Anti-social Behaviour, Crime and Policing Act
52 2014, local authorities in England and Wales can no longer make Dog Control Orders.
53 Instead they can use new powers under the new Act to control dog fouling by issuing
54 Public Space Protection Orders (PSPOs) to require owners to clean up after their dogs
55 in specified public areas (2017)
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3 Regulation also comes from the Clean Neighbourhoods and Environment Act 2005 which gave
4 councils powers to control dogs in their public spaces. The Dog Control Orders prescribed
5 powers in contained in Section 55(1) of the Act specifies five offences, one of which is failing
6 to remove dog faeces (UK Government, n.d.). Various solutions have been proposed to
7 encourage people to pick up their dog's waste from low to high-tech such as signage and
8 'panoptic' glow in the dark 'eye' posters to talking lamp posts, and drones (Hyde, 2014). The
9 increasing deployment of technologies intended for use in a theatre of war appearing on our
10 streets to police us has been termed 'new military urbanism', fundamental to which is

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20 [...]the paradigmatic shift that renders cities' communal and private spaces, as well as
21 their infrastructure - along with their civilian populations - a source of targets and
22 threats (Graham, 2010, pp. 3-4).
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26 Uncollected dog poo is already in decline (Lowe *et al*, 2014). It is gradually becoming socially
27 unacceptable with peer pressure forcing a change in behaviour – education programmes and
28 disapproving looks are often enough to prompt responsibility. There are many other solutions
29 to these problems that do not involve privacy invading technologies, the Kennel Club has
30 endorsed many (The Kennel Club, 2020). Methods have included spraying deposits in bright
31 colours, sprinkling them in glitter or putting national flags on them; while in Madrid, the dirt
32 was parcelled up and posted back to the owner in a box bearing the official town crest and
33 another creative idea led to provision of:
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42 Four dog-poop receptacles, each labelled with the country's four main political parties,
43 recently sprung up in a Madrid Park encouraging passers-by to cast their vote by
44 depositing their pet's shit (Anzilotti, 2016)
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49 Some UK council's awareness campaigns have used shock tactics to drive their message home:
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52 Spelthorne Council's 2013 stomach-churning anti-dog fouling message went world-
53 wide after one of the Surrey district's campaign posters was uploaded onto the image-
54 sharing website Imgur - gaining nearly a million views since Sunday. The picture, which
55 formed part of the borough council's "No Messin" push to curb public dog fouling,
56 shows a young boy feasting on some canine excrement (Huffington Post UK, 2014, see
57 Figure 1)
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3 A similarly graphic picture campaign led to protest in Middlesbrough; an insulting one
4 enquiring whether you have 'Shit for brains' (Figure 2) used by Hastings Borough Council with
5 others proclaiming 'We're not taking your shit any more' and 'Sort your shit out!' attracted
6 criticism amongst others (Alleyne, 2010) and a 'No shit Sherlock' poster (Figure 3) for Sandwell
7 Borough Council was deemed equally offensive (Murphy, 2016).
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No Messin'
Children will touch anything
 Dog faeces can be harmful to human health and can cause blindness. An infection called *Toxocara canis* can be caught if the waste is not removed immediately.
Report it in confidence, call us on:
01784 446411.

email: streetscene@spelthorne.gov.uk
 Online form: www.spelthorne.gov.uk/foul
 Twitter: [@spelthornebc](https://twitter.com/spelthornebc)
 Facebook: search Spelthorne Borough Council
 Engage App: download from App Store/Google play




Spelthorne Council

Figure 1. 'No Messin', Spelthorne Borough Council (Huffington Post 2014)

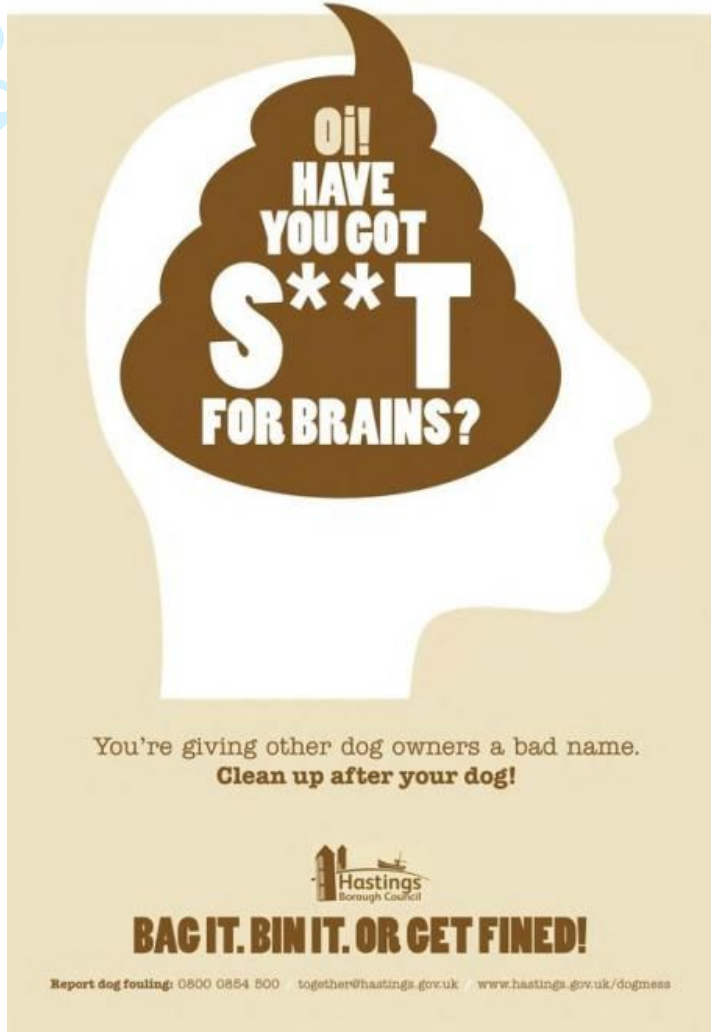


Figure 2. 'Shit for brains?' Hastings Borough Council (The Northern Echo, 2014)



Figure 3. 'No shit Sherlock!' (The Northern Echo, 2014)

'Pooper Snooper' schemes have been considered to clean up the City streets and parks of dog waste. Liverpool's Elected Mayor wanted to offer a reward to anyone providing evidence leading to the criminal conviction of any dog owners that do not clean up after their dogs on the grounds that "we have got to try and restore some pride in our city. These people are not your neighbours, they are environmental criminals." (Russell, 2017). In contrast, dog walkers have been found to be an asset to any community. Cudworth writes about 'posthuman communities' where 'relationships between species can exist other than on the basis of domination, the foundation of the idea being based on a study of dog walking communities showing that

The practice of walking through a particular space, leads dog walkers to a knowledge of the places through which they walk and to the development of practices of care for those spaces and the creatures they encounter there (Cudworth, 2017, p4).

This study found that 'responsible' dog owners monitor and protect public spaces. As we saw above, the dog waste on the streets and in the parks of countries such as the UK is in decline. So, what might explain this political focus on the problem of dog waste?

It is interesting to reflect on the aversion to dog waste in the context of European civilizing processes wherein 'faecal aversion' appears 'a constant in Western civilisation. Evidence for

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3 it has been appearing in writing for at least 2,500 years '(Praeger, 2007, p.208). Praeger goes
4 on to say that this serves to 'demonstrate power ascribed by the civilised to contamination'
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6 (2007, p.186) and that
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10 The Victorians actively denied their own poop even as they fretted about the pooping
11 conditions of the masses. This wasn't hypocritical because they believed that poop
12 was something that only happened to other people. It was, in fact, what made other
13 people, other people. This sort of categorisation enables the news media to report
14 certain stories about poop without puns and without judgement...Judgmental
15 contexts and techniques are not necessary because judgement is built in. (Praeger,
16 2007, pp.182-183).
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21 This inbuilt judgement enables the press, or any organisation, to report on filth, such as dog
22 excrement, in a way that does not require explanation, dressing up or editorialising: 'Animal
23 hoarder knee deep in faeces' (Tait, 2015). In such cases, the presence of the matter says all
24 that is required for us to make judgment about what we are dealing with; the places are
25 filthy, these people are not like 'us'. In this case study of the LBB and Streetklean, if you do
26 not agree to share your dog's DNA and your own biographical details with the local authority
27 or landlord, you will be deemed as not 'responsible' or 'considerate' but 'irresponsible',
28 'inconsiderate' and 'not playing by the rules' (BBC News, 2016a).
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37 Complaints about dog excrement cannot all be taken at face value as dissatisfaction with a
38 local area can be complex and not explicitly expressed. The overwhelming prevalence of
39 complaints about dog excreta expressed in local surveys prompted a study which found
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44 that these specific complaints [concerning dog excreta] were located among less
45 easily defined or articulated experiences of social and environmental neglect, where
46 neighbours were estranged from one another and local authorities seen as negligent.
47 (Derges *et al.*, 2012, pp. 419-425)
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51 The study identified the need for research-grounded policies that consider the inter-relations
52 between health, 'wellbeing' and experiences of marginalisation among urban populations
53 (Derges *et al.*, 2012, pp.419-425). Therefore, the articulation of problems with issues such as
54 dog fouling were often indicative of more wide-ranging issues and require understanding and
55 further investigation and holistic solutions to environmental and social problems.
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Pemberton's study of dog walking and fouling in the 1970-80s about the banning of dog walkers from parks in Burnley revealed far-reaching issues about belonging and exclusion in a town ravaged by large-scale industrialisation and 'serves as a lens for exploring post-Industrial fractiousness along class lines' (Pemberton, 2017, p239). However, such insight is not present in responses from local authorities to apparent public revulsion about the 'problem' of dog waste.

Biometric surveillance

Biometric surveillance relies on the gathering of data from physical characteristics or identifiable behaviour. Previous methods of biometric data collection for animals involve visual patterns such as markings, nose prints, iris patterns, retinal vascular patterns, facial recognition, ear vessel patterns, bite marks impressions and movement analysis (Bugge *et al*, 2011, pp. 2-6). Deoxyribonucleic acid (DNA) is the molecule that contains the genetic code of organisms; and some viruses as it contains unique identifiers it enables an even greater and more sophisticated form of biometric surveillance.

In terms of wildlife, DNA can be used for effective identification of animals without trapping, revealing species, markings, gender and other data. Canine DNA is most often used for identification purposes. It is used for determining parentage including finding 'doggy deserters' when the father is unknown; used in ownership disputes; used to determine which varieties mixed breed dogs are made up of and for hereditary disease testing and it is also used by dog breeders to screen undesirable genetic traits or encourage desirable ones. It is now being used where an animal is a victim, perpetrator or 'witness' to a crime, for example, animal cruelty cases an example of which led to the Canine Combined DNA Index System (Canine CODIS), a US multiagency database with samples collected from dogfighting sites (UC Davis, 2012). DNA may also be used in cases where a person or another animal has been attacked by a dog; a dog has caused damage to property or been accused of being in a road traffic accident (Schneider *et al*, 1999, pp.315-316). The earliest instance of animal DNA being used as evidence linking a perpetrator with a defendant was in a first-degree murder convicted by Snowball the cat's hair in 1996 (Primorac and Shanfield, 2014, p.322). Thereafter, canine DNA has been taken from hair, blood, saliva, urine and used as forensic evidence for crimes including a triple homicide in Indiana resolved by using dog waste

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3 (Lindquist and Wictum, 2016, pp. 212-218); in 1999, a sexual assault case successfully
4 prosecuted with dog urine (March, 2009) and a child abduction/murder solved with dog hair
5 (Halverson and Basten, 2005, pp. 598-605). It is also a sad fact that the strong links between
6 violence and animal abuse are well documented (Flynn, 2011, pp. 453-455) although there
7 has been some debate as to whether there is evidence of a direct link (Arluke *et al*, 1999, pp.
8 963-975).
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16 The uses of canine DNA by law enforcement agencies makes the collection of dog DNA on a
17 database a potentially invaluable resource going far beyond finding rogue pet owners and
18 dirty dogs. A recent phenomenon is consumer genetics. As Evans points out “the private
19 sector is rushing to satisfy our drive to know ourselves in this new way with a variety of
20 boutique genotyping services” (Evans, 2008, pp. 709-710). Such services promise knowing
21 your ancestry, finding long lost family members, finding out which diseases you are prone to,
22 looking for bespoke nutrition and treatments for various ailments and allergies. The
23 marketplace for non-human animal information is proving no different; as with other
24 surveillance technologies, it offers the potential of limitless lucrative business opportunities
25 (Duhaime-Ross, 2016). Owners are having their animals tested for the same reasons as
26 humans are, just curiosity, some are even having deceased dog DNA tests done as they still
27 wonder about the breed characteristics of a favourite late pet. It is also possible to buy
28 jewellery of your ‘Forever Pet’ with DNA encased within in it (Perpetua Life Jewels, 2018).
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41 It is in the use of the DNA that the potential for ‘surveillance function creep’ is evident. Law
42 enforcement agencies are starting to turn to human voluntary recreational databases to
43 throw up familial ties and reveal the kinship of suspects. DNA-testing services like
44 Ancestry.com and 23andMe do not voluntarily surrender their DNA information to police
45 forces as forensic genealogy would have a detrimental effect on their business. However,
46 companies can and have been compelled to do so by law enforcement agencies if there is
47 good reason to suspect it will be helpful. It is not hard to imagine how pet databases can be
48 used to in similar ways in the future with linkages to crime scenes and biographical
49 information.
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Dog DNA testing in LBBB

The biotech company Streetkleen is rolling out PooPrints UK (the product name for the pet forensic service) in the LBBB delivered in partnership with BioPet, a Knoxville, Tennessee based animal DNA firm. Its services have proved popular in the US: BioPet Vet Lab “matches the mess” for communities across 45 states and here and in Canada PooPrints has been introduced into many private housing schemes in order to control the behaviour of tenants with dogs and has been used to enforce eviction notices (Williams, 2015). It is used in trial programmes in Germany, Israel, Singapore and Spain, where dog fouling has seen to be a problem (Hall, 2009).

London is divided into 32 boroughs plus the City of London. The LBBB is situated nine miles east of Central London; it has a population of approximately 211,998. The Borough has substantial issues regarding deprivation, exacerbated by heavy cuts in central government funding as a result of ongoing austerity measures. According to the 2015 Index of Multiple Deprivation (IMD) LBBB is ranked the 12th most deprived local authority nationally and the 3rd most deprived in London (LBBB, 2015a). In terms of dog ownership, surveys by the Pet Food Manufacturing Association (PFMA, 2018) show that 45% of households in the UK own a ‘pet’; and there are approximately nine million dogs in the UK making 26% of households dog-owning and within that 9% of Londoners and 23% of the population of the South East (PFMA 2018). According to LBBB, 11% of its population own dogs – approximately 18,000 dogs - and LBBB spends 2.3 million GBP each year clearing up dog faeces (Turner, 2015).

This scheme was introduced as part of LBBB’s strategy to combat anti-social behaviour to facilitate a strong, cohesive community. There has been a gradual shift to entrepreneurialism ‘as the main motif of urban action’ and the introduction of surveillance technologies, such as CCTV are presented as being pivotal to this (McCahill, 2002, p.12). It is evident that this council is proactive in attracting businesses with opportunities for public private ventures (LBBB, 2015b). The introduction of the Streetkleen scheme was also prompted by resident surveys regarding street cleanliness and concerns regarding anti-social behaviour. Although fines are part of the scheme, and there is a focus on public housing tenants, the ostensible aim is to progress a civic pride agenda through a series of behavioural change campaigns (LBBB, 2017b).

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5 LBBB committed itself to becoming the first council in the United Kingdom to introduce a
6 scheme to identify those allowing their dogs to foul public spaces through a dog DNA scheme.
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8 The pilot scheme started on 21st January 2016 in three areas of the borough and coincided
9 with the introduction of Government legislation requiring owners to have their dog
10 microchipped and that their details are kept up to date (Legislation.gov.uk, 2015). LBBB saw
11 this as an opportunity to eventually work with local vets to collect dog DNA at the same time
12 as dogs were brought in to be microchipped.
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20 LBBB stated that the pilot proved to be successful with a 52% reduction of uncollected dog
21 faeces in the three locations trialled. However, the Council considered that long-term
22 intervention was required to maintain and improve behavioural change in dog owners. As
23 such the Council went to public consultation between 13th February 2017 and 31st March 2017
24 on whether to make the areas in the pilot subject to a Public Spaces Protection Order (PSPO)
25 (LBBB, 2017a). At Cabinet in March 2016 it was also recommended to approve and roll out
26 the requirement for dog registration into council tenancy agreements. LBBB found 66.6% of
27 respondents agreed with the recommendations, yet LBBBs own records show that there were
28 in fact only three responses in total for the consultation, two from residents and one from the
29 Kennel Club.
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40 At Cabinet on 15th November 2016, the reasons for the implementation of PSPOs as set out
41 in the Anti-Social Behaviour, Crime and Policing Act 2014 for the restrictions on specific
42 activities that were deemed as having a detrimental effect on the quality of life of those in the
43 locality (in terms of public health and children's safety) were recommended and agreed upon
44 (Community Safety Partnership 12th June 2017). It is worth noting that Toxocariasis is
45 described by the NHS as a 'rare infection' (NHS, 2018) but
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53 [...]gains a disproportionately high amount of press coverage [...] We believe this is
54 because a number of stakeholders seek to use toxocariasis as a route to either justify
55 clamping down on where dogs can go, or exaggerate the prominence of it to gain
56 funding for their work or increase product sales (Kennel Club, 2015a)
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3 While the Club is possibly one-sided in its conclusions, some of its assertions can be borne out
4 by examining this scheme and others; wherein invasive solutions have been implemented in
5 the context of alarmist public rhetoric.
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10 *Collecting canine DNA*

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12 The PooPrints scheme relies on a two-pronged approach. Firstly, dog owners are asked to
13 register their pets; this is encouraged by it offering additional benefits such as theft protection
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20 a personalised health and wellness program for your dog. The program enables
21 owners to create a personalised, interactive life management plan within our
22 database. It offers the opportunity for owners to purchase additional genetic
23 screenings for disease and health and can be used to improve communications with
24 vets and other care providers. (Anigene 2019)
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28 Secondly, employees of LBBB Environmental Enforcement Team and the Park Rangers Service
29 carry out patrols to collect samples of any dog faeces which are then sent to PooPrints to be
30 analysed for genetic markers which can be checked for a match to any dog registered on their
31 database. If there is a match, the owner will receive an advisory note warning of future
32 enforcement activity.
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39 In addition to the benefits outlined above by PooPrints, LBBB state that dog DNA registration
40 helps create better, cleaner, safer places by promoting considerate dog ownership leading to
41 reduced incidences of uncollected waste. LBBB also reiterates that dog owners gain access to
42 a secure online database of useful pet information (DNA profile, breed overviews, a place to
43 store medical records, kennel information and so on (LBBB, 2016b) Such services would be at
44 extra cost and potentially provide an opportunity for marketing services to pet owners. LBBB
45 has not stated that it intends to share this data, it will be safeguarded by Streetkleen and
46 Biopet. There are also other ways that organisations can benefit from the selling of data and
47 companies advise on alternative income streams for cash-strapped councils, as it states in its
48 advice paper to local governments:
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58 Council commerciality is on the rise. The pressure on public finance means that
59 alternative sources of revenue – or profit are increasingly being sought. More and
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3 more councils have trading companies while some have recruited 'commercial
4 directors' (Capita, 2013)
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8 There can be a thin line between entrepreneurialism and pressure to exploit all avenues for
9 commercial gain and DNA surveillance is peculiarly susceptible to function creep as it has so
10 many applications.
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14 15 *The use of PSPOs*

16 From the outset, this scheme was always intended to run in tandem with new PSPO for non-
17 compliance. PSPOs have been described as 'geographically defined version of ASBOs', distinct
18 in that ASBOs were aimed at individuals, (Garrett, 2015) that have come into force under the
19 Anti-social Behaviour and Policing Act (2014); which often work to criminalise activities that
20 were not previously considered illegal. PSPOs are wider ranging than any previous restrictions
21 and now allow councils to ban any activity they believe to have a "detrimental effect on the
22 quality of life in any locality". A single order in any one space such as a park can be used to
23 cover numerous activities and furthermore, can include activities that have yet to take place
24 or "are likely to have" an effect introducing a 'categorical suspicion' where places or people
25 are under surveillance simply because they fall within certain categories (Lyon, 2007, p. 106).
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37 These actions may be disproportionate instances of taking a 'hammer to crack a nut'. Post
38 9/11 covert surveillance powers such as the Regulation of Investigatory Powers Act (2000)
39 were never intended to be used for petty misdemeanours. The circumstances under which
40 the PSPO restrictions can be imposed are if the activity "is, or is likely to be, persistent or
41 continuing in nature" and "is, or is likely to be unreasonable" (LGO 2018). Yet PSPOs are now
42 being dubbed by some as a "Busybodies Charter" (Appleton, 2016). It has been found that
43 explicitly or by careless drafting, PSPOs have been used to outlaw or curtail a wide range of
44 harmless activities now deemed as anti-social such as busking, feeding birds, lying down,
45 carrying a golf bag or spending the night in a public toilet (Bowcott, 2016).
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56 Some of these rules are designed to combat serious problems in certain areas but controls
57 are also serving to render day-to-day legal activities into criminal offences and are clearly
58 driven more generally by society's aversion to risk (Ericson and Haggerty, 1997; Beck, 1992).
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3 Demonstrating the desire to pre-empt certain behaviours, these actions exhibit a hitherto
4 unimagined response to risk and can also often form part of a Neoliberal strategy involving
5 the sanitisation of urban space to attract inward investment and technological development
6 (Coleman and McCahill 2011). A continuation of this trend is what the Kennel Club terms as
7 a 'War on dogs' which is now seeing dog walking banned in parks, beaches and other public
8 spaces. The Kennel Club is currently against compulsory testing for dog walkers, citing cost
9 and lack of fairness (Kennel Club, 2019). Its report *Out of Order: The impact of access*
10 *restrictions on dogs and their owners* (2015b) points out that:

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20 Since the introduction of the Animal Welfare Act 2006 there is a legal requirement for
21 those responsible for dogs to provide them with 'suitable exercise', which means
22 regular opportunities to walk and run off lead (Bingham, 2016)

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25 UK dog rescue and rehoming charity the Dogs Trust, has also recognised this as an issue and
26 is featuring information about access to recreational spaces for dogs stating that:

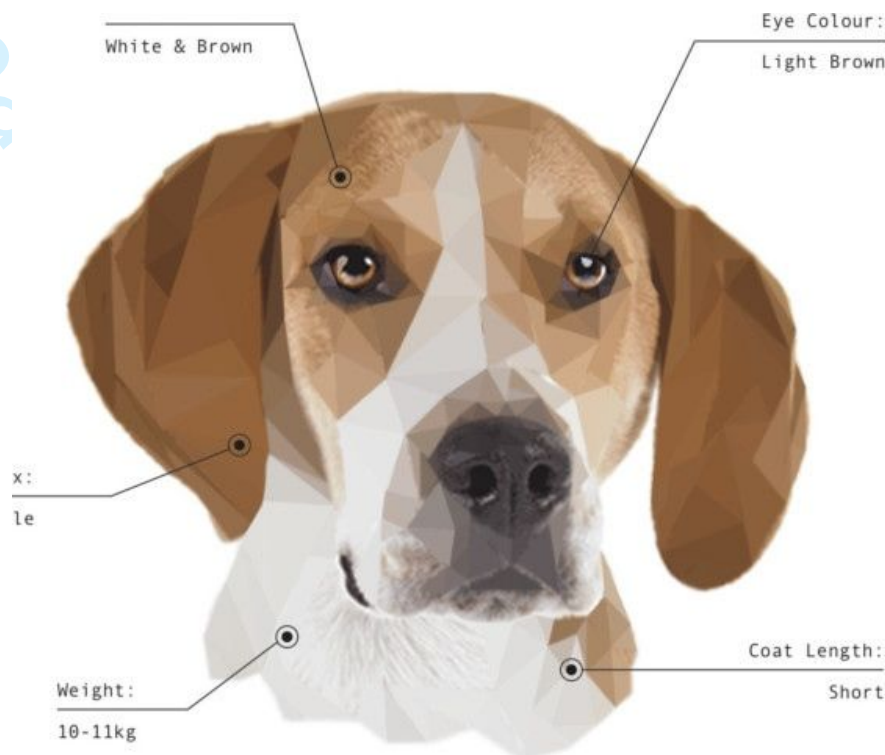
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30 all dogs should have fair access to public spaces and have plenty of opportunity to
31 exercise on and off lead. We also believe that the vast majority of dog owners are
32 responsible, and that most dogs are well behaved (Dog's Trust, n.d)

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36 The Trust reports that it seeks to

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40 Ensure that all dog owners are well represented when a local authority plans a
41 consultation to introduce PSPO or Dog Control Orders (DCO)... many local authorities
42 do not properly inform the public about them. This means that many PSPOs and
43 DCOs are being passed without a fair representation of dog owners who simply
44 didn't know about the up-coming consultation! (Dog's Trust. n.d)

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48 Concerns about PSPOs are also connected to the rise in towns of pseudo public spaces
49 otherwise known as Privately Owned Public Spaces (POPS), which are places that appear as
50 public spaces but are, in fact, privately owned and subject to by-laws that do not even have
51 to be revealed to the public. They are part of 'a new culture of secrecy and control, where
52 private security guards can remove you for protesting, taking photos [...] or just looking
53 scruffy' (Shenker, 2017). These places can be land that, for example, has been turned over by
54 an impoverished council that can no longer afford the upkeep.

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5 There appears to be early evidence of surveillance 'function creep' in relation to the
6 curtailment of activities with dogs in public spaces; privacy infringements with what start as
7 voluntary schemes becoming mandatory and essential for access to parks and leasing
8 agreements. As Lyon (2003b) reminds us, in the surveillance society, social sorting is endemic
9 and unforeseen consequences can result in discrimination. As such, DNA not only identifies
10 an individual dog but can also reveal links to other family members resulting in the targeting
11 of non-participating animals or owners of those dogs. There is clear evidence of function
12 creep in DNA gathering solutions to dog waste. In LBBd this has gone from being a voluntary
13 scheme to encourage responsible dog ownership to one that discourages those that are not
14 part of the scheme from accessing public land and even gone so far as to criminalise failure to
15 carry a bag intended for dog-waste (LBBd, 2017). Pugshots, dog e-fits supposedly compiled
16 from a DNA samples, similar to China's 'Face of litter' campaign' (Sharp, 2015) were released
17 in an advertising campaign (alpacacommunications.com/pugshots, n.d.) to publicise the
18 scheme and encourage or shame owners into signing up and picking up after their dog. Local,
19 international press and TV reported that images of the "suspects" (Figure 4) would be part of
20 a campaign of posters in parks and newsletters sent to the LBBd's residents reinforcing the
21 panoptic effect of the scheme (Rasiah, 2016; Webster, 2016). The generic pictures trended
22 worldwide reinforcing the panoptic effects of the scheme.
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WE CAN PUT A FACE TO DOG WASTE.

This simulated portrait has been developed using advanced technology to establish traits via DNA extracted from dog waste collected in this area.

Figure 4. 'We can put a face to dog waste' Pooprints poster (Rasiah, 2016)

The scheme is heavily promoted as being 'fool proof' and in addition, the foundation of the scheme is underpinned by the knowledge that the subject is already a 'deviant' and it is not just suspects that are targeted. Like so many surveillance schemes, by including everybody, everyone is framed as a suspect; the argument being '*if you have nothing to hide you have nothing to fear*'. In this instance anybody not in favour of the scheme is framed as a grubby advocate of untrammelled dog defecation!

In the surveillant assemblage, digital technologies enable subjects to be "abstracted from their territorial settings" transforming the "purposes and hierarchies of surveillance" (Haggerty and Ericson, 2000). The selling of data is big business - data can be shared many times, sold, misunderstood and lost. Animals are nodes of the surveillant assemblage and as such they provide information for attractive income streams for the marketing of goods and services. More conventional personal information is also still a valuable commodity and the

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3 sharing of databases to the sellers of dog-related goods and services may prove to be
4 understandably tempting to any cash strapped organisation but not least it is already
5 promoting the additional services of a private company. Mintel, the World's leading
6 marketing intelligence agency offers its UK Pet Market Report to vendors 'The undeniable
7 feel-good factor linked to pet ownership can be harnessed in very compelling marketing
8 messages' and says that 'Brands can partner with health, fitness and weight loss initiatives
9 for pets and their owners' (Mintel, 2017). Building on the idea of 'categorical suspicion'
10 Lyon has coined the phrase 'categorical seduction' to explain how marketing companies
11 target us for goods and services based on what we have shown ourselves to buy or even just
12 expressed a liking for, which is why databases are so valuable in the 21st century as they
13 offer unparalleled access to those who have clear affiliations with particular 'things', such as
14 dogs (Bauman and Lyon, 2012, p.16).
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26 27 *Implications for research and public policy*

28 Schemes such as these need to be assessed in a number of ways. First, in terms of its
29 effectiveness. For surveillance to be successful, its panopticism has to be widely advertised so
30 to become a commonly held belief; you should believe that you are being monitored all of the
31 time – here the emphasis is on 100% success in terms of identifying owners of dogs that
32 transgress. Technologically deterministic claims often rely on being exaggerated in terms of
33 claims of success; in this case, it is claimed that this technology will sweep away any 'old
34 fashioned' way of doing things. Yet LBBDD itself stated that in conjunction with the scheme,
35 there was an increase in park warden patrols, signage and awareness raising campaigns, for
36 example, in the press but the emphasis was on the technological fix. Technological
37 determinism will prompt a reliance on technological solutions to complex social problems;
38 just because something is technologically possible it is not always reason enough to go ahead
39 and do it. Second therefore, possible alternatives need to be properly considered. It is
40 possible that there could be room here for a more community-based response or even simple
41 ones such as better lighting, more bins and free bags tied to lamp posts.
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56 For LBBDD the scheme is about health and well-being issues, promoting civic pride, changing
57 behaviour and curbing anti-social behaviour. A third consideration however, is the unintended
58 consequences of such schemes in terms of the use and potential use of data. For the private
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3 companies involved these schemes provide a gateway for marketing to dog owners through
4 the access of people's personal information that is harvested as part of participation in the
5 scheme. Data captured is easily shared and a valuable commodity, this is especially true in the
6 rapidly emerging pet goods and services market, from cloning, genotyping, tracking,
7 webcams, clothing, jewellery to shampoos, conditioners and deodorants. There is also a
8 burgeoning market for services such as grooming and training and veterinary services that are
9 underpinned by insurance companies. The scheme is already geared up to harvest more data
10 by offering 'additional amenities' such as the Biopet Lifeplan, a DNA and computer-based
11 health and wellness management plan.
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22 *Conclusion*

23 Clearly, dogs are not considered to have rights in their own in the respect of privacy, however
24 their human animal companions do. Human rights law requires that any interference with
25 privacy is legitimate, necessary in a democratic society, and proportionate. The issue of
26 proportionality is key when looking at this scheme and others like it. It is also necessary to
27 examine who is included in the scheme, any sanctions for non-participation and also consider
28 who is not directly involved in it yet may be adversely affected by it such as the casual park
29 user, the homeless and tourists. It also relies on the conscientious dog owners to underpin
30 the scheme. There are better and more inclusive ways of managing public spaces, ones that
31 draw on the unique qualities of dog walkers and the communities that they engender. The
32 neoliberal push to attract business into deprived areas in order to gentrify them can
33 sometimes result in ill-conceived joint public private ventures and in this instance a
34 disproportionate response to a problem. This is an area of considerable deprivation; if the
35 cost of the scheme must be eventually be borne by the dog owners in the Borough it will be
36 unfair. As we have also seen, residents in areas with problems can complain about issues such
37 as dog waste whereas they find it difficult to articulate wider issues that ought to be
38 addressed.
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54 Technology-led surveillance systems are prone to function creep due to their rigidity and ease
55 of use and like many automated large systems, can be prone to failures in data protection.
56 These schemes have gone from being voluntary to being mandatory and now being a feature
57 of tenancy agreements in some places. It is only a matter of time before this is used for
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3 criminal investigations far more serious than environmental nuisance ones. This scheme is
4 pervasive and has sufficient and frequent enough points of contact to be a surveillance of
5 control. As with any surveillance technology, it is also instructive to see it in its wider context
6 and therefore be able to imagine where such schemes might lead. This scheme involves a
7 'dog register' but this is a misnomer. It should be called what it is: a register of dog owners.
8 Similarly, the Kennel Club should reframe its 'War on dogs' campaign against such initiatives
9 as a 'War on people' campaign, and consider that the negative implications will be borne by
10 some, more than others. It would be interesting to carry this study on further to see how this
11 scheme has fared and whether it lived up to its early promises.
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