



**UNIVERSITY
OF TURKU**

This is a self-archived – parallel-published version of an original article. This version may differ from the original in pagination and typographic details. When using please cite the original.

AUTHOR Carlo Gatti

TITLE Monitoring the monitors: a demystifying gaze at algorithmic prophecies in policing

YEAR 2022

DOI <https://doi.org/10.1332/UBQA2752>

VERSION Author's post-acceptance version

CITATION Gatti, C. (2022). Monitoring the monitors: a demystifying gaze at algorithmic prophecies in policing, *Justice, Power and Resistance* (published online ahead of print 2022). Retrieved Nov 17, 2022, from <https://bristoluniversitypressdigital.com/view/journals/jpr/aop/article-10.1332-UBQA2752/article-10.1332-UBQA2752.xml>

Monitoring the Monitors: A Demystifying Gaze at Algorithmic Prophecies in Policing

Abstract

Predictive policing lies at the intersection of a diachronic paradox between the innovativeness of algorithmic prediction and its selective application to archetypes of conventional criminology. Centring on the Italian context, I outline a critique of predictive policing proceeding from its embeddedness in the neoliberal restructuring of security provision and the increasingly blurred boundaries between private and public agencies. Rejecting the narrative of technical neutrality and operational smartness, I retrace the interdependence of a selective understanding of security that has paved the way for predictive policing and the impact of automated predictions on the governance of crime control. I argue that the production of social harm under predictive policing follows three main patterns: firstly, the continuation of a tolerable rate of street crime; secondly, a dramatic acceleration in the marginalising and stigmatising potential of criminal targeting; and thirdly, the impairment of democratic accountability through tautological schemes of self-legitimation.

Introduction

As defined by Perry et al., predictive policing (hereafter PP) is “the application of analytical techniques – particularly quantitative techniques – to identify likely targets for police intervention and prevent crime or solve past crimes by making statistical predictions” (2013: XIII). In current practise, the term inextricably refers to the use of algorithmic calculations to highlight likely police targets, namely future perpetrators (person-based PP), or future crime spots (place-based PP).¹ The reliance on artificial intelligence, with its unquestioned allure, explains the widespread use of PP as a generalised trend among many police agencies worldwide, as well as its promotion as a new frontier of crime control ensuring unprecedented levels of data-driven unbiasedness, technology neutrality, and price efficiency.

Contemplating the rise of PP in Italy, this study aims to provide an overview of its impact on social harm delivery, with a particular emphasis on how a specific understanding of security, grafted onto the Italian social fabric, *shapes* and – in turn – *is shaped* by the implementation of predictive technologies. The composition of the theoretical case study builds on analysis of secondary sources, including institutional reports, newspaper surveys, texts authored by software creators, public interviews with users and representatives of PP software owners, and these companies’ websites and social networks.

As a preliminary remark, the purpose is not to engage in a technical questioning of the predictive reliability of these devices. In fact one can presume that taking a reductionist view of crime, and hereby viewing it as a proxy for structural determinants, facilitates the emergence of more successfully predictable patterns. Rather, this study explores the political significance and social consequences of a predictive liturgy that, under a selective typification of crime descriptors, tends to foretell that which is already known.

In terms of structure, the article unfolds as follows: I first outline the theoretical background against which PP is framed as an object of social harm analysis. The following two sections scrutinise the symbiotic relationship between implementation of PP technologies and the neoliberal restructuring of security provision, with particular reference to the Italian context. Next, I present two predictive algorithms currently in use in Italy - KeyCrime and Xlaw – focusing on the theoretical postulates which inspire them, and on their business trajectories. I then retrace how these innovations - and their accompanying discourses - are reshaping the general understanding of security, rendering necessary a redeployment of the concept of ‘soft privatisation’. In the subsequent section, I propose an overall interpretation in terms of social harm production, and lastly conclude, envisaging possible avenues for future research.

Theoretical backdrop

In adopting the social harm approach as a basic theoretical background, this study openly opposes a merely interpersonal and legalistic explanation of harm confined to the scope of state-defined crime (Pemberton, 2015). It instead points to a structural understanding of harm infliction embedded in systems of social relations. As demonstrated below, the dominant construction of crime refuted is precisely that which informs the operational scheme of PP. This rests on an individualistic and apolitical notion of risk which reproduces long-established practices of crime control and legitimises existing power relations (Hillyard and Tombs, 2004a).

With regards to the integration of the technological dimension into the structural analysis of social harm, Wood’s (2021) recent findings stand significant. Such studies have broached the complexity of technology-related harms through a stratigraphy of four types of technology-harm relations. In partial reliance on these insights, Malik et al. (2022) have proceeded more avowedly towards a macro-level analysis of how digital and, in particular, algorithmic technologies transform the dynamics of social harm production. Their work thus complements an extensive scholarship that has critically addressed the asymmetries embedded in algorithmic decision-making– not least in law enforcement (O’Donnell, 2019; Richardson et al., 2019; Robinson and Koepke, 2016) – albeit without embracing the social harm template.

While this combined understanding of technological affordances and harm production at a macro level is a necessary step, given the specificities of PP, the consideration of further dimensions is required.

Firstly, PP is part of a governance modality emerging in times of profound redefinition of public policy goals. Some authors have referred to the rise of algorithmic governance (Coletta and Kitchin, 2017), integral to which is the praise of quantification as an end in itself (Rouvroy, 2016), and the use of algorithms as governance tools replacing the analysis of causes with the governance of effects (Just and Latzer, 2017).² Predictivism, for its part, stems from the need for increased intermingling of temporal governmentality (Sheehey, 2019) and economic governance in financialised capitalism, where the continuity of value extraction requires the pre-organisation of future uncertainties through mechanisms of time control. In this respect,

and in a more far-reaching perspective, Lazzarato (2015) insightfully explains the importance of debt as a governmental tool for its capacity to enclose time, ‘taking priority over it’ in order to hypothecate the radical indeterminacy of future behaviours and normalise uncertainty in advance. In the same vein, Pasquinelli (2014) signals the centrality of behavioural predictions in the new regime of ‘dataveillance’, while Zuboff (2019) dissects the rationale informing the behavioural futures markets of surveillance capitalism.

Secondly, PP is a meeting point between a public function par excellence and the involvement of private providers of proprietary products, as is the case for most PP software. While privatisation in general terms has been defined as “the shift from government provision of functions and services to provision by the private sector” (Priest, 1988: 1), the itineraries of security privatisation have been reported over the last decade by an extensive literature (Abrahamsen and Williams, 2011; Bures, 2017; Bures and Carrapico, 2017; Carrapico and Farrand, 2021; Millie and Bullock, 2013; White, 2020). Carrapico (2021), in particular, has coupled the study of security privatisation with the production of social harm, albeit focusing on security practices unrelated to the use of algorithmic technologies.

In the specific field of policing privatisation, White (2020) has devised a set of four analytical dichotomies to assess the overall degree of privatisation in each case: 1) the privatisation of ‘steering’ versus ‘rowing’ functions, depending on whether the privatisation covers the direction of policing goods from the above or just their delivery on the ground; 2) the framing of the private sphere as ‘market economy’ versus ‘community’; 3) ‘policy led’ privatisation (triggered by government strategy) versus ‘demand-led’ privatisation (resulting from a demand which cannot be met by public supply alone); and 4) the ‘institutional’ state influence (when statutory instruments still regulate the delivery of privatised goods) versus the ‘cultural’ influence (when the weight of the state is exerted prevalently as symbolic capital).

Despite the variety of examples of security and policing privatisation reported in literature, these all tend to fall under a consolidated scheme of privatisation grounded in public-private partnerships and in the formal outsourcing of public services and service areas from police forces to appointed contractors (e.g., private management of custody suites, training facilities, police station front counters, detention facilities and visa applications within border control). However, as I will later explain, neither the formal entrusting of security functions to private actors nor unidirectional outside-in flows from private developers to ‘passive’ public purchasers mirror the reality of PP implementation in Italy. For this reason, I adopt the notion of ‘soft privatisation’, first introduced in the field of public governance of education (Cone and Brøgger, 2020), and explore the possibility of redeploying it in the law-enforcement context.

Third and finally, further peculiarities characterise PP as an object of social harm analysis. From the perspective of harm production in the algorithmic context (Malik et al., 2022), PP is not an unexpected failure or distortion of algorithmic technologies designed to serve different ends. Nor is PP linked to apparently natural phenomena whose political responsibilities are hardly visible and need to be unveiled.³ The institutional agency behind PP is indeed overt, as it already stands as an institutional articulation of the punitive power and represents, according

to Canning and Tombs' classification of crime-harm relationships (2021: 32), a harm produced by the criminal justice system (CJS) itself, with targeted individuals being exposed to an ascending set of potential outcomes – ranging from arrest to prosecution, conviction, and punishment – already defined by Christie (1981, 1986) as a pain-delivery process.

Consequently, unlike other harmful practices highlighted in social harm literature, and being itself a criminalisation generator, the question of whether and how to formally criminalise PP for its harmfulness would be, in my opinion, nonsensical and politically naïve.

Predictive policing as austerity policing

The appearance of the term PP in the security debate, with the first discussions in literature concerning the opportunities made available by the computational evolutions of hotspot policing, harks back to a season of budget cuts and staff reductions faced by many US police departments, especially after the great financial crisis of 2007-2008 (Bratton and Malinowski, 2008). The primary assumption behind these discourses was the need, in response to austerity, to extrapolate marketing strategies to policing to achieve a qualitatively new cost-effectiveness. This was powered by two basic ideas: on the one hand, the equation of the reduction in crime figures for police agencies with the production of profit for businesses; on the other, intervention in offender decision-making through techniques akin to customer steering, along the lines of Walmart, Amazon, Netflix, or insurance companies (Beck and McCue, 2009; Uchida, 2014).⁴

The symbiosis with the political dictates of neoliberal austerity is also confirmed by the criminological background that has inspired PP initiatives since their emergence. While the person-based models build their risk-assessment criteria on the presumptive theorems of “selective incapacitation” (Greenwood and Abrahamse, 1982),⁵ place-based calculations implement a panoply of situational schemes (“situational crime prevention”, “routine activity”, “repeat victimisation”, “broken windows”) that, under the claim of an atheoretical dissection of the environmental settings (Clarke, 1980), conceal a purely socioeconomic conception of crime. Rather than producing an exhaustive account of all those criminological theories, greater importance must be placed on underlining that both selective incapacitation and situational inflections marked the end of penal welfarism. This coincided with the advent of penological discourses tasked with legitimising cost reduction strategies in criminal policy. In particular, one can note the waiver of rehabilitative pretensions for the CJS and an exacerbated focus on those pre-selected social sectors held accountable for the vast majority of crime in society (Feeley and Simon, 1992).

Moreover, as previously outlined, the coessentiality between PP and austerity reflects, on a wider scale, the role played by algorithmic predictionism within strategies of neoliberal governmentality (Rouvroy, 2016). In fact, among the profound transformations following the crumbling of the welfare state, one major change has involved the reconfiguration of many social contingencies, previously covered by an extensive range of social rights and benefits, as risks to be handled and borne by individuals through solutions available on the market. Hence,

in order to ensure the continuity of capitalist valorisation under the increased uncertainty of everyday life, financial capitalism – with the decisive help of the State in socialising losses and privatising social surplus value – has been forced to actively ‘plan’ its exploitation by extending the individual enterprise model to wider society and estimate profit margins on the basis of assigned risk levels. This has inspired new rationalities of risk fuelled by self-responsibility narratives and imaginaries of fear and insecurity (Autto et al., 2021; Hespanha and Portugal, 2015). It is no coincidence, then, that risk has also been converted into a punitive rationality, while security policies have been increasingly centred on prevention and prediction at the expense of punishment of past offences (Abrahamsen and Williams, 2011). These are, more than internal tensions within the penological debate, quintessential modes of neoliberal governance.

Austerity: The Italian way

In the aftermath of the global financial crisis of 2008, Italy’s position within the European landscape has become one of a long-term political testbed for ‘exceptional’ ways of management. Especially after the 2010 G20 Toronto summit (where the guidelines of a new fiscal consolidation were settled), increasing pressures exerted by international bodies set the course for a new political season whose primary mandates were deficit reduction measures, curtailment of public expenditure, and stricter control on debt assumption.

Through institutional and political vicissitudes beyond the constraints of this study, Italy has staged a long sequence of technocratic governments that have repeatedly confirmed the capacity of the neoliberal agenda to easily eliminate previous limitations and arrangements in the relationship between economics and politics typical of welfare governance.

Estimating the extent of the direct repercussions of the de facto external administration in economic policy on the Italian social composition and on criminal policies proves challenging. Nevertheless, three economic recessions (the 2008 great recession, the 2011 debt crisis, and the 2020 pandemic), growing cutbacks in vital public services over the past decade (Barbieri, 2021; Sparano, 2021), and an absolute poverty index that reached the highest level since 2005 in 2020, with almost 10% of the population living below the poverty line (ISTAT, 2021) – clarify which social classes took the brunt of the neoliberal reconfiguration.

At the same time, although the security sector may not be the clearest example of this paradigm shift, some trends within it *do* suggest that the generalised cutbacks in public expenditure had significant repercussions upon it. A 2018 report issued by the CENSIS Research Institute on the security supply chain in Italy presents public order as “no longer only [a] public” asset (CENSIS, 2018), and estimates that in the period 2008-2016 the expenditure on police personnel dropped by 6.4% in real terms. The number of law enforcement officers, whose national collective agreement signed in 2008 was not renewed until December 2021, fell from 330.816 in 2008 to 306.500 in 2019, whereas the quantity of private security firms increased by 16.2% in the five-year period 2016-2021, with a growth of 22.8% in its employment capacity (CENSIS, 2021).

Concurrently, the line taken by criminal policies post-2008 has been especially marked by so-called ‘new prevention’. Under this approach, strongly influenced by moral condemnations of urban deviance as a central issue in the political debate, criminal policy objectives have been mostly redefined in relation to urban deviance and a purely situational dimension which enhances the defensive aspects of urban settings as the prism through which crime prevention is designed and enforced (Nobili, 2020). In legislative terms, this resulted in the introduction of two ‘security packages’ in less than a decade: the Law 125/2008 and the Decree-Law 14/2017. The main purpose of the first measure has been to make administrative ordinances the central instrument of security policies. A quick survey of the most recurring topics addressed by dozens of ordinances confirms how these are compulsively intertwined with what Neocleous (2021) defines as the ancestral core of policing, namely the handling of the subsistence modalities other than commodified labour (begging, street selling, windscreen washing at traffic lights, prostitution, and other behaviours contrary to ‘public decency’). The second regulation, reaffirming a purely environmental conception of security, has granted Italian mayors the entitlement to issue new interdiction measures along the lines of disposal and trespass orders, thus widening the gap between ordinary procedural safeguards in the restriction of rights and security governance.

These legislative trends concur with the upward selectivity of the Italian CJS. According to official statistics of the Justice Department, as of 31 December 2020, people without a high school diploma accounted for 82% of the prison population, with the number of illiterate people and inmates without school certifications proving three times higher than that of graduates (Ministero della Giustizia, 2020b). At the same time, while foreign citizens comprise only 8.4% of the general population, they represent 33% of the prison population, and are also the group facing the highest probability of preventive detention for failing to prove a domicile through regular rental contracts or property titles.

In another report of the same date, prison sentences are catalogued by type of crime (Ministero della Giustizia, 2020a): the top four positions from a total of 53 entries are occupied by unlawful use of drugs, fencing, robberies and thefts, accounting for 40% of all prison sentences. In contrast, corruption, misappropriation, embezzlement, fraudulent insolvency, and bankruptcy together amount to slightly above 1% of the total, while tax evasion does not even appear on the list. The figure is remarkable, as according to recent estimates, the annual cost of corruption and tax evasion for the Italian system amounts to 237 billion (Econopoly, 2020) and 103 billion euros (Osservatorio CPI, 2021), respectively.

KeyCrime and XLaw

Turning to the leading representatives of PP on the Italian scene, these consist of two algorithmic software, KeyCrime and XLaw, developed within the police headquarters of Milan and Naples, respectively. Common to both systems is the harnessing of historical data collected by police officers on the ground over several years of police activity against predatory crimes (Lombardo, 2019) and sequences of commercial robberies (Mastrobuoni, 2020). In this regard,

the rationalities of pre-algorithmic policing are not called into question by exploring alternative targeting criteria or different ways of intervention. On the contrary, previous practices and performance measurements provide the fundamental source material from which crime patterns are extrapolated for predictive purposes, while the algorithmic outsourcing only aims to optimise the spatial deployment of police resources by foreseeing crime locations. In more theoretical terms, the criminological framework at the root of XLaw and KeyCrime consists of a mosaic of situational inflections, all reproducing a basic explanatory scheme structured around three key factors: suitable targets, absence of guardians and motivated offenders, mostly regarded as creatures of habit (Mastrobuoni, 2022).

KeyCrime constitutes one of the first examples of predictive software in the world, becoming operational in as early as 2008. Focusing on commercial robberies through a near repeat approach (Grossi, 2020), KeyCrime identifies common hallmarks among unsolved incidents to establish which ones are attributable to the same offender and, on that basis, where and when the next offence should be expected. By prioritising crimes supposedly committed by the same person, KeyCrime builds on a key premise of selective incapacitation, namely that limited sectors of the population account for the majority of crime in society (KeyCrime 2020e). This incapacitative rationale emerges emblematically in a KeyCrime validation study by Mastrobuoni (2020), who welcomes the favourable variance between the savings ensured by PP - calculated by multiplying the average robbery haul by the number of assertedly prevented robberies - and the overall outlay comprising investments in capital, labour costs, and the increased incarcerating costs due to the bringing forward of arrests.⁶ The same incapacitative approach also informs the argument, stated in the official KeyCrime video series (KeyCrime, 2020d), that the exclusive focus on crime series is intended to provide prosecutors with the foundation for making their cases in court for entire series of crime and not just an isolated one. This thesis, quite unusual in PP literature, goes beyond the pursuit of pre-emptive police strategies and proves how, according to KeyCrime promoters, issuing longer prison sentences is also an essential part of the solution to the problem of crime in society.

XLaw, second in order of time to KeyCrime, has its origins in an algorithm-driven initiative for the disarticulation of urban predatory crimes and, according to its creator, the designed algorithm largely taps into the routine activity theory, situational crime prevention, and the idea of disorder contagion purveyed by Broken Windows (Lombardo, 2019: 29 ff). What clearly emerges from the same book written by XLaw's designer is the establishment of a structural parallelism between criminal behaviour and any other job performance under a wage regime. Indeed, the typical offender's actions are described as driven by the need to offend a certain number of times a month in order to meet the necessities of life, much like any regular worker looks for monthly earnings. The expected monthly haul is calculated to be approximately 1500 euros (ibidem: 78) and, in the likeliness of a regular pay cycle, the offender aims to achieve it by a pre-established date each month. Consistently, the potential targets of thefts and robberies are primarily associated with spatiotemporal incentive factors like massive venues, month-end pension payments, shops closing hours, train and ship arrivals, and weather variations, which all contribute to delineate an environmental framing referred to as criminal's 'hunting ground' (loc. cit.). From these remarks, one can conclude that the actual notion of crime operationalised

by XLaw is selectively flattened into the idea of unlawful livelihood strategies, as crime is outlined as a prerogative of those sectors of society potentially ‘in need’ to offend.

While in KeyCrime the aetiology of crime is not illustrated as extensively as in the XLaw book, a socioeconomic conception *is* nonetheless inferable. In fact, in the aforementioned validation study of KeyCrime by Mastrobuoni (2020), criminal motivations are identified in personal circumstances such as working conditions, while in a later interview for KeyCrime’s official website, the same author recalls the ‘worker metaphor’ used for XLaw to typify the criminal as a “different type of worker to be analysed” (Mastrobuoni, 2021).

With regard to the object of the prediction, although in the case of KeyCrime predictions are incepted by a subjective trigger (presumption of same perpetrator/s), both KeyCrime and XLaw are examples of place-based PP, in that the algorithmic output indicates where - and not by whom - a future offence is going to take place. However, other PP experiences worldwide have proved that the place-based nature of the algorithmic output does not in itself guarantee that information of an individual-based nature is not factored into the risk-assessment.

An instructive example in this respect comes from the Dutch predictive system CAS, a typical place-based system delivering geospatial predictions only. Despite that, a revelatory study on its predictive markers has exposed that many of them consist in socio-economic and demographic descriptors of the individuals linked to the areas under assessment (e.g., household composition, average property value, number of income and social benefit recipients in a given postal code area, and – at least until 2017 – even ethnic markers) unrelated to environmental features or space-time coordinates of previous crimes (Oosterloo and Van Schie, 2018).⁷ Since a full list of markers is not disclosed for either of the two Italian systems, it remains unclear whether – in the likeness of the Dutch experience – the dangerousness of geographical areas is also assessed according to demographic and socio-economic markers. The doubt, however, appears more than justified not only in light of the criminal aetiology summarised above and advocated by the software creators and validators, but also in view of public declarations such as one by KeyCrime’s creator, where he stresses that information on ethnicity is essential and if developers of other software have decided not to collect this data, serious doubts should be raised about their effectiveness (Signorelli, 2019).

Moreover, even regardless of the specific markers employed, place-based predictions can never be considered just a harmless and non-invasive form of ‘place-profiling’ conceptually opposed to person-based predictions. In fact, the prediction of an area as a likely crime scenario directly impacts local crime prevention activities and the probability for the individuals associated with the marked locations to be targeted and to experience prejudice in their subsequent contacts with CJS due to the ‘algorithmically reinforced presumption’ of more crime in that area.⁸

In addition to the common criminological ground, further similarities between KeyCrime and XLaw concern the business trajectory experienced by both products after being first tested by their developers within the police headquarters of origin and, in the case of XLaw, also in other small to medium-sized municipalities. Along the lines of Predpol in the US, the officer-creators

of the two software have been the founders of start-up companies tasked with copyrighting and marketing the systems. The KeyCrime company was created in 2017 and the following year saw a 1.2-million-euro joint investment by a famous venture philanthropy fund and a multinational management consulting company specialising in business analytics (Startup Business, 2018). In 2018, the company name was separated from the existing algorithm, renamed DELIA (Dynamic Evolving Learning Integrated Algorithm) and a new launch in the global market was announced after signing a partnership with IBM and with the Spanish system integrator PSS to resell Delia in the Spanish and Latin American markets.

XLaw, in turn, is now part of a wider package called 'Pelta suite' marketed by the company Xservizi (XServizi, 2021). Interestingly, the core business of the company is not defined in relation to urban security, but to a wide concept of risk management involving insurance, retail, and mass retail channels. In fact, 'Pelta urban security', under which XLaw appears, is only a subsection of the Pelta range of services offered by XServizi and is showcased in a conceptual continuum unifying entrepreneurial and public spheres of risk prevention.

From 'soft privatisation' to security re-shaping

In the introduction, I indicated how academic discussion of security privatisation is largely couched in terms of institutional functions and service areas formally contracted out to private operators. Looking at the introduction of PP systems in Italy, it might be argued, to a first approximation, that a certain transfer of power towards the private sector is indeed taking place, as police activities end up being more or less directly steered by algorithmic technologies whose input data and source codes are proprietary assets (Grossi, 2020). Moreover, the procurement of proprietary products might suggest a second dimension in the privatisation dynamics, that is, the idea of an outside-in model whereby new services and products, otherwise unknown to the public sector, are designed and offered to it by the private one.

Looking more closely at these two aspects, some observations are now in order. In the first place, the procurement of proprietary tools in these cases does not imply any formal delegation of public functions to private entities nor the 'replacement' in the ownership of police functions or the supply of related services. While contrasting with the idea of security privatisation most commonly recurring in policing studies, it should be noted that this feature applies generally to all cases of PP implementation known to date.

In the second place, at the heart of the experiences leading to XLaw and KeyCrime is the systematisation of historical data already available to public authorities. In fact, only in their capacity as serving police officers, the creators of the software could collect the data, train the systems, and test them for a sufficient time. The establishment of private companies only occurred at a later stage, with already fully operational systems and with the objective of copyrighting and marketing a knowledge asset developed within state bodies and built on information available to public authorities only. It would therefore be misleading to take the private domain as the point of origin of a unidirectional trade flow aiming at implanting private creations into the public sector 'from the outside'.

What emerges is rather a peculiar business relationship stemming from a strategic migration of public actors (the creators) towards the corporate sector with the aim of becoming private suppliers to new customers. These may be public institutions analogous to those from which the creators proceed or, depending on the diversification of the offered products, also private purchasers, as is the case with XServizi. Unlike the previous point concerning the lack of formal delegations of police functions to private actors in the PP experiences known so far, this second feature appears less generalisable across countries. In fact, while the Italian experience resembles in this aspect the story of Hunchlab and Predpol in the US, other cases show greater adherence to linear ‘outside-in’ trading schemes, whereby ready-made solutions developed elsewhere enter local institutions from external markets and clearer boundaries separate private vendors and public purchasers from the outset.⁹

If we now recover White’s (2020) metrics for assessing the degree of policing privatisation, this increased influence of private actors in the implementation of predictive software in Italy appears quite atypical, as it does not refer to unequivocally steering or rowing functions. In fact, if the formal production of criminal law is the benchmark, the ‘privatisation’ under consideration concerns only rowing functions. If we instead refer to police power as the driving force behind the fabrication of social order (Neocleous, 2021) and consider the arbitrariness implicit in its exercise as an essential component for the substantive functioning of the CJS, the privatisation of steering functions is also relevant. At the same time, this atypical privatisation clearly reflects an understanding of the private sphere as ‘market economy’ and matches a ‘policy led’ paradigm which does not stem from any demand for services that outweigh public supply and necessitates a private provider. Finally, and as a corollary of the previous points, it leaves unaltered the institutional and cultural influence of the state-centric conception of policing.¹⁰

Assembling the observations at the beginning of this section about the public-private interactions and the pointers from White’s gauges, one can draw tentative conclusion that a case of soft privatisation in the introduction of proprietary PP devices in Italy - alien to consolidated and recognisable schemes - is taking shape. It is important to note, however, that the term ‘soft privatisation’, first coined in the field of education governance, takes here a specific meaning, closer to what I would also term ‘intrinsic’, as opposed to ‘extrinsic’ (in the sense of visible), transformations in the institutional architecture of security provision. Like the definition given in the educational domain, the use of proprietary software is not “a movement of ownership or responsibility away from the purportedly withering state” (Cone and Brøgger, 2020: 386). Nonetheless, the seepage of private operators has nothing to do here with soft network governance (typical of the European education space) regulated by mechanisms foreign to PP, such as the subsidiarity principle or quality assurance procedures. This significant difference renders the ‘privatisation’ brought by PP even more resistant to legal categories than the soft privatisation in education governance.

Given the above, my definition of ‘soft privatisation’ for the context of proprietary PP systems in Italy can be summarised by three hallmarks.

Firstly, the lack of any formal entrusting to private operators of police functions, not even in the form of subsidiarity governance or joint tackling of public issues, as is the case with education governance. This constitutes, on the one hand, a common element across the different PP experiences known so far and, on the other, a key difference compared to the examples of security and policing privatisation outside the context of PP.

Secondly, a peculiar business relationship in the terms explained above, whose operational and chronological departure point is the public domain and with public actors (the creators) strategically migrating towards the corporate sector only at a later time. This feature, as previously highlighted, is not a constant across the different experiences of proprietary systems and needs to be assessed on a case-by-case basis.¹¹

Thirdly, an intrinsic tension, unburdened of compliance with legal structures and hardly traceable from the outside, which pushes towards a radical reconfiguration of the concept of security and the renegotiation of the security agenda around business productivity. This third element is key, as it accounts for the deepest sense of the lack of identifiable legal mechanisms behind the public-private interdependence, that is the achievement of objectives hardly justifiable under ordinary legislative reforms. Being inseparable from the lack of formal delegations of police functions, this feature recurs to some extent in all the implementations of PP software, although its intensity and effects vary according to the material conditions and the narratives mobilised in the specific context under consideration.

Broadening the perspective to a state-market dialectic, not even in this penetration of the marketing rationale into security governance is the State a passive victim of private operators. This can be likened to the fact that austerity as a whole has already proved that the retreat of the welfare state is merely a different form of governance of capital rather than a governmental deflation of a weak State (Lazzarato, 2015). This concerns a facet of the “increasingly complex state-corporate network” (Hillyard and Tombs, 2004b: 32), which should not be construed as a zero-sum game or conflict between two opposing sides. Precisely under this market-state connivance characteristic of austerity, imaginaries of inchoate threats and fear for the increased insecurity in meeting social contingencies (Garland, 2014) have contributed to reshape security and establish the securitisation of ‘risk’ as a synonym for the solution to the uncertainties of life. At the same time, criminal policies – albeit unable to provide substantial solutions – have played a decisive synergic role in depoliticising and re-allocating to crime control part of this perception of insecurity. In particular, as already mentioned, the stance taken by the Italian ‘new prevention’ has been an exacerbated focus on urban security, ideologically depicted as the ultimate solution to the problem of crime and security at large.

The same semantic cleavage between an increasing selectivity in practice and the proclaimed universal value of the solutions to be implemented is also the environment in which the discourse on PP in Italy has unfolded. On the official YouTube channel of XServizi, vendor of the Pelta Suite of which XLaw forms part, the firm is presented as a risk assessment and management company, whose mission is to cleanse businesses of any economic loss due to criminality or its threat (XServizi, 2012a). Despite the clear semantic demarcation, the solution

is advertised to entire communities, while shoplifting is pictured as one of the major global problems pestering cities even as viewers watch the video (XServizi, 2012b). The same theme is recovered in the Xlaw book, where urban predatory crime is defined as the worst security threat in modern times and the one that most affects collective wellbeing (Lombardo, 2019: 16). Similarly, the KeyCrime director of presales and product management refers to the sense of security and safety pursued by KeyCrime as the “fundamental requirement for citizens to be happy”, as well as the equivalent for the collective to what health is for the individual (KeyCrime, 2020a).

The argument on collective wellbeing is not just a matter of magnifying the reach of the advertised solution. It also precludes a double-layer narrative that, on the one hand, overstates the target-phenomenon to the point of making it naturalistically characterised (and hence scientifically predictable), and on the other introduces the lexicon of operational neutrality to downgrade police interventions to technically required actions that can only be evaluated according to natural-science models. On the Pelta website, for example, the urban security package is promoted as a balanced match between science and technology for urban decay and deviance, while, in his summary-book, the creator of Xlaw claims that city space needs to be cleansed and vaccinated (Lombardo, 2019: 16).¹² Later in the same source, an exemplifying metaphor is established according to which the urban environment is a patient suffering from a disease hard to diagnose, the predatory crime is the illness at issue, and any collected data is a symptom. This scheme follows the outspoken analogy of medical heuristics, in particular the so-called J.O.N.E.S. criteria devised for the early diagnosis of rheumatic fever through a differential ponderation of symptomatic elements that, in law enforcement, correspond to crime predictors (ibidem: 98).

Along the lines of a naturalistic characterisation of crime, Lombardo also proposes a peculiar distinction between the prediction of human behaviour, allegedly alien to Xlaw, and the mere arithmetic identification of regularly recurring events, that which forms the very essence of Xlaw (ibidem: 19). The differentiation appears captious, as it is not clear how the prediction of the events at issue could be conceived separately from the human behaviours realising them. However, it is undeniable that these claims of arithmetic calculations and events which are allegedly detached from the prediction of human volitional behaviours, push decidedly towards a naturalistic understanding of crime almost equated with an atmospheric phenomenon.

Interestingly, the personification of crime also informs, with different nuances, the YouTube series on the KeyCrime software. Here, too, crime is subjectivised as an autonomous agent and featured as “dynamic, evolving, and learning from experience” (KeyCrime, 2020c), while the offender stands out as a non-eradicable component, naturally inherent to the urban environment. For this reason, AI is primarily called to “learn from the environment in which crime operates” (in other words, to learn what crime ‘learns’), provided that typical criminal behaviours and characteristics – such as “targets, timing and physical characteristics” – can vary greatly across towns (KeyCrime, 2020d). This is also what is said to make KeyCrime adaptable to any location and, hence, marketable on a global scale.

Although a certain degree of depoliticisation inheres in any security privatisation, regardless of the presence of PP technologies (Abrahamsen and Williams, 2011; Bures, 2017), the depoliticising potential mobilised by these discourses, which is modelled on the study of natural phenomena and interventions led exclusively by instrumental objectivity, appears truly unprecedented. As Wilson (2018) has clearly outlined, algorithmic outsourcing is not just an infrastructural circumstance, but is in itself a strategic step to deflect decision-making responsibilities and reduce substantive issues to questions of technical efficiency. Thus, the techno-solutionist assumption that high technology speaks for itself (Lyon, 2007) dovetails with the neoliberal postulates of a post-political policing, an asocial model of criminality, and, more generally, a post-theoretical configuration of society (Wilson, 2018: 116). This also applies to the discourses accompanying the introduction of predictive proprietary systems in Italy and the arguments used to extol the political neutrality of algorithmic-led interventions. Moreover, thanks to concurrent arguments like the global adaptability of the marketed devices (KeyCrime, 2020d), soft privatisation also opens the door to a wide-ranging commodification (Benbouzid, 2019) under which security – or, better said, a narrowed, artificially universalised rendition of it – has become an acquirable asset on the market, displayed in business brochures. Within this framework, the State is not the only consumer of the range of security products available on the market: we have seen, for example, that XLaw is part of a suite of products where the solution for urban security shares the same rationale as its counterparts devised by the same firm for commercial and enterprise security.

As a further consequence, the commercial provision of security solutions reinforces the tendency of public policies to adopt the principle of investment profitability in a double sense: firstly, by reducing political decision-making into the selection of the best vendor; and secondly, by politically prioritising the most ‘cost-effective’ (social) areas of intervention, namely those where the systems of automated prediction fit the factorial schemes of situational prevention.

Finally, insofar as security provision becomes subject to this commodification, the continued existence – within a ‘tolerable’ range – of predatory crimes is the necessary precondition for future commercial transactions, thus also confirming Hillyard and Tombs’ (2004a) thesis about how the dominant construction of crime is a mechanism to legitimise the expansion of crime control.

A securitarian acceleration of social harm

As noted in the introduction, the use of algorithmic technology is a defining trait of PP. Nevertheless, the political assessment of PP implementation cannot be centred on the appraisal of its technological novelty, both because this would overlook that PP is part of a long history of communication technology within policing (Wilson, 2020), and because it would indirectly legitimise the narrative of PP being a “Copernican revolution” (Inside Marketing, 2021; Pelta, 2022). This argument, largely harnessed by PP advocates, has the latent function of concealing the basic continuity in the guiding principles of policing, as well as creating a deliberate ambiguity between two different conceptual levels. These consist, on the one side, of the

account of certain technological innovations, undeniably irreversible, and on the other, the justification of the political rationalities operationalised by them, with the final result of artificially presenting the irreversibility of the former as the proof for the ineluctability of the latter.

With this in mind, my analysis of social harm dynamics for the context of PP does not take new technological infrastructures as its starting point, but rather seeks to integrate them into the understanding of pre-existing practices of control and their underlying ideas. As earlier recalled, PP is not a harmful event artificially portrayed as unrelated to institutional activities; PP is not even the failure of algorithmic systems or a misalignment between design and actual uses conducive to what Wood (2021) qualifies as generative harms. PP is, firstly, a governmental practice geared towards the state-imposed infliction of harm by the punitive apparatus previously described by Christie (1981; 1986) as pain delivery. It is, then, difficult to envisage new types of harm created from scratch by predictive technologies and ontologically different from the activation of the criminalisation chain. That which PP engenders, instead, is a relentless acceleration in that pain delivery, functioning as its economiser or lubricator.

A first acceleration concerns the degree of selectivity of the punitive machinery, which reverberates in further dimensions such as social marginalisation and stigmatisation. As reported previously, since long before PP made its appearance, the Italian penal system has stood out for a sharp social selectivity permeating criminal legislation, the prison system, and a mediatic phenomenology of deviance that exploits street crime as a factor of social alarm for electoral purposes (Ferrajoli, 2014). However, the use of predictive automation can deepen these pre-existing vicious circles, given the unavoidably harmful component of any proactive policing, which is not randomly distributed in the population (Benbouzid, 2019: 10). In fact, after being first trained by historical data on past police practices, PP collects that heritage – including biases, prejudices, and distorted pictures of social groups – and incepts iterative chains where future predictions and past measurements are progressively cemented together. In practice, the simple highlighting of hotspots generates a more effective allocation of resources and an increased surveillance of the same, leading to the collection of disproportionately more records in relation to the marked areas. As a result, the need to reinforce the monitoring of the same targets will also find, in future iterations, exponentially increasing ‘evidence’, thus making the predictive ritual not only a probabilistic forecasting, ontologically separable from the predicted event, but also a lien on its present and future production.¹³

This acceleration in selectivity also represents the flipside of an acceleration – in the sense of over-anticipation - in the stigmatising effects of criminalisation. In fact, the enforcement of purely afflictive measures against already marginalised social groups contributes to a dramatic reduction in the hiatus between the mere belonging to them (or its geographical-algorithmic presumption) and subjection to the CJS spotlight. The fundamental flaw, once again, lies in the situational-incapacitative compendium inspiring the two Italian systems and epitomised, in Xlaw, by the metaphor of the worker looking for 1500 euros a month, while in KeyCrime, by

the prioritisation of crime series with the ultimate aim of delivering longer incarcerations. Although a detailed inspection of the markers is precluded by trade secrecy, it is not hard to imagine that the outspoken situational-incapacitative framework will point towards geographical clusters of factors typical of the socio-economic aetiology of crime, corresponding to indexes of social marginalisation which constitute, in the case of Italy, also faithful descriptors of the prison population.

This last point adds an extra level of vicious circle, as social benefits and rights (ex. right to work) whose future accessibility is foreclosed exactly by the stigma of police records, are also, in most cases, the only credible solution to the same social issues crystallised in the predictive markers (ex. use of ‘unemployment’ as a predictor).¹⁴ In so doing, PP ratifies as sustainable several social costs ranging from the perceived unfairness of the CJS to serious gaps in integration, without considering the risk of mutual reinforcement between production of marginality and organised crime. The latter, in fact, acts in many Italian urban areas as a powerful keeper of marginality by offering alternative and stable modalities of social organisation nurtured by the blackmail of precariousness. In this respect, Vitale (2010) has highlighted how organised crime provides a codified ‘career system’ in the suburbs of Milan through the continuous recruitment of youngsters starting as lookouts in the processes of social and territorial control and drug business.

It must be recalled, based on the statistics shown above, that the types of crime targeted by PP technologies are also those more frequently leading to prison sentences and pre-trial detentions. In these cases, the endemic overcrowding that makes Italian jails those with the second worst inmate to bed ratio in Europe, after Turkey (Council of Europe, 2021), worsens the range of physical harms implicit in the deprivation of physical freedom and the living conditions within prisons. Relatedly, the psychological harm deriving from social segregation and isolation is deepened by exposure to a systematic risk of abuses, which has prompted the Italian Parliament to establish an aggravated penalty for torture perpetrated by public officials against persons deprived of their liberty by Law 110/2017. Nevertheless, institutional corporatism and difficulties in evidence gathering have meant that the first conviction for such torture was only declared in 2021.

Financial harm may also arise both in the context of loss of income for the inmate (even after the prison term, due to the persisting stigma and the increased probability of new ‘predictions’), and that of legal costs and travel expenses to the detention centre for the inmate’s inner circle. However, even when the final outcome does not entail prison time, the myriad of psychological and financial harms arising from the mere activation of a criminalisation process are countless. As such, it would be somewhat beside the point to set forth a detailed enumeration here. The unifying factor of these accelerations, it seems to me, is an immense and systematic relational harm (Pemberton, 2015) in the form of an extremely selective, anticipative, and self-iterative destruction of social networks, carried out through the deliberate infliction of criminalisation harms on clusters of other unsolved social harms, with a view to their governance. In the preface to Canning and Tombs (2021: XVI), Hillyard cites a tweet by Marianne Kaba, an

American prison abolitionist, and refers to a “deliberate suffocation of people’s aspirations”, which I find extraordinarily fitting.

Finally, PP leads to an acceleration in the self-legitimising potential of the penal system, with an ensuing reduction in democratic accountability and in the possibility of challenging the substantive contents of police action. Aside from the difficulties in claiming infringements of the right of defence under PP practices, given that PP operates at a different institutional stage to algorithmic implementations replacing formal decision-making in the forensic context (Završnik, 2019), another deficiency of Italian PP strategies lies in a deformation of the principle of legality as a basic vector of democratic legitimacy. In fact, far from being a merely formalist requirement, the principle of legality encloses a deeper historical commitment whereby the punitive power of the State must ensure full knowability of all the reasons for which citizens’ rights can be limited. The embedding of proprietary systems in a crucial stage of policing – such as the establishment of reasonable suspicion – results in a breach of that knowability, obstructed by the inaccessibility of input data and source codes. Hence, with a reversal of criminal law rationality, PP embraces a tautological self-legitimation grounded in criteria of predictive accuracy, which bypasses the basic rule-of-law principle that any democratic legitimation of punitive strategies depends on a political justification of the pursued objectives, as well as full disclosure of the implemented means, as opposed to on their proclaimed technical performance.

Conclusions

The purpose of this paper was to provide a contextualised account of how PP has taken hold in Italy and, on that basis, propose an interpretation of its effects on security provision through the prism of social harm. In its practical implementation in Italy, PP presupposes and reproduces the dominant notion of crime. More precisely, it naturalises and ‘perfects’ a socially selective rationale, radicalises risk as a punitive rationality, and opens the door to the involvement of private actors in security governance. However, one must note that such opening is possible without formal rearrangements in the institutional structure and according to an atypical scheme of state-corporate interaction outlined in this study through proposals for a re-conceptualisation of the notion of soft privatisation in the field of law enforcement, in particular with reference to the use of proprietary predictive software.

The already ongoing neoliberal restructuring of criminal policy goals, tailored to the situational defence of urban settings and inspired by a purely incapacitative rationale, has provided the ideal breeding ground for PP to integrate into a wider social, political, and institutional mosaic. PP has been, however, a carrier of qualitative leaps in the re-shaping of security. Starting from the premise that so called predatory crime is the biggest threat to collective wellbeing in contemporary society, the discourse on PP has unfolded through a naturalistic characterisation of crime and a corresponding rhetoric of operational neutrality that has imbued the advertised solutions with an aura of universal validity. Further consequences have been an unprecedented ideological depoliticisation of crime control practices and a commodification of security that has expanded the range of possible providers and buyers of customised packages.

From a zemiological perspective, PP brings about an acceleration and economisation of the pain delivery related to the administration of punishment within the multi-layered mechanism of crime control and, in line with the circular inconclusiveness of the dominant notion of crime, no structural solution to street crime can be expected under a securitarian horizon where the persistence of 'tolerable' rates of street crime is the precondition for security packages to be a matter of future commercial transactions.

Moreover, the automation and subsequent acceleration of criminal selectivity paves the way for a worrying escalation of marginalisation and the over-anticipation of the stigmatising consequences of criminalisation, which dangerously interact with an already extremely selective CJS and the marginality-keeping mechanisms powered by organised crime.

Finally, PP resorts to a tautological self-legitimation through which a crucial passage - such as the definition of reasonable suspicion - is grounded in technical efficiency arguments. This results in a profound distortion of the principle of legality as a cornerstone of relationship between state and citizenry within the modern penal system and signals an alarming deficit in democratic accountability.

These considerations are not intended to be taken as conclusive findings: the difficulty and fragmented nature of access to the inner workings of proprietary technologies is a more than sufficient motive to urge scholars to keep 'monitoring the monitors' on the lookout for an increasingly detailed understanding. However, hoping to provide a baseline for new insights, two main paradoxes emerging from this study are likely to be exportable, with a certain flexibility, to future ones. Somewhat in line with Tulumello's (2018) analysis of Memphis, the Italian case shows a sort of institutional schizophrenia, in that the more security is dealt with according to discourses borrowed from business and apparently distant from the modalities of public policymaking, the more security becomes the true primary concern of public policy. At the same time, the asserted objectivity of PP interventions depends on a naturalistic ontologisation of crime and the subsequent decoupling of its analysis from any reference to wide-ranging social processes. This is, of course, totally consistent with a situational-incapacitative framework, whose explanatory reach only contemplates short-range aspects of the environment, physical settings, and the interpersonal events occurring within them. Nonetheless, while deploying the language of arithmetic-based neutrality, advocates of PP cannot escape the need to first define their targets according to a socio-economic characterisation. Therein lies the irreducible contradiction between the initial delimitation of the object of study, and the pseudo-naturalistic validation of the championed solution. As a result, and somehow ironically, the final claim of scientific neutrality presupposes the previous careful selection of social processes, as the sole framework within which predictability and regular patterns hold validity is an aetiology of socio-economic needs.

References

- Abrahamsen, R. and Williams, MC. (2011) 'Security Privatization and Global Security Assemblages', *The Brown Journal of World Affairs*, vol 18, no 1, pp 181-180
- Autto, J., Törrönen, J. and Huysmans, J. (2021) 'Fear and insecurity in the politics of austerity', *European Journal of Cultural and Political Sociology*, vol 9, no 1, pp 83-111
- Babuta, A. and Oswald, M. (2019) *Data Analytics and Algorithmic Bias in Policing*, London: Royal United Services Institute for Defence and Security Studies.
- Bachner, J. (2013), *Predictive Policing. Preventing Crime with Data and Analytics*, Washington: IBM Center for The Business of Government.
- Barbieri, E. (2021) *La spesa pubblica per l'istruzione in Italia*, https://www.educazioni.org/wp-content/uploads/2021/01/istruzione-e-bilancio-2021-eb22_01.pdf
- Beck, C. and McCue, C. (2009) 'Predictive Policing: What Can We Learn from Wal-Mart and Amazon about Fighting Crime in a Recession?', *The Police Chief*, vol 76, no 11, pp 18-24
- Benbouzid, B. (2019) 'To predict and to manage. Predictive policing in the United States', *Big Data & Society*, vol 6, no 1, pp 1-13
- Bratton, W. and Malinowski, S. (2008) 'Police Performance Management in Practice: Taking COMPSTAT to the Next Level', *Policing*, vol 2, no 3, pp 259-265
- Brayne, S. (2021) *Predict and Surveil: Data, Discretion, and the Future of Policing*, New York: Oxford University Press.
- Bures, O. (2017) 'Contributions of private businesses to the provision of security in the EU: beyond public-private partnerships', *Crime Law and Social Change*, vol 67, pp 289-312
- Bures, O. and Carrapico, H. (2017) 'Private security beyond private military and security companies: exploring diversity within private-public collaborations and its consequences for security governance', *Crime Law and Social Change*, vol 67, pp 229-243
- Canning, V. and Tombs, S. (2021) *From Social Harm to Zemiology*, Abingdon: Routledge.
- Carrapico, H. (2021) 'An Exploration of Security Privatisation Dynamics through the Lens of Social Harm', in P Davies, P Leighton and T Wyatt (eds) *The Palgrave Handbook of Social Harm*, Cham: Palgrave Macmillan, pp 377-399.
- Carrapico, H. and Farrand, J. (2021) 'When Trust Fades, Facebook Is No Longer a Friend: Shifting Privatisation Dynamics in the Context of Cybersecurity as a Result of Disinformation, Populism and Political Uncertainty', *Journal of Common Market Studies*, vol 59, no 5, pp 1160-1176
- CENSIS (2018) *Primo Rapporto sulla filiera della sicurezza in Italia*, <https://www.censis.it/sicurezza-e-cittadinanza/1%C2%B0-rapporto-sulla-filiera-della-sicurezza-italia/1%E2%80%99ordine-pubblico-non-pu%C3%B2>
- CENSIS (2021) *Secondo Rapporto sulla filiera della sicurezza in Italia*, <https://www.censis.it/sites/default/files/downloads/Rapporto%20finale.pdf>
- Christie, N. (1981) *Limits to Pain*, Oslo: Universitetsforlaget.
- Christie, N. (1986) 'Suitable Enemies', in H Bianchi and R van Swaaningen (eds) *Abolitionism. Towards a Non-Repressive Approach to Crime*. Amsterdam: Free University Press, pp 42-54.

- Clarke, R. (1980) 'Situational Crime Prevention: Theory and Practice', *The British Journal of Criminology*, vol 20, no 2, pp 136-147
- Coletta, C. and Kitchin, R. (2017) 'Algorhythmic governance: Regulating the 'heartbeat' of a city using the Internet of Things', *Big Data & Society*, vol 4, no 2, pp 1-16
- Cone, L. and Brøgger, K. (2020) 'Soft privatisation: mapping an emerging field of European education governance', *Globalisation, Societies and Education*, vol 18, no 4, pp 374-390
- Couchman, H. (2019) *Policing by Machine: Predictive Policing and the Threats to our Rights*, London: Liberty.
- Council of Europe (2021), *Prisons and Prisoners in Europe 2020: SPACE I report*
https://wp.unil.ch/space/files/2021/06/210329_Key_Findings_SPACE_I_2020.pdf
- Econopoly (2020) *La corruzione in Italia costa ma la burocrazia resta a guardare. Ecco come*,
<https://www.econopoly.ilsole24ore.com/2020/11/05/fenomenologia-e-costi-della-corruzione-in-italia/>
- Feeley, M. and Simon, J. (1992) 'The New Penology: Notes on the Emerging Strategies of Corrections and its Implications', *Criminology*, vol 30, no 4, pp 449-474
- Ferguson, AG. (2017) 'Policing Predictive Policing', *Washington University Law Review*, vol 94, no 5, pp 1109-1189
- Ferrajoli, L. (2014) 'Cos'è il Garantismo', *Criminalia. Annuario di Scienze Penali*, no 9, pp 129-141.
- Garland, D. (2014) 'The Welfare State: A Fundamental Dimension of Modern Government', *European Journal of Sociology*, vol 55, no 3, pp 327-364
- Greenwood, P. and Abrahamse, A. (1982) *Selective Incapacitation*. Santa Monica: RAND Corporation.
- Grossi, L. (2020) 'Software predittivi e diritto penale', in A Massaro (ed) *Intelligenza Artificiale e Giustizia Penale*, pp 155-184, https://caterinachinnici.it/wp-content/uploads/2020/12/intelligenza-artificiale_ricerca.pdf
- Harcourt, BE. (2007) *Against Prediction. Profiling, Policing and Punishing in an Actuarial Age*, Chicago: The University of Chicago Press.
- Hespanha, P. and Portugal, S. (2015) 'Welfare Cuts and Insecurity under the Rule of Austerity: the Impact of the Crisis on Portuguese Social Services', *Oñati Socio-legal Series*, vol 5, no 4, pp 1110-1132
- Hillyard, P. and Tombs, S. (2004a) 'Beyond Criminology?', in P Hillyard et. al. (eds) *Taking Harm Seriously*, London: Pluto Press, pp 10-29.
- Hillyard, P. and Tombs, S. (2004b) 'Towards a Political Economy of Harm: States, Corporations and the Production of Inequality', in P Hillyard et. al. (eds) *Taking Harm Seriously*, London: Pluto Press, pp 30-54.
- Inside Marketing (2021) *I vantaggi dell'intelligenza artificiale nel settore pubblico e privato / Paolo Elia Lombardo*, [Video]. YouTube <https://www.youtube.com/watch?v=-eFidMr5S40>
- ISTAT (2021) *Le statistiche dell'Istat sulla povertà anno 2020*,
https://www.istat.it/it/files/2021/06/REPORT_POVERTA_2020.pdf
- Just, N. and Latzer, M. (2017) 'Governance by algorithms: reality construction by algorithmic selection on the Internet', *Media, Culture & Society*, vol 39, no 2, pp 238-258
- Karppi T. (2018) "'The Computer Said So": On the Ethics, Effectiveness, and Cultural Techniques of Predictive Policing', *Social Media + Society*, vol 4, no 2, pp 1-9

- KeyCrime (2020a) *KeyCrime video series Part 1 - Company presentation*, [Video]. YouTube <https://www.youtube.com/watch?v=9NL9zq7SX1A>
- KeyCrime (2020b) *KeyCrime video series Part 2 – Rebranding*, [Video]. YouTube https://www.youtube.com/watch?v=h0l_00z0TSw
- KeyCrime (2020c) *KeyCrime video series Part 3 - Crime Analysis Software* [Video]. YouTube <https://www.youtube.com/watch?v=6nwxg9yvXIY>
- KeyCrime (2020d) *KeyCrime video series Part 4 - Location adaptability through AI & ML*, [Video]. YouTube https://www.youtube.com/watch?v=aHF68W9Z_3M&t=16s
- KeyCrime (2020e) *The Impact of KeyCrime in Milan [Bocconi University - Economic Analysis of Crime]*, [Video]. YouTube <https://www.youtube.com/watch?v=DxSjxR4KRe0>
- Lazzarato, M. (2015) *Gobernar a través de la deuda*, Buenos Aires: Amorrortu.
- Lombardo, E. (2019) *Sicurezza 4P. Lo studio alla base del software XLAW per prevedere e prevenire i crimini*, Venice: Mazzanti Libri.
- Lyon, D. (2007) *Surveillance Studies: An Overview*. Cambridge, UK: Polity Press.
- Malik, H., Viljanen M., Lepinkäinen, N. and Alvesalo, A. (2022) 'Dynamics of Social Harms in an Algorithmic Context', *International Journal for Crime, Justice and Social Democracy*, vol 11, no 1, pp 182-195
- Mastrobuoni, G. (2020) 'Crime is Terribly Revealing: Information Technology and Police Productivity', *The Review of Economic Studies*, vol 87, no 6, pp 2727–2753
- Mastrobuoni, G. (2021) *Probable Causation Podcast with Giovanni Mastrobuoni on Keycrime delia® Suite*, interviewed by J Doleac, <https://keycrime.com/probablecausation57/?lang=es>
- Mastrobuoni, G. (2022) 'Do algorithms help to reduce crime?', *The Jordan Times*, <https://www.jordantimes.com/opinion/giovanni-mastrobuoni/do-algorithms-help-reduce-crime-0>
- Millie, A. and Bullock, K. (2013) 'Policing in a time of contraction and constraint: Re-imagining the role and function of contemporary policing', *Criminology & Criminal Justice*, vol 13, no 2, pp 133-142
- Ministero della Giustizia (2020a) *Detenuti per tipologia di reato – anni 2008 – 2020*, https://www.giustizia.it/giustizia/it/mg_1_14_1.page?facetNode_1=1_5_2&facetNode_2=3_1_6&contentId=SST613925&previousPage=mg_1_14
- Ministero della Giustizia (2020b) *Detenuti per titolo di studio - Anno 2005 – 2020*, https://www.giustizia.it/giustizia/it/mg_1_14_1.page?facetNode_1=2_4&facetNode_2=0_2&facetNode_3=1_5_28&contentId=SST613897&previousPage=mg_1_14
- Neocleous, M. (2021) *A Critical Theory of Police Power. The Fabrication of Social Order*, London: Verso.
- Nobili, G. (2020) 'Le politiche di sicurezza urbana in Italia: lo stato dell'arte e I nodi irrisolti', *Sinapsi*, vol 10, no 2, pp 120-137.
- O'Donnell, RM. (2019) 'Challenging Racist Predictive Policing Algorithms Under the Equal Protection Clause', *New York University Law Review*, vol 94, no 3, pp 544-580
- Oosterloo, S. and Van Schie, G. (2018) 'The Politics and Biases of the “Crime Anticipation System” of the Dutch Police', in J Bates, PD Clough, R Jäschke and J Otterbacher (eds), *Proceedings of the International Workshop on Bias in Information, Algorithms and Systems (BIAS)*, Sheffield, March 25, 2018, CEUR-WS.org, vol 2103 pp 30-41.
- Osservatorio CPI (2021) *Le novità sull'evasione fiscale e contributiva in Italia*, <https://osservatoriocpi.unicatt.it/ocpi-pubblicazioni-le-novita-sull-evasione-fiscale-e-contributiva-in-italia>

- Pasquinelli, M. (2015) 'Italian Operaismo and the Information Machine', *Theory, Culture & Society*, vol 32, no 3, pp. 49-68.
- PELTA (2022) *Pelta Sicurezza Urbana* <https://www.pelta.it/pelta-suite-sicurezza-urbana/>
- Pemberton, S. (2015) *Harmful Societies: Understanding Social Harm*, Bristol: Policy Press.
- Perry, W., McInnes, B., Price, C., Smith, S. and Hollywood, J. (2013) *Predictive policing: The role of crime forecasting in law enforcement*. Santa Monica: RAND Corporation.
- Priest, G. (1988) 'The Aims of Privatization', *Yale Law & Policy Review*, vol 6, no 1, pp 1-5
- Richardson, R., Schultz, J.M. and Crawford, K. (2019) 'Dirty Data Bad Predictions: How Civil Rights Violations Impact Police Data, Predictive Policing Systems, and Justice', *New York University Law Review*, vol 94, pp 192-233
- Robinson, D. and Koepke, L. (2016) *Stuck in a Pattern. Early evidence on "predictive policing" and civil rights*. Upturn, <https://www.upturn.org/reports/2016/stuck-in-a-pattern/>
- Rouvroy, A. (2016) 'Algorithmic governmentality: radicalisation and immune strategy of capitalism and neoliberalism?', *La Deleuziana*, vol 3, pp 30-36
- Sheehey, B. (2019) 'Algorithmic paranoia: the temporal governmentality of predictive policing', *Ethics and Information Technology*, vol 21, no 1, pp 49-58
- Signorelli, A. (2019) *The Italian software that changed the world of predictive policing*, <https://keycrime.com/wired2019/#:~:text=The%20Italian%20exception%3A%20Key%20Crime&text=All%20but%20one%3A%20the%20Italian,his%20software%20into%20a%20startup.>
- Sparano, F. (2021) *Dieci anni di definanziamento della sanità pubblica. Dato per dato*, <https://altreconomia.it/dieci-anni-di-definanziamento-della-sanita-pubblica-dato-per-dato/>
- Startup Business (2018) *Predictive analytics, Oltre Venture investe in KeyCrime*, <https://www.startupbusiness.it/predictive-analytics-oltre-venture-investe-in-keycrime/96785/>
- Tombs, S. (2019) 'Grenfell: the unfolding dimensions of social harm', *Justice, Power and Resistance*, vol 3, no 1, pp 61-88
- Tulumello, S. (2018) 'Neoliberalisation of security, austerity and the "end of public policy": Governing crime in Memphis (TN, USA) through predictive policing, community, grants and police mission creep', *ACME: An International Journal for Critical Geographies*, vol 17, no 1, pp 171-200
- Uchida, C. (2014) 'Predictive policing', in G Bruinsma and D Weisburd (eds) *Encyclopedia of criminology and criminal justice*, New York: Springer, pp 3871-3880.
- Vitale, T. (2010) 'Processi di marginalizzazione e meccanismi attivi di cambiamento' in T Vitale and R Torri (eds) *Ai margini dello sviluppo urbano. Uno studio su Quarto Oggiaro*, Milan: Bruno Mondadori, pp 128-149.
- White, A. (2020) 'What is the Privatization of Policing?', *Policing: A Journal of Policy and Practice*, vol 14, no 3, pp 766-777.
- Wilson, D. (2018) 'Algorithmic Patrol: The Futures of Predictive Policing' in A Završnik (ed.), *Big Data, Crime and Social Control*, London: Routledge, pp 108-127.
- Wilson, D. (2020) 'Predictive Policing Management: A Brief History of Patrol Automation', *New Formations: A Journal of Culture, Theory, Politics*, vol 98, pp 139-155
- Wood, M.A. (2021) 'Rethinking How Technologies Harm', *British Journal of Criminology*, vol 61, no 3, pp 627-647.
- XServizi (2012a) *Xservizi*, [Video]. YouTube <https://www.youtube.com/watch?v=dJsuu05cfOw>

- XServizi (2012b) *XSecurity*, [Video]. YouTube
<https://www.youtube.com/watch?v=BFJrskDe87g>
- XServizi (2021) *XServizi investe su XLaw e Lancia Pelta Suite*,
<https://securindex.com/downloads/59cac3ad78dfb86e0cfc475d1e19d0e.pdf>
- Završnik, A. (2019) 'Algorithmic justice: Algorithms and big data in criminal justice settings', *European Journal of Criminology*, vol 18, no 5, pp 623-642
- Zuboff, S. (2019) *The Age of Surveillance Capitalism*, New York: Public Affairs.

Notes

-
- ¹ For further definitional caveats see: Babuta and Oswald (2019:4), Bachner (2013: 6), Brayne (2021: 57), Ferguson (2017: 1123), Robinson and Koepke (2016:2), Uchida (2014: 3871).
- ² This same picture is recalled, in their foundation of PP, by Beck and McCue (2009: 21).
- ³ This is the case, for example, of the so-called 'Excess Winter Deaths' (Canning and Tombs, 2019), the work-related deaths, the Covid-19-related deaths due to the unequal access to medical care and even more isolated occurrences like the Grenfell Tower fire (Tombs, 2019).
- ⁴ For a thorough account of the commercial origins of predictive analytics, see Wilson (2018).
- ⁵ Selective Incapacitation theory holds that a small group of offenders account for a large percentage of crimes in society, so that crime could be nearly neutralised by pre-identifying and selectively imprisoning them for terms depending on their calculated level of dangerousness, and not on predefined legal standards.
- ⁶ Hints of Selective Incapacitation also emerge in the Xlaw 'handbook', where punishment is declared ineffective in preventing predatory crimes (Lombardo 2019: 54). The assumed unrelatedness to punishment modulation entails a conceptualisation of crime as a naturally occurring phenomenon, independent from institutional responses to it, and subject to 'scientific' prediction. Once deprived of any preventive action, punishment can be only awarded an incapacitative function.
- ⁷ The uncovering has been facilitated by the non-proprietary nature of the Dutch predictive system.
- ⁸ As Karppi (2018: 4) reminds, a different orientation towards locations results in a different orientation towards people passing through or trying to live their lives there.
- ⁹ This is the strategy followed by Danish institutions in contracting a predictive software designed by the US firm Palantir, or by Kent police in opting for the US-made Predpol, albeit according to the latest information this partnership was interrupted in 2018 (Couchman, 2019).
- ¹⁰ It can be added that in the Italian security discourse no 'private expertise narrative' (Carrapico and Farrand, 2021) is thriving, whereby the capacity of business actors to understand and respond to threats is extolled as the panacea for public inefficiency.
- ¹¹ It is worth recalling that PP software are not necessarily proprietary, although, in practice, the proprietary ones account for the vast majority of them.
- ¹² The same promise to 'vaccinate' appears in the YouTube series on XServizi in relation to commercial establishments (Xservizi, 2012b).
- ¹³ The most powerful formulation of feedback loop in literature is undoubtedly Harcourt's (2007) 'ratchet effect', applying also to non-algorithmic predictions. What he demonstrates is that even when the starting assumption about differential offending rates among different groups is empirically true, any selective targeting leads to an exponential disproportion over time at the expenses of the monitored group.
- ¹⁴ The Right to work is enshrined in article 1 of the Italian Constitution as the founding element of the Republic.