Forensic Genetics within the Dungeon: The Paradoxical Mosaic of the Brazilian Penal System

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Abstract: This article deals with the Brazilian penal system, which is seeing on the one hand attempts at 'modernisation' through the development of forensic technologies for genetic identification of prisoners, and on the other hand, the persistence of 'archaic' correctional institutions. Based on an ethnographic survey, this study analyses prison demographics in relation to the role played by the Brazilian DNA database, which both fails to exonerate convicts and is itself fostered by mass incarceration. It also focuses on the day-to-day procedures for collecting biological material from prisoners, which are often based on discretionary, arbitrary, and even illegal practices, thus establishing links between the permanent threat of prison violence and new genetic identification technologies. Through the sociological allegory of the 'penal platypus', it lays the groundwork for a reflection on the re-territorialisation of genetic profiling as it is taking place in Brazil.

Keywords: Prison, Genetics, Technology, Surveillance, Violence, Brazilian Social Theory.

INTRODUCTION

In November 2015, at a press conference dedicated to the release of a government report on the state of the Brazilian penitentiary system, the then Minister of Justice, Eduardo Cardozo, caused a stir among journalists and political forums by describing the country's prisons as 'medieval dungeons'[1]. Listing the vast repertoire of violence and violations of prisoners' rights, his speech echoed an earlier interview in which the minister had declared that he would rather die than be locked up in a Brazilian prison: 'From the bottom of my heart, if I had to serve many years in one of our prisons, I would rather be dead'[2]. His words were intended to draw the attention of the judiciary branch and civil society to the issues resulting from hyper-incarceration. In fact, in the year following these statements, Brazil became the country with the third-largest prison population in the world, behind the United States and China, continuing a process of massification that had begun at the turn of the century[3]. Overcrowded and dilapidated institutions, lack of medical care, inadequate legal assistance, aggression on the part of prison guards, and the strengthening of the so-called *prison factions* make up the daily scenario of a precarious correctional system that reproduces violence and whose management and control elude government authorities (Biondi, 2016; Godoi, 2017).

Among the range of factors fuelling mass incarceration in Brazil, the specialised literature highlights the modes of action of police forces, centred on the use of abusive and extrajudicial techniques for the production of criminal evidence (Lima, 2019; Jesus, 2020; Lima and Sinhoretto, 2017). 'Informal confessions' obtained through threats, physical violence, or psychological pressure often acquire the status of legal truth, without being properly investigated in judicial proceedings based on the collection of material evidence, the adversarial principle, and the constitutional right to a full defence. The use of torture, which runs through the history of the Brazilian police (Felitte, 2023)—whether as a method of penalising slaves in the colonial period, or as a tactic for coercing political enemies under the military dictatorship in force between 1964 and 1985—is updated and repositioned in recent democracy as a police technique for producing evidence.

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[1]Estadão. *'Presídios do País são masmorras medievais', diz ministro da Justiça.* https://www.estadao.com.br/brasil/presidios-brasileiros-sao-masmorras-medievais--diz-ministro-da-justica/ (accessed 11 January 2024).

[2]G1. *Ministro da Justiça diz que 'preferia morrer' a ficar preso por anos no país.* https://g1.globo.com/sao-paulo/noticia/2012/11/ministro-da-justica-diz-que-preferia-morrer-ficar-preso-por-anos-no-pais.html (accessed 11 January 2024)

[3]In 2023, the incarceration rate in Brazil was over 409 per 100,000 inhabitants, corresponding to 815,165 incarcerated people. FBSP. *Anuário Brasileiro de Segurança Pública.* https://forumseguranca.org.br/wp-content/uploads/2023/07/anuario-2023.pdf (accessed 11 January 2024).

Faced with this situation, from the 2010s onward, a series of projects to reform crime control practices began to be implemented in Brazil, relying on discourses on the 'modernisation' of criminal justice and public security (Campello, 2023). On the one hand, prison authorities announced programmes to combat organised crime operating in prisons and regain control of the criminal justice system through the use of new penitentiary security technologies (supermax-type disciplinary regimes, electronic monitoring, less lethal weapons systems, closed-circuit video surveillance, etc.), a whole apparatus of technological control that would make prisons and mass incarceration fertile ground for private investment (Campello and Minhoto, 2023).

On the other hand, with the stated aim of improving police investigative functions, the Brazilian government began a process of setting up DNA databases for criminal identification, authorised by legislation in 2012[4]. The following year, a presidential decree enabled the creation of the National Database of Genetic Profiles (*Banco Nacional de Perfis Genéticos,* BNPG), with the aim of storing and comparing the genetic information of convicts, persons under criminal investigation, and biological traces found at crime scenes, in order to search for possible matches and facilitate investigative procedures[5]. In 2019, a legislative change defined the offences for which convicts must undergo DNA collection, including any individual convicted of a 'crime committed with serious violence against a person, as well as a crime against life, sexual freedom, or a sexual crime against a vulnerable person', as well as any individual requested to provide a DNA sample by a judicial authority[6]. Finally, in late 2025, a new law broadened the scope of mandatory genetic sampling to include all individuals sentenced to serve their sentences under an initial closed prison regime[7].

Given the continental size of the prison population and the alleged risk of recidivism among convicted offenders, it was decided to launch a systematic data sampling campaign in prison facilities. This was also the approach recommended by forensic experts and entrepreneurs in the international biotechnology industry (Richter and Louzada, 2022). Prisoners' bodies thus became the main source of supply for the techno-scientific complex formed by the forensic DNA databases in Brazil.

However, social studies of forensic genetics in Brazil are still incipient, and little is known about the social and political consequences of the process of 'geneticising' crime-control strategies in the Brazilian context[8]. While the use of DNA databases by the police and the judiciary has been studied for several years by the social sciences in Euro-American contexts (Hindmarsh and Prainsack, 2010; Krimsky and Simoncelli, 2011; Lazer, 2004; Lynch *et al*., 2008; Machado and Granja, 2022; Toom, Wienroth and M'charek, 2023; Vailly, 2024), this is hardly the case in the so-called Global South (Amankwaa and Addo, 2023; Olarte-Sierra and Bermúdez, 2023; Tamarkin, 2023; 2025; Richter and Louzada, 2023). Yet after being developed in the late 1980s in the United Kingdom and rapidly expanding first in the United States and Europe (Lynch *et al*., 2008), forensic DNA databases has since been adopted in many countries. In 2019, the criminal police organisation Interpol estimated that around 70 countries on all continents were using genetic databases for criminal purposes (Interpol, 2019). Brazil offers a prime setting to shift the gaze and study the way in which the recent process of consolidation and expansion of forensic DNA technologies operates in a country in democratic transition, characterised by serious shortcomings in the penal system.

In general, research on the implementation of forensic DNA technologies in "southern" countries have evidenced their multiple correlations with armed authoritarianism and the reproduction of social inequalities. In South America, the historical origins of forensic genetics can be traced to the identification of human remains produced by conflicts between military forces and drug traffickers in Colombia during the 1980s and 1990s. In 2000, the Colombian government established the country's first DNA database for purposes of criminal investigation and the identification of deceased and missing persons (Olarte-Sierra and Bermúdez, 2023). Argentina, in turn, pioneered the use of DNA databases within the framework of the so-called "forensic humanitarianism," more specifically for the identification of descendants of individuals who were abducted during acts of state terrorism carried out under the military dictatorship that ruled the country

[4]Law 12,654 of 28 May 2012.
[5]Decree 7,950 of 12 March 2013.
[6]Law 13,964 of 24 December 2019.
[7]Law 15,295 December 2025.of 19

[8]On the concept of geneticisation, see, among other references, Weiner *et al*. (2017).

between 1976 and 1983 (Carneiro *et al*, 2020). Although Argentine forensic DNA databases were implemented for this purpose in 1987, they were not employed for criminal identification until 2013, the same year in which Brazil implemented its national DNA database. On the African continent, South Africa was the first country to establish a forensic DNA database, doing so as early as 1997, and raising concerns regarding the potential reconfiguration of racialized surveillance practices in the post-apartheid context (Tamarkin, 2025). Nevertheless, it was only in 2014 that the South African DNA database reached a substantial scale.

The current intensification of debates surrounding the uses, discourses, and performances of forensic genetics beyond the US and Western Europe has led to a repositioning of the analytical gaze toward the impacts of technosciences aimed at crime control in contexts marked by the persistence of authoritarian and militarized models of security systems, high rates of violent deaths, and exacerbated levels of inequality in legal and penal treatment. This article seeks to provide a useful contribution to this set of discussions.

The questions we wish to pose here can be formulated as follows: How can we understand the link between the use of cutting-edge DNA technology, on the one hand, and the structural precariousness of Brazilian prisons and penal practices, on the other? How should we grasp the dynamics of technology flows and their relationship with the social situation in countries in the so-called Global South? What local effects and constraints influence the globalisation of technology? According to Arjun Appadurai (2008), the contemporary world is characterised by a series of flows, whether of finance, goods, techniques, populations, or imaginary worlds. By the term 'technoscape', he addresses 'the global configuration, also ever fluid, of technology' and the fact that technology 'now moves at high speeds across various kinds of previously impervious boundaries' (Appadurai, 2008: 52). However, the trajectories and outcomes of technology transfer are complex, as they include differences in context, power relations, learning capacities, and scales of use (Lu and Qiu, 2023; Seely, 2003). In this article, we are not interested in the mechanisms of circulation, but rather in the ways in which these technologies are implemented and confront local situations—in other words, how they are 're-territorialised' or reinscribed in a given environment (Inda and Rosaldo, 2008). We thus propose a sociological analysis of the use of forensic DNA databases when this technology is appropriated by experts and state agents in a Global South or newly industrialised country.

After summarising the analytical framework that accounts for this paradoxical combination of modern techniques mobilised in the penal system and archaic criminal justice institutions, we begin in the first part by presenting the rationales of Brazilian forensic experts who see the policy of genetic identification as having the potential to overcome the abusive and non-objective evidence-gathering practices that fuel hyper-incarceration in Brazil. We show that institutional strategies to expand the Brazilian DNA database, centred on the storing of genetic material from convicted offenders, fail to exonerate convicts and are themselves boosted by mass incarceration. In the second part, we describe the ways in which the day-to-day procedures for collecting biological content from prisoners in Sao Paulo are often based on discretionary, arbitrary, and even illegal practices. The final part is devoted to certain practices akin to torture resulting from prisoners' resistance and refusal to surrender their genetic material, thus establishing conditional links between the permanent threat of institutional violence and new DNA identification technologies. Thus, DNA collection is characterised by both rights-protective legislation and abusive practices, which leads us to a more general reflection on the re-territorialisation of genetic profiling.

SURVEY STRATEGY

This article is the result of a broader study carried out between 2021 and 2024 on the development of forensic genetics in Brazil. The methodological strategies employed sought to identify the discourses and rationales guiding these practices, the legal and institutional structuring of this policy, and the ways in which DNA sampling procedures are carried out in Brazilian prisons.

The empirical material used in this research consists first and foremost of interviews. A total of 35 criminal experts and forensic geneticists from the technical and scientific police departments of seven Brazilian states were interviewed. Their testimonies were gathered either through their participation in focus groups or through in-depth individual interviews. In addition, we had access to 17 interviews with prisoners subjected to DNA collection procedures, carried out inside prison facilities by the inspection team of the São Paulo State Public Defender's Office (SPPD), the

organisation that provides legal assistance to prisoners who cannot afford private lawyers. The interviews were conducted by SPPD agents, who provided us with the written records for subsequent analysis. Accordingly, the records documenting DNA collection procedures in prisons are drawn from the prison system of São Paulo, which accounts for the largest incarcerated population in Brazil. Nevertheless, it should be emphasized that the ethnographic findings presented in this article are limited to the state of São Paulo. Prisoner testimonies were supplemented by inspection reports drawn up by the SPPD, which systematise information on incarceration conditions in the penitentiary units inspected, as well as by reports from prisoners who had undergone DNA collection procedures. Interviews with experts were recorded and transcribed, and those with prisoners were recorded in writing. Transcripts and observation notes were indexed and analysed on the basis of emerging themes, grouped into categories and compared according to situation or person. The operation thus involved fragmenting, examining, comparing, conceptualising, and categorising the data, an approach that allows themes and concepts to emerge from the field (Glaser and Strauss, 1967). Finally, the corpus of documentation consists of laws, normative resolutions, and 21 evaluation reports drawn up by the Management Committee of the Integrated DNA Profiling Database Network, the organisation linked to the Ministry of Justice and Public Security responsible for coordinating the activities of the forensic genetics laboratories that make up the BNPG.

ANALYTICAL DETAILS: THE PLATYPUS AS A SOCIO-POLITICAL CONCEPT

The gradual expansion of the prison system concomitant with the exacerbation of police violence in the early 1990s signalled a historical-political paradox that is still under debate by research institutes focused on issues related to state violence and Brazilian authoritarianism (Caldeira, 2001; Novello and Alvarez, 2022). By 1985, the country had emerged from a two-decade military dictatorship, but the subsequent rise in incarceration rates and police lethality indicated that in the criminal sphere—and particularly for the Black and poor population, designated as the main clientele of the criminal justice system—the process of democratic opening meant little (Caldeira, 2001). On the contrary, the decades that followed political democratisation and the establishment of the so-called New Republic coincided with an intensification of police violence and punitive policies in the country. In practice, democratic openness remained limited to political-institutional circles and to the media and academic spheres of information and thought production. In marginalised sections of the urban and rural population, contact with state authorities remains marked by violent authoritarianism, which is still intensifying at the beginning of the twenty-first century, as the institutions responsible for security and repression policies remain largely under the command of military agents (Caldeira, 2001; Novello and Alvarez, 2022). The population was granted civil and political rights, and freedom of the press, but the police and penal apparatus remained in the hands of those linked to military power.

To understand what is at stake in this context, we would like to draw on the metaphorical notion of the ‘platypus’ that has been proposed in socio-economics, while introducing a shift to the field of penal policy. In 1972, sociologist Francisco de Oliveira published his *Critique of Dualist Reason*, a book that marked the field of Brazilian economic sociology by establishing a counterpoint to the predominant ways of interpreting the relationship between capitalism and underdevelopment in South America in the second half of the twentieth century (Oliveira, 1972). At the time, the theoretical tools used by analysts and public administrators to define economic policy orientations in Brazil remained tied to an interpretative framework that opposed development to precariousness, ‘modernity’ to ‘archaism’, as two separate poles.

Instead, Oliveira mobilises a set of Marxist-inspired theoretical instruments to develop an analysis of the socio-economic expansion of capitalism in Brazil, characterised by the symbiosis of development and precariousness, in which the so-called ‘modern’ develops and feeds on the maintenance of the ‘backward’. The author breaks away from the dual model by demonstrating how industry and the country’s scientific and technological development are fostered by the subsistence economy and the precariousness of the workforce. He explains the role played by an expansive ‘army’ of ‘reserve labour’ in Brazilian cities, constituting the marginalised mass occupied in informal activities that were part of the means to reduce the cost of urban labour. In rejecting the binary interpretation, Oliveira emphasises the ‘productive’ character of the expansion of poverty and the role of underdevelopment as the engine of the capitalist system on its periphery. The result is a paradoxical society that combines aspects of capitalist development with the expansion of the most radical social precariousness.

At the beginning of the twenty-first century, Oliveira took up and updated his thesis to characterise the strange formation of Brazilian society, using the allegorical image of the platypus—an enigmatic, deformed animal, improbable on the evolutionary scale, an oviparous mammal with a duck's beak that retains primitive reptilian characteristics (Oliveira, 2003). The zoomorphic metaphor depicts a social formation of 'truncated evolution', in which extremes overlap and feed off each other.

Although the importance of Oliveira's work is widely recognised within Brazilian social thought, his ideas have rarely been taken up outside of economic sociology. In the field of urban studies, Mariana Fix and Pedro Arantes (2004) use this allegory to characterise the city of São Paulo as a 'metropolis-platypus', illustrating the contradictions of contemporary Brazil, with its landscapes composed of "'intelligent" skyscrapers on avenues without sewers, favela shacks with satellite dishes': the modern and the precarious superimposed. For its part, the sociology of crime proposed by Alexandre Werneck (2015) mobilises the notion of the platypus and its corresponding image of the 'social mosaic' to characterise the fragmentary compositions on which the social construction of the militias operating in the favelas and outskirts of Rio de Janeiro is based, combining in a single representation the figures of the 'drug dealer', the 'killer', and the 'corrupt policeman'. It seems to us that this conceptual repertoire sheds useful light on the contradictions in the field that interests us here. Let us see how.

A DESIRE TO 'MODERNISE ARCHAIC PRACTICES'

In recent years, the policies implemented through the DNA Data Collection Law have resulted in rapid growth in the number of profiles registered in the Brazilian DNA database.[9] During the first years of its implementation, the number of genetic samples registered in the BNPG increased at an initially steady and moderate pace, rising from 2,584 profiles stored in November 2014 to 13,197 in May 2018. From 2019 onward, with the intensification of collection campaigns in prisons, the total number of samples stored rose from 30,809 in May 2019 to 239,412 in November 2024. Of all the profiles retained at the end of 2024, 74.1% came from convicted offenders, while 14.8% came from traces collected at crime scenes or from victims of crimes.

According to the criminal experts who manage DNA data in Brazil, the aim of the BNPG is to add scientificity to the country's criminal investigation procedures by technically and politically modernising the judiciary and police apparatus. In the words of the former administrator of the BNPG, the use of DNA databases in the country is intended to overcome 'archaic' methods of dealing with crime, which have the effect of reinforcing hyper-incarceration:

> The registration of criminals in DNA banks must be seen as a modernisation of an archaic, outdated system that is highly contrary to human rights, namely mass incarceration. (...) If we don't have adequate forms of identification, how will crimes be solved? By torture, which leads to false confessions and the conviction of innocent people.

This extract can be related to ideas developed in social science studies, which show an association between technology transfer in Global South countries and the notion of 'modernisation' (Seely, 2003). This idea tends to place countries or regions on a continuum, from the most to the least developed, with technology transfer from the former to the latter (Lu and Qiu, 2023). We have seen that this vision is antagonistic to that proposed by Oliveira, who does not take 'development' as an axial process. Moreover, as Lu and Qiu (2023) point out, the diffusion of technologies is not necessarily linear, and their adoption is not always passive, as we shall show below.

In general, forensic geneticists see the DNA identification policy as having the potential to overcome the abusive and non-objective evidence-gathering practices perpetuated in Brazil, based on the extrajudicial use of force as an evidentiary technique for obtaining confessions: 'By fighting the DNA bank, we're encouraging the police to continue using confession as their main evidence, which is terrible', adds a member of the Management Committee of the Integrated DNA Profiling Database Network (MC-IPDN).

Epistemic qualification of criminal evidence would be one of the conditions for eliminating abusive investigative techniques, which lead to unjustified convictions. In this respect, the professionals

[9]Only genetic data is retained, and DNA samples are destroyed in the case of identified individuals.

interviewed also emphasised the large number of mistaken recognitions of suspects by eyewitnesses, which the genetic approach could correct. Forensic DNA is intended, thus, to promote justice not only for victims, but also for those wrongly suspected in a context of police violence prompted by years of dictatorship.

However, while one of the stated aims of professionals is to exonerate innocent arrested suspects and avoid wrongful convictions in the first place, the institutional strategy based on the promotion of DNA databases using prisoners' genetic data seems to have little or nothing to do with exonerating people who *have already been convicted*. Indeed, the procedures of storing convicted offenders' DNA does not involve a process of reviewing convictions on the basis of samples collected in penal establishments. As one of the geneticists involved in the DNA collection campaigns in Rio de Janeiro's prisons put it with some unease:

> What bothers me is that the state's role is to file this person without giving him or her any feedback. You arrive at the prison to [take] the sample and you say almost nothing. (...) There have been cases of prisoners who have asked: 'Is this going to exonerate me?' (...) – 'And no, it's not going to exonerate you'. The aim is not to exonerate. The aim is that if you commit another crime, they'll have your data, your genetic profile in the database. The DNA bank's logic is structured to incriminate as many people as possible. The logic is oriented in this direction: incriminate, arrest.

The problem here is that the DNA profiles collected from convicted offenders are not used to comparing them with traces that might have been found at past crime scenes. The emphasis relies on feeding the database with a captive population—literally and figuratively—in order to have a large database for identifying repeat offenders.

As in other countries, the perpetrator of an offence also becomes a suspect in other future offences (Cole & Lynch, 2006). Based on a predictive rationale, the genetic record of convicted offenders is founded on the anticipated suspicion of criminal recidivism, with the categories of *perpetrator* and *suspect* becoming porous (Vailly, 2024).

Despite the objectives attributed by criminal experts to forensic genetics as a techno-scientific tool to overcome the violent and abusive police practices that feed a mass incarceration scenario, DNA databases are fed by this same scenario, taking prisoners' biological material as a fundamental element of their development. We thus return to Oliveira's analytical framework, whose allegorical image of the platypus refers to the third industrial revolution, based on the "molecular-digital" revolution driven by the most rudimentary use of force (Oliveira, 2003). As in the economic sphere, where the subsistence economy and the precariousness of the workforce foster the country's industrial and technological development (Oliveira, 2003), hyper-incarceration in precarious correctional facilities fuels the genetic profiling of prisoners, even if the latter is presented, in return, as intended to combat 'inappropriate incarceration'.

FROM LEGAL STANDARDS TO COLLECTION PRACTICES

In addition to the stated aims and official strategies for promoting forensic DNA databases in Brazil, we draw particular attention to the unofficial practices underlying their recent expansion, as reflected by the type of offences covered by the registration of DNA profiles of convicted offenders in 2024, when the DNA Collection Law limited the cases that must be subject to mandatory DNA registration to those convicted of crimes involving 'serious violence', 'crimes against life', or sexual offences. Data from the Ministry of Justice indicate that 39% of the offenders whose genetic profiles were stored in the database were convicted of crimes against property, 10% of crimes against life, and 41% of sexual crimes[10]. More specifically, a significant volume of registered DNA profiles concerned people convicted of offences such as robbery, contradicting Brazilian legislation at the time. Would all these cases of 'crimes against property' have been committed by resorting to 'serious violence'? The DNA collection carried out in prisons do not involve individualised investigation of criminal cases, including those who committed theft without any form of physical violence and revealing, thus, that DNA sampling procedures operates beyond the scope defined by law.

Indeed, the substantial number of genetic profiles

[10]Ministry of Justice and Public Security. Available at: https://www.gov.br/mj/pt-br/assuntos/sua-seguranca/seguranca-publica/ribpg/relatorio (accessed 14 January 2025).

derived from individuals convicted of property offenses in the national database points to the central role of the executive branch in regulating the genetic identification policy, to the detriment of the legislative branch. Ultimately, it is police agencies and prison authorities that determine which segments of the incarcerated population will effectively be subjected to the compulsory collection of DNA samples within prisons, thereby reversing the formal hierarchies that would restrict such authority to the legislature. This prominence suggests an "impermeability of the prison to the injunctions of the law" (Godoi, 2020), the effects of which are reflected in the legal vulnerability of incarcerated populations and in the material deterioration of their living conditions.

In other countries around the world, such as the United Kingdom, the United States, and France, legislators have opted to considerably extend the scope of DNA profiling to a large number of offences, including theft, damage, and deterioration (Williams and Johnson, 2005; Krimsky and Simoncelli, 2011; Vailly, 2024). In the Brazilian case, by the end of 2025, the legislator had a rather restrictive vision of the scope of the database, but day-to-day practices seemed to promote an extensive version of the definition of the offences concerned. In short, the circulation and re-territorialisation of genetic technology imply a substantial gap between law and practice.

This is also at the heart of sampling operations, whose daily practices are far removed from the normative framework defined by the legal, supra-legal, and infra-legal regulations that define the rules for DNA sampling. Since the institutional implementation of the BNPG, the Ministry of Justice has drawn up guidelines outlining the procedures to be followed by technical-scientific police teams with regard to the collection of biological material, with the aim of regulating and standardising procedures in the various states of the federation. In so doing, the ministry makes it clear that 'blood sampling techniques must not be used' and that 'prior to the sampling of biological material, the person undergoing the procedure must be informed of its legal basis, in the presence of at least one witness, in addition to the person responsible for the sampling'[11]. By 2025, the federal law also specified that samples must be taken 'by an official expert'[12], i.e., a forensic officer with technical-scientific skills, duly trained for the task.

However, cases of non-compliance with the protocols for obtaining and taking DNA samples in prisons are not uncommon, making these procedures abusive or even illegal. This is illustrated by the following situation:

> Alessandro[13], sentenced to a prison term, informs the São Paulo State Public Defender's Office (SPPD) inspection team that his DNA had been collected in 2022. The procedure took place as part of the campaign to collect DNA samples from convicted offenders, coordinated by the Management Committee of the Integrated DNA Profiling Database Network, and provided for under Article 9-A of the Penal Enforcement Act. Nevertheless, contrary to the law, Alessandro claims to have had his blood drawn using a syringe. Moreover, he claims that prison guards themselves took the sample (Iaras, Orlando Brando Filinto Prison, April 2023).

Defined as an 'invasive method' for obtaining genetic information by the national rules governing collection and by international treaties (UNESCO, 2004), venipuncture for extracting samples has been reported to the Public Defender's Office by prisoners in the Iaras penitentiary and in other prison facilities around São Paulo. In this regard, we should note the risks of nerve damage and bacterial infections caused by the handling of syringes and needles by agents without any specific preparation or training, particularly when considering the harmful sanitary conditions in prison facilities (Minayo and Constantino 2015; Mallart 2021).

Furthermore, there are also accounts of fraudulent strategies used by prison officials to obtain genetic material from prisoners, as this second report highlights:

> According to Edson, who was sentenced to a prison term, prison officials had told him that the biological sample collection procedure was for a Covid-19 serological test. After the procedure, he was informed by the prison staff that it was in fact a

[11] Ministry of Justice and Public Security, Resolution no. 10, 28 February 2019.
[12] Art. 9-A, paragraph 7, law 7.210.
[13] All the prisoners' names have been changed.

> collection for the registration of his DNA profile in the São Paulo Genetic Profiles Database (Vila Independência prison, eastern region of the city of São Paulo, May 2023).

According to the SPPD, this situation is not an isolated case either. Roberto reports that shortly before the buccal swabbing carried out by officers of the technical police and forensics at the Serra Azul penitentiary, in the western region of the state of São Paulo, '[prison guards] circulated a list saying it was for health care'. The samples were taken in the guise of a medical examination, with the scrubs worn by the judicial police officers appearing to attest to the prison administration's false claims.

As part of the machinery of the penitentiary system, forensic genetics remains intertwined with the arbitrary and illegal treatment of prisoners. Despite the existence of normative criteria and legislative parameters regulating genetic sampling procedures, the ways in which DNA databases are developed are ultimately conditioned by the modus operandi of their direct operators, establishing feedback relations between the judicial practices of techno-scientific identification and the discretionary power of 'prisons above the law' (Godoi, 2020). More generally, the circulation of technologies operates in situations where power relations stemming from local historicity, notably arbitrary practices in prisons, are of prime importance. If there is an additional feature of the platypus to be considered in the analysis of contemporary mutations in the Brazilian penal system, this feature consists of its "poisonous properties," highlighted in the encyclopedic epigraph that precedes Oliveira's essay.

LEVY OR PUNISH

Besides the institutional tactics described in the previous section, episodes of refusal by inmates to give samples, and their coercive effects, can also shed light on the modes of imposition and negotiation established between operators of the genetic identification policy and convicted individuals. Indeed, the recording of genetic data is not without resistance from some convicts, although this is poorly documented by prison authorities. In legal terms, the law qualifies as 'serious misconduct' the refusal of convicts to submit to genetic identification procedures[14], with the possible consequences of suspension of 'benefits' such as transfer to a semi-open prison, suspension of temporary releases and parole, or even disciplinary isolation in an 'appropriate place'[15]. An example is provided by the following situation:

> An anonymous whistleblower informs the National Human Rights Ombudsman that all inmates in the prison unit have been undergoing disciplinary punishment for at least a month and are prevented from seeing or contacting their families. According to his testimony, a prisoner's refusal to provide a saliva sample was the reason for the imposition of collective punishment, a procedure prohibited by the Penal Enforcement Act[16] (Flórida Paulista, Cristiano de Oliveira Prison, September 2022).

This situation is problematic on multiple levels. In the Brazilian penitentiary system, visits play a central role in the prison experience, not only in its affective dimensions, but also in its material and legal-procedural ones (Godoi, 2017; Lago, 2022). The main link with life outside the walls and a way of maintaining ties of sociability, the weekly regularity of visits is also a condition for the supply of basic necessities, such as food and personal hygiene products, given the insufficient supply of these items by administrative staff (Godoi, 2017; Lago, 2022). Furthermore, considering the scarcity of legal aid services in the country's prisons, information on the progress of sentences and contact between prisoners and defence lawyers also depend largely on the mobilisation of their family and friends (Godoi, 2017; Lago, 2022). The widespread suspension of visits for an extended period invariably leads thus to a worsening of the conditions of material precariousness and legal vulnerability to which prisoners are subjected.

Second, the legislative rules established by the MJPS specify that in the event of refusal, the inmate 'must be warned of the compulsory nature of the collection and [that] the refusal will be communicated to the competent judicial authority'[17] Indeed, it is up to the judge to decide on the consequences to be applied in each specific case, among the measures listed in the legal system. However, in Flórida Paulista, a case of

[14]Art. 9-A, paragraph 8, law 7.210/1984.

[15]Art. 53, law 7.210/1984.
[16]Art. 45, para. 3, Penal Enforcement Act.
[17]Art. 9-A, paragraph 8, law 7.210/1984.

refusal led to a ban on visits decided by prison authorities, once again reversing the hierarchies that place judges and laws above prison officers and directors. Moreover, collective sanctions in prisons are forbidden by the Brazilian Constitution, which states that no punishment may exceed the individual penalised,[18] although they are more often than not (Mallart, 2021).

Finally, the legal provision for 'disciplinary isolation' as a consequence of refusal also has underlying implications. Back to Flórida Paulista:

> Denis, sentenced to a prison term, informs the inspection team from the Public Defender's Office that three of his cellmates had been transferred to the disciplinary ward the previous year, after refusing to provide their genetic material for inclusion in the São Paulo DNA Database. By April 2023, none of his cellmates had returned to their cells (Cristiano de Oliveira Prison, April 2023).

Disciplinary wards are intended for inmates who break the rules of penal enforcement or come into conflict with the prison administration. Generally speaking, these are spaces made up of small, overcrowded cells with poor lighting and inadequate air circulation, in which people are subjected to a meagre diet, water rationing, and are deprived of natural light for days or even months. In an ethnographic research carried out in prison units in São Paulo, Mallart (2021) defines these spaces as 'made up of stifling, damp, dark corridors of around 12 cells, where men and women subject to so-called disciplinary sanctions stay, in theory, for up to 30 days'. However, Denis's companions spent more than four months in this space for refusing to give a DNA sample.

However, the range of sanctions resulting from refusals appears to extend beyond the prohibition of visits and the imposition of disciplinary isolation. When asked about the consequences faced by incarcerated individuals who refuse to provide biological samples in the facilities that make up the Gericinó Penitentiary Complex in Rio de Janeiro, one of the interviewed forensic experts explained: 'There, it's the law of the jungle. If a prisoner refuses to provide a sample, they beat the hell out of him, and at the next collection session, he complies.'

Genetic sampling is thus characterised by both rights-protective legislation and violent procedures. There is therefore a long way to go from everyday actions to principles, expressing some of the means by which the penal platypus instils its venom in its carceral territory. The rights of prisoners remain secondary, overshadowed by abusive and routine prison practices.

Diagram **1** shows how 'modern' and 'archaic' elements coexist in practice.

CONCLUSION

Intensive investment in 'modernising' the penal system through the use of DNA databases, combined with the maintenance of precarious institutions and the perpetuation of torture as a punitive practice, indicate an interweaving whose forms and social meaning we have attempted to grasp. Considering this situation, this article does not aim to provide general recommendations regarding the use of DNA data in the Brazilian criminal justice system. However, we shall offer a series of initial recommendations that would involve a process of reviewing convictions on the basis of samples collected in penal establishments and abolishing violent, coercive and fraudulent practices of DNA sampling. Furthermore, at the end of this study, three main observations should be made.

First, rather than overcoming old practices through the introduction of science- and technology-based criminal investigations, according to the professionals' stated aim, we observe an overlap between the authoritarian archaism of institutional crime-fighting practices and the use of techno-scientific criminal identification devices. This signals the conflation of the old and the new in the spheres of public security and criminal justice. Emerging technologies of genetic identification combine with the reiteration of violence, arbitrariness, and illegality of the Brazilian criminal justice system, composed of a vast network of penitentiary institutions ironically likened to 'medieval dungeons' by the very ministers responsible for them. A kind of living mosaic, this justice system appears as the iconic expression of a penal platypus: an entity that is 'neither this nor that', combining in the same institutional configuration the modernising promise of techno-scientific surveillance and the perpetuation of violence in overcrowded prisons, fuelled by the hypertrophy of a multiform penal system. The resulting hyper-incarceration turns prisoners into the 'reserve army' of the DNA database, to paraphrase Oliveira, even though the latter is intended to combat

[18] Art. 5, XLV of the Federal Constitution.

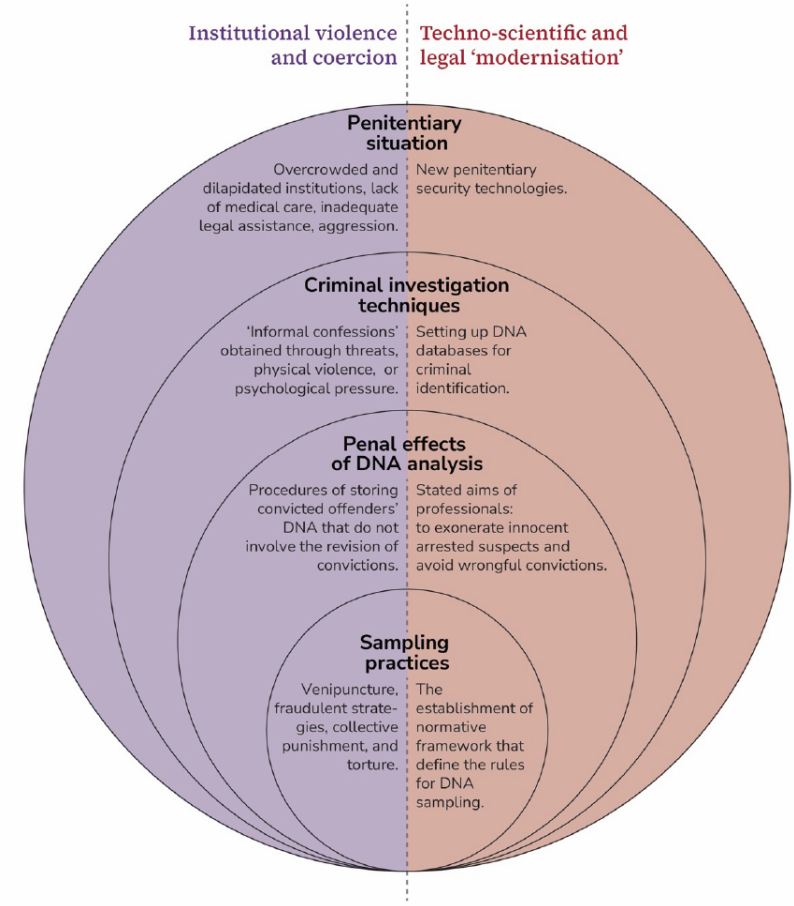

Diagram 1: 'Modern' and 'archaic' element in the Brazilian penal platypus.

inappropriate incarceration. Not only is the use of technology justified as a means of combating archaism, but it is also bodily fuelled by the archaic practices that fill prisons.

Obviously, violence and arbitrary practices by police or prison authorities are not exclusive to countries in the so-called Global South or those undergoing democratic transition. Nor is the coexistence of modernity and archaism within the same country, given the disparities among social worlds within national borders. What interests us here is analyzing a situation in which this conjunction—both pushed to its peak and concentrated in a single location (the prison)—functions as a zone of friction where a technique originating in the Global North enters into a complex relationship with the Brazilian local reality. In fact, the empirical characterization of the 'penal platypus' does not refer solely to the use of forensic genetics in substandard prison facilities, nor is it limited to the Brazilian criminal justice system. As an extension of debates on technosciences deployed in postcolonial contexts (Hu, 2024), in Brazil or other regions of the world, the 'penal platypus' allows us, on the one hand, to deconstruct binary oppositions such as that between archaism and modernity; and, on the other hand, to reflect on the hybridity and heterogeneity of situations in these zones of friction. As Warwick Anderson notes, 'hybrid or incomplete modernities are reticulated everywhere, and no pure source can be found' (Anderson, 2002, p 650).

A number of social science researchers are interested in the relationship between the local and the global, taking into account social groups situated in a given local and historical context (notably Appadurai, 2008; Inda and Rosaldo, 2008). As opposed to a vision that would insist solely on the diffusion of 'molecular-digital' technologies from Euro-American countries to the various regions of the world, with the idea of a global homogenisation of techniques, it would be more accurate to consider that these are interpreted, reappropriated, and transformed according to local contexts of reception (Inda and Rosaldo, 2008). If authors have spoken of a 're-territorialisation' of cultural elements that circulate and take root in new social spaces (Inda and Rosaldo, 2008), technologies too are re-territorialised. In our case, genetic profiling is used in

a country where the use of torture is rooted in the 'institutional culture' of criminal justice and public security agencies (Lima, 2019; Felitte, 2023). Furthermore, we have shown that the standards that specify biosafety precautions and compliance with legal and regulatory criteria for the collection of biological material are frequently remote from practice. The stated goal of justice for suspects against confessions extracted through torture is confronted, on the one hand, by power relations that remain in favour of the military police and, on the other hand, by arbitrary 'carceral technologies' (Benjamin, 2016; Tamarkin, 2025) against convicts, showing how the paradoxical mosaic of the Brazilian penal system emerges, where technology is re-territorialised and the penal platypus takes shape.

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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AUTHOR CONTRIBUTIONS

Ricardo Urquizas Campello conceived the study, conducted the fieldwork, analyzed the data, and drafted the manuscript. Joëlle Vailly supervised the research, analyzed the data, and co-wrote the manuscript. Both authors reviewed and approved the final version of the manuscript.

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