

Technological zones and data practices: migration control in Argentina and Entre Ríos

Zonas tecnológicas y prácticas de datos: el control migratorio en Argentina y Entre Ríos

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Abstract

The aim of this article is to describe and analyze the establishment of a technological zone in Argentina between 2011 and 2022, focusing on the processes of standardization and circulation of information that enable both the externalization and internalization of borders—understood as filters—through the collaboration of various actors at the regional, national and subnational levels. To this end, a qualitative methodology was employed, based on the collection of official documents from regional, national and subnational agencies related to migration control and security, as well as interviews with public officials at the subnational level. Among the main conclusions, it is observed that the expansion of borders depends on the standardization of information, which facilitates collaboration among actors at different levels and the development of new forms of migration classification based on risk profiles.

Keywords: technological zone, standardization, migration, externalization, internalization.

Resumen

El objetivo de este artículo es describir y analizar la constitución de una zona tecnológica en Argentina entre los años 2011 y 2022, enfocado en los procesos de estandarización y circulación de la información, que permiten la externalización y la internalización de las fronteras, entendidas como filtro, a través de la colaboración de diferentes actores a nivel regional, nacional y subnacional. Para ello, se utilizó una metodología de tipo cualitativo, basada en la recolección de documentos oficiales de organismos regionales, nacionales y subnacionales relacionados con el control migratorio y la seguridad, así como la realización de entrevistas a funcionarios públicos del nivel subnacional. Entre las principales conclusiones alcanzadas, se observa que la expansión de las fronteras depende de la estandarización de la información,

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lo que posibilita la colaboración entre actores en diferentes niveles y el desarrollo de nuevas formas de clasificación de las migraciones basadas en perfiles de riesgo.

Palabras clave: zona tecnológica, estandarización, migración, externalización, internalización.

Introduction

In the early 2000s, Argentina underwent a rapid digitization of international migration processes through the adoption of biometrics, digital databases and artificial intelligence, among other innovative technologies. This phenomenon has led to significant transformations in migration control, notably the expansion of population-monitoring capacity, the development of new forms of migration classification based on risk criteria and the expansion of migration management tools both abroad and within national borders. Although these developments have progressed rapidly in Argentina and South America, very little is known about the so-called “smart border” (Domenech et al., 2023; Moulin Aguiar & Magalhães, 2020; Neira Orjuela, 2015, 2023; Rios, 2019, 2020; Santi Pereyra, 2018), especially when compared to the countless studies, research papers and reports that exist on borders in North America and Europe (Ajana, 2015; Broeders, 2007; Broeders & Dijstelbloem, 2016; Chaar López, 2024; Cote-Boucher, 2008; Heyman, 2008; Pfeifer, 2021; Pollozek & Passoth, 2019; Singler, 2021).¹

This paper aims to describe and analyze the formation of a *technological zone* (Barry, 2001; Walters, 2011) in Argentina between 2011 and 2022, focusing on the processes of standardization and information circulation that enable the externalization and internalization of borders—understood as filters—through the collaboration of various actors at the regional, national and subnational levels. Hence, the text traces the emergence of new information systems on security and migration, as well as the processes of standardization and expansion of data practices that enable the circulation of information among actors at different levels (regional, national and subnational). As such, the text analyzes the emergence of a new sphere of governance, one defined not only by territory but also by a network of actors linked through the production and circulation of standardized data.

The processes that enable and expedite the production and exchange of migration records among different actors address, on the one hand, the development of advanced passenger information systems and, on the other, the establishment of biometric identification systems and migration or security databases that facilitate information exchange between the national government and the provinces. In the first case, there are the Advanced Passenger Information (API) and Passenger Name Record (PNR) systems, whose standards are defined by the International Civil Aviation Organization (ICAO). In the second case, these include the Migration Registration System (Sicam, Spanish acronym for *Sistema de Captura Migratoria*), the Foreigner Admission System (Sadex, Spanish acronym for *Sistema de Admisión de Extranjeros*), and the Federal Biometric Identification System for Security (Sibios, Spanish acronym for *Sistema Federal de Identificación Biométrica para la Seguridad*), managed by the Ministry of the Interior

¹ Due to space constraints, it is impossible to cover all the works and studies addressing these issues in North America and Europe. Here, some texts have been selected from a bibliographic database created by the author, which currently contains more than 50 references.

and the Ministry of Security, respectively. Within this framework, the paper shows how the standardization of these tools through agreements and conventions among the various actors forms a technological zone in which the National Directorate of Migration (DNM, Spanish acronym for *Dirección Nacional de Migraciones*) plays a central role in the internalization and externalization of borders.

From both analytical and empirical perspectives, this study makes several contributions to the field of critical studies on migration and borders in Argentina and, to a lesser extent, in South America. First, the paper describes the processes of digitization and datafication linked to migration control in Argentina by analyzing various tools, thereby contributing to a better understanding of the relations among the national government, international organizations and the provinces. Second, the theoretical perspective draws on studies of science, technology and society that consider the assemblage of human and non-human elements (Barry, 2001; Müller, 2015).

Thus, technical processes—such as the incorporation of devices or standardization—are regarded as constitutive elements of the political dimension (Barry, 2001). Within this framework, issues such as the development of standards are no longer viewed as marginal matters or epiphenomena of the political sphere but are instead considered central aspects. In other words, technology plays a formative role in institutions and societies, since it is neither separate from nor external to them (Barry, 2001). Third, the notion of a technological zone reveals its heuristic potential by enabling a rethinking of the continuity between externalization and internalization, not only as a problem of territorial sovereignty but also as a matter of the circulation of information through compatible media or channels.

This study is based on a qualitative methodology, with the primary tool being the collection of official documents, supplemented by interviews with various actors involved in migration and border control. The documents collected include laws, decrees, resolutions, regulations, agreements and official government documents published on websites, as well as technical manuals on standards and procedures. Various criteria were considered in the document collection; first, documents were selected that described the systems for the identification, registration and monitoring of migration. Second, it was considered necessary to include materials illustrating the development of these systems at different scales (regional, national and subnational) to demonstrate the extent of technological zones both within and beyond territorial boundaries. And third, priority was given to analyzing documents that help reconstruct the standards and harmonization mechanisms that enable information flow among different institutions.

The interviews used in this article are part of a broader research project conducted between 2021 and 2022 in the province of Entre Ríos. A total of nine interviews were conducted: two with staff from the National Directorate of Migration, two with the National Gendarmerie, one with the Naval Prefecture and four with staff from various departments of the Entre Ríos Provincial Police (PER, Spanish acronym for *Policía de Entre Ríos*). In most cases, the interviews were conducted with senior-level staff who had long careers at their respective institutions. While all the interviews have contributed to a broader understanding of migration and border control in Argentina and Entre Ríos, this paper focuses specifically on those conducted with provincial police personnel.

The selection criteria for interviewees sought to cover federal bureaucracies involved in migration and border control, as well as provincial ones, given that the latter have been less studied. Specifically, these interviews made it possible to explore aspects of the day-to-day functioning of technologies arising from interactions between humans and non-humans that are not documented.

Finally, it is important to note that this study covers the period from 2011 to 2022. This period was marked by the adoption and expansion of biometric systems and digital databases, as well as tools that facilitate information exchange in South America, particularly in Argentina and the province of Entre Ríos.

In addition to this introduction, this paper has four main sections. The first briefly presents the theoretical tools that guide the analysis, particularly the concepts of the “technological zone” and “data practices”. The second section examines the development of API and PNR systems in South America, with a particular focus on Argentina. The third section analyzes the development of surveillance technologies at the subnational level and the internalization of migration control, using the province of Entre Ríos, Argentina, as a case study. Finally, the conclusions reflect on the construction of technological zones and the emergence of new spaces of governance that transcend territorial boundaries and are organized around technological standardization or harmonization.

Data practices and technological zones: categories, standards and governance

The theoretical framework underlying this work draws primarily on critical studies of migration, security and borders, as well as contributions from science, technology and society studies. The former have explored issues related to migration and borders across multiple dimensions, such as classification, identification and control. The latter provide insights into the governance of populations through analytical frameworks that encourage a joint rethinking of the relations between human and non-human actors, as well as a reassessment of the political significance of aspects that are usually considered merely technical and instrumental (Barry, 2001).

A historical perspective reveals that States have created various mechanisms—such as censuses, surveys and administrative records—designed to gather information about their inhabitants, including international migrants, to fulfill functions essential to their existence and organization, such as conscription and tax collection (Scott, 1998). In the very process of producing, circulating and organizing their records and databases, States have generated classifications and categorizations of populations and individuals based on multiple criteria.

When it comes to populations, and particularly international migration, distinctions have been drawn between nationals and foreigners, as well as between “regular” and “irregular” migrants. Although not the only one, the distinction between “regular” and “irregular” is among the most significant, as it currently shapes the predominant ways of understanding and governing international migration within migration

regimes (De Genova, 2002; Domenech, 2011). This type of classification has gained ground in recent decades through the migration governance approach, which, under the guise of technical language, promotes the political framework of safe, orderly and regular migration (Domenech, 2013; Georgi, 2010; Santi, 2020).

Until the 1970s and 1980s, records and categories were produced, recorded and circulated using non-digital means such as archives, card indexes, spreadsheets, tables, reports and other paper-based documents (Caplan & Torpey, 2001; Domenech & Pereira, 2022; García Ferrari, 2015). Today, much of the information that shapes the phenomenon of migration through various classifications is largely digitized and, more recently, processed by algorithms. A wide range of studies and research in the field of critical studies on migration, security, borders and technologies have coined various terms to describe this phenomenon, such as “digital border” (Broeders, 2007), “biometric border” (Amoore, 2006), “high-tech borders” (Milivojevic, 2013) and “e-borders” (Ajana, 2015). Nonetheless, the introduction of new tools has not led to the replacement of non-digital tools; therefore, it is currently more appropriate to speak of digital/non-digital assemblages (Canzutti & Tazzioli, 2023).

The development of so-called smart borders has involved various processes and phenomena that require some analytical distinctions. First, the development of smart borders has entailed a process of *digitizing* identification systems and databases—that is, translating their operations into computer language. Second, the digitization of these systems has facilitated the development of *datafication*: that is, the transformation of various aspects of human life—including migration processes—that “become amenable to processing through forms of analysis that could be automated on a large scale” (Mejias & Couldry, 2022).

In this regard, it is important to maintain this distinction between two related but distinct concepts. While datafication generally requires prior digitization, it is a more complex process in which digitized information is analyzed using sophisticated techniques that enable large-scale processing.

Taking this important distinction as a starting point, the theoretical approach proposed here draws on a body of work that specifically addresses the datafication of migration (Broeders & Dijstelbloem, 2016; Domenech et al., 2023; Leese et al., 2022; Ruppert et al., 2017; Ruppert & Scheel, 2021; Scheel et al., 2019). Within the analytical category of datafication, these studies problematize a broad set of related concerns concerning digitization, database creation and the production, circulation and analysis of information. Moving away from technocratic perspectives, these works incorporate technologies not merely as technical and instrumental devices, but as a constitutive part of the political dimension of migration and borders.

Within this broad and innovative framework, the analysis proposed in this paper primarily draws on the notion of *data practices*, insofar as it emphasizes the performativity of the categorizations produced (Ruppert et al., 2017; Ruppert & Scheel, 2021). According to this perspective, migration is not a reality that exists in and of itself outside of “a plethora of data practices, including registering, enumerating, counting and estimating to storing, cleaning, imputing, extrapolating and anticipating” (Scheel et al., 2019, p. 579). Consequently, data practices do not merely describe migration; rather, they give it substance or “enact” it (Scheel et al., 2019), as they possess a

performative rather than a descriptive power. Thus, classifications—just like the ways of accounting for and registering migrants, which distinguish between “regular” and “irregular” among many other possible categories—are not mere descriptions of reality. On the contrary, these labels and modes of registration or accounting give migration an entity and attribute it with specific characteristics. Thus, understanding data practices also means understanding how international migration becomes an intelligible and governable object within the framework of migration policies.

Furthermore, a concept that structures and informs the analysis presented in this article is that of the “technological zone”, developed by Barry (2001, 2006) and revisited several years later by Walters (2011). This concept can be used in studies of migration control to analyze how the standardization of certain technologies facilitates the flow of information among different actors, thereby expanding migration surveillance beyond territorial boundaries into spaces not necessarily under the jurisdiction of the nation-state. As the author expresses, this concept provides insight into “forms of political action and regulation may emerge which do not correspond to spaces and territorial regions defined in conventional social or geopolitical terms, but to zones defined by technology” (Barry, 2001, p. 19). This is a creative invitation to think of spaces of governance as fluid zones through which data circulates, thanks to processes of technological standardization that facilitate its exchange with relative ease.

Consequently, although the theory does not ignore the effects of the nation-state, a technological zone is not necessarily defined by a jurisdiction or delimited a priori by territorial boundaries. Specifically, a technological zone is characterized as “a space in which differences between technical practices, procedures, and forms have been reduced, or common standards have been established” (Barry, 2006, p. 239). Accordingly, the formation of these spaces is more closely related to the standardization of certain techniques and procedures than to the territorial demarcation of specific areas. The specific analysis presented in this article examines how, in the realm of migration and border control, a process of system standardization can be observed, resulting from agreements or conventions among actors operating at different levels of government.

Finally, it is important to clarify that, while the notion of data practices makes it possible to consider how new ways of classifying and making sense of international migration are defined, the concept of the technological zone makes it possible to rethink the governance of populations beyond territorial boundaries. From this perspective, it strengthens the understanding of the processes of border externalization and internalization as closely related and continuous dynamics (Bigo & Guild, 2016; Heins, 2025; Menjívar, 2014). In this regard, the concept also fosters a perspective that emphasizes not only the study of political agreements among actors but also the examination of technical aspects such as the standards that enable the circulation of information.

The externalization of control as a technological zone: the case of API and PNR in Argentina and South America

The externalization of immigration control (Menjívar, 2014), remote control (Zolberg, 1997) and remote surveillance (Bigo & Guild, 2016)—to name just a few of the terms and concepts used to describe the expansion of borders beyond territorial

boundaries—have a long history. Certain mechanisms, such as passports, visas and passenger manifests, predate the development of the digital technologies and data practices that underpin migration and border management today. As Broeders and Hampshire (2013) explain, “these processes may have been accelerated and reinforced by digital technologies, but they were not originally caused by them” (p. 1202). In the case of Argentina, policies and measures aimed at overseas migration in the early 20th century can be cited as precedents; these already included visas and other consular practices designed to regulate the arrival of immigrants on the shores of the Río de la Plata (Cook Martín, 2008; Devoto, 2001; Domenech, 2011; FitzGerald & Cook-Martín, 2014).

Since the 1980s and 1990s, new digital tools have been introduced that, through processes of standardization and the circulation of records, are reshaping the externalization and anticipation of migration control at regional and global levels. A turning point in the adoption of these new tools occurred following the September 11 attacks in the United States. The attacks on the Twin Towers accelerated the processes of datification of migration and the externalization of borders, which, however, had begun before these events (Amoore, 2006; Bigo & Guild, 2016; Ceyhan, 2008; Salter, 2004). In addition to the US-Visit program, this new framework led to the expansion of various IT systems that enabled the exchange of passenger lists between airlines and the destination countries for international flights (Bennett, 2005). In this context, one of the tools that has seen the most development in South America is advanced passenger information systems, among which the API and PNR systems stand out due to their current level of development.

Both are systems that collect various types of data on international flight passengers, which is then transmitted digitally to immigration authorities at the destination. One of the most notable features is that these are standardized systems that enable the sharing of individual information among multiple airlines and immigration authorities across different countries. Otherwise, it would be impractical for each airline to transmit data in a different format to the various destination countries. In this regard, the International Civil Aviation Organization (ICAO) has developed and established, through various documents, a series of standards that relevant actors have adopted to develop the system. As a result, the externalization and streamlining of immigration control, enabled by these new digital resources, have taken the form of a technological zone connecting various national governments and international organizations responsible for managing international migration.

According to the reviewed documentation, this type of system began to be developed in South America during the second decade of the 21st century. In Brazil, toward the end of 2012, the National Civil Aviation Agency issued a resolution regulating the operation of API and PNR systems for both domestic and international flights (Resolução N° 255, 2012). In Chile, in July 2015, a decree facilitating international air transport was approved, which included regulations on API and PNR systems (Aprueba reglamento de facilitación del transporte aéreo internacional, 2015). Subsequently, in 2018, a tender was issued for its implementation, which was awarded in 2019 to the company Idemia, which also worked for the Argentine government (Ministerio del Interior y Seguridad Pública de Chile, 2019). In Colombia, a

regulatory framework for the API system was established in 2015 (Resolución 22 de 2015, 2015), while in September 2016, Peru approved the complementary technical standard “Requirements regarding information submitted through the Advance Passenger Information System” (Aprueban texto de la norma técnica complementaria “Requisitos acerca de la información remitida a través del Sistema de Información Anticipada de Pasajeros (APIS)”, 2016).

The regulations governing the development and use of API and PNR in various countries across the region share common characteristics that suggest the South American region is emerging as a technological zone. First, all the documents reviewed demonstrate the widespread adherence of these countries to the standards established by ICAO at the regional and global levels. Second, governments in the region justify and legitimize the development of these measures as a way to combat or prevent crimes such as human trafficking, terrorism and drug trafficking, which are typically grouped under the category of “transnational organized crime”. In this regard, the stated objective of both the governments and the international organizations involved is to identify, classify and distinguish passengers on international flights considered a “risk” from those who are not. Below, some of these aspects will be explored in greater depth through an analysis of the Argentine case.

API and PNR: externalization and anticipation of control in Argentina

In Argentina, the API and PNR systems were established by a joint resolution issued by various government agencies involved in immigration, border and customs control (Resolución General 3667, Disposición 1/2014, Resolución 618/2014 y Disposición 1/2014, 2014). Among the reasons cited for their implementation was the assertion that technological “advances” enable the analysis of flight risks, the assessment of potential threats and/or conflicts and the implementation of special measures well in advance. Furthermore, it was noted that the use of these tools would help prevent crimes such as drug trafficking, international terrorism, human trafficking and the illegal smuggling of immigrants. As in other South American countries, the explanations and justifications for the system’s use reflect a new way of classifying migration based on risk profiles characteristic of the securitization of migration (Abiuso, 2023; Amore, 2006; Bigo, 2002; Santi Pereyra, 2018).

The joint resolution specifically stipulated that airlines must transmit API and PNR electronic messages in accordance with items 3.47 and 3.48, respectively, of the 13th edition of Appendix 9 to the Convention on International Civil Aviation (ICAO, 2011). These items provide detailed regulations on the standards for transmitting information to migration and border control agencies in destination countries. For the API, the document stipulates that passenger identification is derived from machine-readable documents in accordance with the specifications of Document 9303. For PNR, ICAO sets forth regulations and standards in its document “Guidelines on Passenger Name Record Data” (ICAO, 2010) and in the aforementioned Appendix 9. Through these

non-binding regulations, these manuals and documents govern communications between airlines and the government agencies responsible for oversight.

According to documentary evidence gathered in Argentina, the DNM was designated as the coordinating institution for the systems and was responsible for receiving information from the airlines. Furthermore, in 2017, this agency developed a protocol for using the system, which clarified that, once received, the data would be automatically cross-checked against the Migration Eligibility Registry, the Interpol I-24/7 system, the Federal Police Communications System (Sifcop, Spanish acronym for *Sistema Federal de Comunicaciones Policiales*) and the National Recidivism Registry (Disposición 4202-E/2017, 2017). It also stipulated that, in the event of a restriction being found, the General Directorate of Information, Analysis and Immigration Control (DIAC, Spanish acronym for *Dirección General de Información, Análisis y Control Migratorio*) would be notified, and subsequently the courts or Interpol in the case of restrictions originating from other countries. As can be seen, the resolution establishes a multi-step procedure in which identifying individuals requires data from multiple databases.

In Argentina, the system was developed by Idemia, a company that works closely with ICAO on various initiatives related to the development of standards and technologies for identification and risk prevention. The company developed a system called “Idemia Traveler Analytics Suite”, which it defines as “a comprehensive solution for traveler data collection and risk assessment” (Idemia, n. d., p. 2). According to this document, Idemia’s service not only includes receiving passenger lists, but also processing profiles based on risk analysis and cross-checking them against other databases of individuals who, for various reasons, are considered a risk or threat to institutions. According to the aforementioned document, Idemia was selected by the DNM in 2016 to develop, support and maintain the API, and in 2018, it expanded its services to include the PNR system.²

The development of these systems highlights key aspects linking the externalization of borders and the creation of a technological zone. First, standardization enables the flow of passenger data among different actors, such as airlines and the DNM. This network of actors linked by the flow of information is underpinned by earlier processes of standardizing machine-readable and digital passports (Stanton, 2008; Walters, 2011). Second, practices for collecting and cross-checking data across multiple databases linked to immigration control and security are consolidated, resulting in the distinction between individuals considered a “risk” and those who are not. In this way, a new space of governance is formed where migration is forcibly transformed into a securitized issue (Santi Pereyra, 2018).

Consequently, the increased availability of information and the ability to utilize various databases enable the development of what Leese refers to as identity management, a form of identification that “aspires to simultaneously verify and cross-validate identity records across multiple domains” (Leese, 2022, p. 15). This is clearly evident when the DNM establishes a protocol that enables comparison of records received

² The information obtained from the document review and interviews does not allow for a detailed reconstruction of the technical terms of the agreements between the company and the DNM. Although the company’s document confirms its collaboration with the DNM, searches of official records have yielded no results.

through API and PNR systems with multiple databases maintained by the national government or other international organizations, such as Interpol, primarily for security matters. This logic is also highlighted by Rios (2020) in her analysis of the new biometric identification systems implemented in Argentina, which will be discussed later. Furthermore, it is consistent with documents published by the company Idemia, which maintains that its system is based on “risk assessment”.

Finally, it is important to note that in Argentina, there is still a scarcity of research contributing to the understanding of how these systems operate in specific cases. Nevertheless, studies by Domenech (2020) and Trabalón (2019) demonstrate how these tools were used with Haitian immigrants at Córdoba Airport between 2017 and 2018. Furthermore, according to Domenech, these types of changes “within Argentina reflected recent transformations in the South American migration and border regime” (Domenech, 2020, p. 17). In this regard, it is likely that their use regarding migrants from non-Mercosur countries had repercussions in other countries in the region, as part of the transformations of the aforementioned regime.

The internalization of control as a technological zone: a study of the province of Entre Ríos

Discussions regarding the internalization of migration control have gained increasing prominence in studies of migration policies and border regimes in the United States and, more recently, in Europe (Heins, 2025; Menjívar, 2014). Although the concept of internalization is not frequently used in the field of migration studies in Argentina, some works have analyzed how migration policies extend beyond territorial borders and explain various aspects of what has been termed “residency control” (Domenech, 2011; Novick, 2008; Pacecca, 2000). These studies show, from a diachronic perspective, that since the mid-20th century, migration policies have shifted their focus from controlling entry to controlling residency. In most cases, they have addressed this phenomenon by studying national government agencies.

According to these studies, a key element in monitoring residency status has been Migration Law 22.439, enacted in 1981 during the last military dictatorship and in effect until the end of 2003. Its provisions required that various state agencies, such as hospitals and schools, report the irregular immigration status of individuals who sought their services (Novick, 1997; Pacecca, 2000). Furthermore, the delegation of immigration functions to the Argentine Federal Police, the National Gendarmerie and the Naval Prefecture—referred to in this legislation as “auxiliary immigration police”—enabled national governments to extend territorial migration control to areas where the DNM had no presence. One aspect that often goes unnoticed is that this law also authorized the Ministry of the Interior to enter into agreements with provincial governors to delegate auxiliary immigration policing functions to subnational agencies or institutions. These mechanisms, regulated by immigration law, were used and continue to be used by the DNM to extend its authority throughout the country.

The repeal of the “Videla Law” and its replacement by Law 25.871, between late 2003 and early 2004 (Ley 25.871, 2004), introduced significant changes in immigration policy through the incorporation of international standards for the protection of migrants and their families (Ceriani, 2004; García, 2013; Novick, 2008). This legislation, grounded in a rights-based approach, can be understood in some respects as part of a partial or limited process of *de-internalizing* residency control. This is evident, for example, in the removal of the requirement that schools and hospitals report migration “irregularities”, which has been replaced by a duty to ensure access to health care and education regardless of migration status. Nonetheless, it is important to note that while enforcement has been removed from health and education institutions—at least in formal terms—the law continues to regulate the delegation of DNM functions to national security forces and provincial governments, thereby allowing surveillance to be expanded across various areas of the national territory.

At the same time that this significant change took place—which imposed certain limits on the immigration agency—a major process of digitizing migration data took hold, involving the gradual development of digital technologies for identifying, registering and monitoring the foreign population. Three key elements in this process were: the creation of the Migration Registration System (Sicam), which involved the digitization of entry records beginning in 2003; the development of the Foreigner Admission System (Sadex), through which residency files and applications were digitized starting in 2009; and the incorporation of biometric identification systems starting in 2011 at border posts or crossings (Rios, 2020; Santi Pereyra, 2018).

This facilitated the production and circulation of information about individuals crossing borders and residing in the country, thereby enabling and strengthening new forms of internalized control. Likewise, the use of the resources contained in these databases—based on agreements signed with national security forces and provincial governments with a presence in the interior of the country—enabled their circulation in accordance with the standards established by the DNM and contributed to the formation of a new sphere of governance in which national and provincial agencies collaborate in a coordinated manner.

Furthermore, between the late 2000s and early 2010s, the national government developed digital tools that, although not specifically designed for immigration control, were integrated into the technological zone to the extent that they are used by the DNM. The first of these is the biometric registry of the National Registry of Persons (Renaper, Spanish acronym for *Registro Nacional de las Personas*), which began compiling extensive biometric records of the country’s population in 2009 (Rios, 2020). The second, created in 2011, is the Federal Biometric Identification System (Sibios) of the Ministry of Security, defined as a “centralized biometric identification registry with national coverage that allows for ‘cross-referencing’ of information with biometric data and other data collected by the National Registry of Persons (Renaper)” (Rios, 2020, p. 65). This system also draws on biometric profiles collected by provincial police forces and the DNM at international border crossings. It also draws on biometric records collected by provincial police forces and the DNM at international border crossings. Finally, in 2014, the Federal Police Communications System³ (Sifcop, Spanish acronym

³ On September 9, 2016, the “Framework agreement on cooperation between the Ministry of Security and the National Directorate of Migration” was signed, establishing the integration of Sifcop data into the Directorate’s migration eligibility registry (Resolución 475/2018).

for *Sistema Federal de Comunicaciones Policiales*) was created, a centralized and unified computer system for recording and querying judicial measures—both federal and provincial—related to the search for missing persons, requests for information on whereabouts, *habeas corpus*, seizure orders, restrictive measures, arrest warrants and travel bans (Ministerio de Seguridad de Argentina, 2014).

The development of biometric identification mechanisms and databases, along with the availability of their data to various national and provincial law enforcement agencies, has led to the centralized consolidation of systems and standards that enable communication among multiple actors. The opportunity to share standardized information thus entails establishing and expanding a new technological zone that allows the frontier to be pushed farther inland.

Furthermore, it is important to note that the efforts of immigration enforcement and security agencies involve the collection of information that fosters a climate of suspicion toward the foreign population. These systems enable the exchange of information regarding “irregular status”, criminal records, or restrictions imposed by federal and provincial courts, and lay the groundwork for treating migration as a subject of suspicion. In this regard, there is clear continuity in the justifications and content of the regional-level tools discussed in the preceding sections. Below, a preliminary assessment of the establishment of this new sphere of governance at the subnational level and its various aspects is presented through the case of the province of Entre Ríos.

Immigration control within territorial boundaries: technologies, security and migration in Entre Ríos

One relatively under-researched area in the field of migration studies in Argentina is the collaboration between the DNM and federal law enforcement agencies, as well as with provincial governments, the City of Buenos Aires and their respective law enforcement agencies. As an exception, some studies have made progress on police and migration issues, particularly in the case of the city of Buenos Aires (Abiuso, 2023; Courtis et al., 2009). Additionally, a body of recent research has begun to examine border security in the province of Entre Ríos, focusing on subnational actors, particularly the provincial government and police (Cardinale & Cherini, 2023; Cardinale et al., 2024). Taking this background as a starting point, a first approximation is made to understand how biometrics and databases become constitutive tools in the relations among the DNM, provincial governments and their respective security forces, thereby contributing to the expansion of the technological zone and the internalization of borders.

With this objective in mind, this study describes and analyzes how the PER⁴ serves as a key player in immigration and border control through data practices, such as the

⁴ Entre Ríos is a province on the Argentine coast that borders the provinces of Buenos Aires, Santa Fe and Corrientes. It is also a border province that shares several river crossings and international bridges with Uruguay to the east.

collection and exchange of individual records. In particular, it examines how, at the subnational level, biometric systems and databases administered by the national government—such as Sibios, Sifcop and those managed by the DNM—are incorporated, with their expansion imposing operational standards and protocols that provincial institutions adopt. Furthermore, it is asserted that the exchange facilitated by the establishment of a technological zone—which links agencies across different levels or jurisdictions—contributes to the expansion of the border, understood as a filter (Alvites Baiadera, 2019).

A review of technological developments shows that, in addition to boasting a wide range of local innovations,⁵ the province has agreed to or joined national government initiatives regarding the adoption of digital tools and the exchange of police and immigration information. In August 2014, through an agreement signed by Governor Urribarri and Security Minister Cecilia Rodríguez, Entre Ríos joined Sibios (Estado Argentino, 2014). This agreement allowed the provincial police to access the system for exchanging information on individuals' identities, which currently involves the national government and the 23 provinces that comprise the country.

In interviews with law enforcement personnel, Sibios was described as a “collection of systems”, including biometric recognition of fingerprints, voice and facial features, as well as trace evidence. Furthermore, joining Sibios included access to the so-called General Index (IDGE,⁶ Spanish acronym for Índice General), a database that provided records of family names, documentation processing histories and judicial or police requests. It should be noted that these systems and databases include not only nationals but also all foreigners registered by various national government agencies.

Similarly, just as access to Sibios' biometric data required a process of adoption in which all provinces are now participating, the use of the DNM's databases—particularly those tracking entries, exits and residency—has also expanded at the subnational level. In this context, one of the main lines of action promoted by the Ministry of the Interior was the signing of agreements with various provinces, including Entre Ríos, to establish mechanisms for information exchange and cooperation in immigration control. According to the information gathered, the DNM has entered into cooperation agreements with various provincial governments for this purpose since at least 2013. In most cases, these initiatives involved security agencies, with provincial police forces serving as the primary operators of the systems, thereby reinforcing the intertwining of security and migration.

⁵ Like many provinces in the country, Entre Ríos has also developed or adopted technologies for managing (in)security in recent decades. In particular, beginning in 2011, it started developing a video surveillance system that was later strengthened with the implementation of the “Comprehensive 911 Citizen Emergency Management System” (APF Digital, 2012). The system began operating in 2012 in Paraná, but over the years, video surveillance expanded to other towns and municipalities in the province (Decreto 1414 MGJ, 2018; Decreto 2686 MGJ, 2019). A recent update incorporated the Google ELS system, biometric fingerprint scanning, license plate recognition and facial recognition (Gobierno de Entre Ríos, 2021).

⁶ Starting in 2017, the IDGE was replaced by the Sifcop, which was mentioned earlier.

A significant precedent for cooperation between the national government and the provinces occurred in 2013, when the Ministry of Security of the province of Salta and the National Directorate of Migration signed a joint working agreement (Decreto 3129, 2013). Under this agreement, the DNM committed to providing support in the investigation of crimes related to immigration matters by conducting courses and workshops and establishing channels for direct communication between the two institutions. One of the provisions involved training provincial ministry staff to use the Sicam, Sadex and Restrictions Management System (Siger, Spanish acronym for *Sistema de Gestión de Restricciones*) platforms. In this way, the DNM would facilitate access to its databases, enabling verification of individuals' migration status, including entries into and exits from the country. In the following years, the DNM signed similar agreements with various subnational jurisdictions: in 2017, it signed an agreement with the province of Jujuy (Gobierno de Jujuy, 2017); in 2018, with the provinces of Entre Ríos (Decreto 3276 MGJ Aprobando convenio de colaboración, 2019) and Buenos Aires (Decreto 237, 2018); and in 2019, with the Autonomous City of Buenos Aires.

In the specific case of the province of Entre Ríos, the agreement was signed on October 3, 2018, between the province's Ministry of Government and Justice and the DNM (Decreto 3276 MGJ Aprobando convenio de colaboración, 2019). Its preamble specified that the DNM's objectives include promoting the exchange of information at the national level and providing technical assistance and training for human resources to effectively prevent and combat transnational organized crime. Furthermore, it was noted that the provincial Ministry of Government and Justice is involved in all matters related to the development of policies governing the exercise of police authority within the province, crime prevention and the handling of misdemeanors. It was also stated that it is in the common interest to adopt measures to combat drug trafficking and human trafficking, among other scourges, to harmonize approaches and optimize efforts and strategies within their respective spheres of competence. As can be seen, the decree justified the agreement from a security-based perspective by framing the migration issue as one of the so-called "new threats" (Dalmasso, 2016) and reinforcing its association with transnational organized crime.

The signed document provided for the conduct of training and capacity-building activities, the sharing of records and the development of a protocol for collecting data on foreign nationals to be implemented by the Entre Ríos police. Specifically, the DNM committed to providing training on the regulations governing the admission of foreign nationals and the monitoring of their stay, criminal activities detected upon entry into the country and the use of information technology in the Sadex and Sicam systems. Additionally, the agency facilitated access to the information available in its records on admissions, discharges and places of residence through its computer systems. For its part, the provincial ministry committed to designing mechanisms to collect data on foreign nationals in the event of complaints and to sharing information on the prison population housed in the correctional system within its jurisdiction. Regarding the protocol for collecting data on foreign nationals, the instrument included as an

appendix a form designed to standardize the records that the province would send to the DNM.⁷

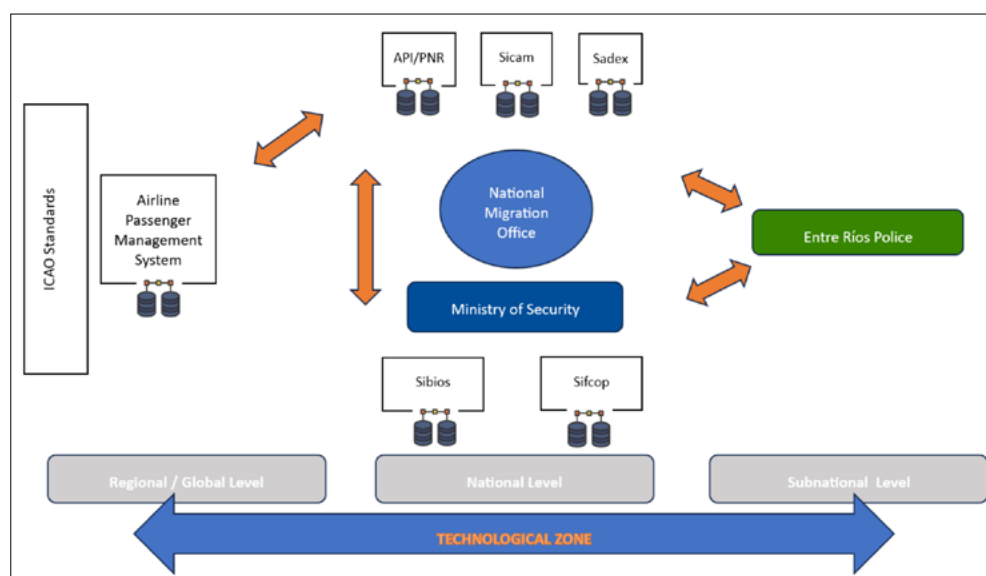
It is evident that the expansion of systems related to security (Sibios, Sifcop) and immigration control (Sicam, Sadex) has broadened the technological zone, facilitating interaction among actors at the national and provincial levels, in this case in Entre Ríos. The exchange made possible by the expansion of these systems is a concrete example of the now-classic assertion that the border is everywhere (Lyon, 2005). At the subnational level, the Ministry of Government and Justice and the PER serve as tools for tracking and identifying foreign nationals within the province by sharing data that the DNM would otherwise be unable to obtain. At the same time, provincial agencies have access to various types of security and migration data, such as entries, exits and changes of address, which, according to the interviews, are used in identification and investigative efforts related to crimes involving both nationals and foreigners. Figure 1 presents a simplified diagram of the actors, databases and flow of security and migration information.

In this way, the expansion of the border—understood as a filter (Alvites Baiadera, 2019)—and the flow of information between national and subnational agencies bring about significant changes in the methods used to identify individuals. As stated in one of the interviews conducted with the PER, when access to different databases is available, the identification of individuals unfolds like the opening of a “fan”. Accordingly, identification involves cross-referencing the records obtained during the identification process with various national or international databases in a phased manner, depending on the objective of the investigation. This also confirms that the procedure resembles what Leese (2022) defines as identity management, in that it aims to validate identity by cross-checking it against various databases. This represents a qualitative change, given the limitations that provincial records previously posed for identifying foreign nationals or even individuals from other provinces.

Finally, one issue that emerges from the collaboration among the various agencies is the DNM’s role as an immigration control agency capable of gathering data from multiple sources at the regional, national and subnational levels. This is an agency that can access API and PNR data, as well as information from Sibios and Sifcop, and data submitted by provincial police forces, such as the PER. Therefore, it can be characterized as a hub for the production and circulation of information on immigration matters, particularly regarding security-related aspects. It is not merely another actor within a vast network connecting regional, national and subnational levels; one of its distinctive features is its specific functions in immigration control, both for entry and residency. By consolidating and coordinating information that has steadily expanded over the past decade, the DNM plays a central role in coordinating this network of actors, where processes of externalization and internalization of immigration control converge.

⁷ This form collects information about the crime (date of arrest, location of the incident, nature of the crime, police department, police report, judicial authority involved, court case number), details about the suspect (last name, first name, date of birth, type and number of identification document, country of issue, declared address), details about the victim and a brief description of the incident.

Figure 1. Simplified diagram of actors, databases and the flow of information on security and migration



Source: created by the author

Concluding remarks

This study analyses the emergence of a new technological zone within and beyond Argentina, which helps explain the expansion of immigration and border control, both within and beyond territorial boundaries, resulting from the standardization of identification, registration and surveillance technologies. This process involves collaboration and information sharing among various actors at the global, regional, national and subnational levels. The network of actors involved in this dynamic forms a new space of governance that allows for the expansion of borders understood as filters (Alvites Baiadera, 2019).

Furthermore, the text highlights how standardization and data sharing give rise to new data practices that frame international migration as a “risk”, given that the information and classifications used are drawn from records of administrative violations and security matters. In fact, at various levels—regional, national and subnational—the sharing of these systems is justified and legitimized as a means of combating so-called “new threats” (Dalmasso, 2016).

One of the most significant findings of this study is the reconstruction of a new sphere of migration governance, which identifies the actors, their connections, activities and interests. By analyzing migration control as a space constituted by a network of harmonized technologies, the central role of the DNM becomes apparent: it holds a monopoly on migration control and, at the same time, relies on regional, national and subnational actors to extend the reach of its actions. Consequently, the DNM emerges as a strategic node or *hub for immigration control*, aggregating information from regional

and global actors, such as airlines and ICAO; national actors, such as the Ministry of Security; and subnational actors, such as the PER. Thus, when it is stated that the border “is everywhere”, beyond or within territorial boundaries, it is necessary to consider both the network of actors and the nodes that materialize this effect in specific spaces. In other words, the border is everywhere that can be encompassed and connected by this new technological zone.

Finally, it is important to highlight the significance of studying technologies related to migration and border control, both in Argentina and across South America. Despite the rapid pace of technological change, the subregion—like many of the countries within it—remains neglected or underdeveloped in the study of smart borders. In particular, the concept of a “technological zone” could prove useful when considering whether the adoption of new standardized data practices is shaping the region into a new space for migration governance in which actors from different levels are integrated. In this context, it is also imperative to urgently advance research into the ethical and political implications of these new developments, which directly affect the lives of migrants. In this regard, it is necessary to continue deepening the study of technologies used for migration and border control across the region’s countries.

References

- Abiuso, L. F. (2023). *Police, politics and the immigration-crime nexus. Speeches, statistics and testimonies of the Buenos Aires context*. Palgrave Macmillan.
- Ajana, B. (2015). Augmented borders: big data and the ethics of immigration control. *Journal of Information, Communication and Ethics in Society*, 13(1), 58-78. <https://doi.org/10.1108/jices-01-2014-0005>
- Alvites Baiadera, A. (2019). Migraciones internacionales, fronteras y Estados. ¿Cómo interpretar el régimen de frontera desde América del Sur? *Desafíos*, 31(1), Article 1. <https://doi.org/10.12804/revistas.urosario.edu.co/desafios/a.6231>
- Amoore, L. (2006). Biometric borders: governing mobilities in the war on terror. *Political Geography*, 25(3), 336-351. <https://doi.org/10.1016/j.polgeo.2006.02.001>
- APF Digital. (2012, October 4). *Se puso en marcha el sistema de emergencias 911 en Paraná*. <https://www.apfdigital.com.ar/noticias/2012/10/04/217135-se-puso-en-marcha-el-sistema-de-emergencias-911-en-parana>
- Aprueba reglamento de facilitación del transporte aéreo internacional (Decreto 232), *Diario Oficial de la República de Chile*, núm. 41.203, cuerpo 1, pp. 7-23, July 9, 2015 (Chile). <https://www.diariooficial.interior.gob.cl/media/2015/07/09/do-20150709.pdf>
- Aprueban texto de la norma técnica complementaria “Requisitos acerca de la información remitida a través del Sistema de Información Anticipada de Pasajeros (APIS)” (Resolución directoral 585-2016-MTC/12), *Diario Oficial del Bicentenario El Peruano*, núm. 13851 (Normas legales), pp. 603147-603149, October 31, 2016 (Perú). https://cdn.www.gob.pe/uploads/document/file/19579/1_0_3789.pdf?v=1530728232
- Barry, A. (2001). *Political machines: Governing a technological society*. Athlone.

- Barry, A. (2006). Technological zones. *European Journal of Social Theory*, 9(2), 239-253. <https://doi.org/10.1177/1368431006063343>
- Bennett, C. J. (2005). What happens when you book an airline ticket? The collection and processing of passenger data post-9/11. In E. Zuriek & M. B. Salter (Eds.), *Global surveillance and policing. Borders, security, identity* (pp. 113-138). Willan Publishing.
- Bigo, D. (2002). Security and immigration: toward a critique of the governmentality of unease. *Alternatives*, 27(special issue), 63-92. <https://doi.org/10.1177/03043754020270S105>
- Bigo, D. & Guild, E. (2016). Policing at a distance: Schengen visa policies. In D. Bigo & E. Guild (Eds.), *Controlling frontiers. free movement into and within Europe* (pp. 203-227). Routledge.
- Broeders, D. (2007). The new digital borders of Europe: EU databases and the surveillance of irregular migrants. *International sociology*, 22(1), 71-92. <https://doi.org/10.1177/0268580907070126>
- Broeders, D. & Dijstelbloem, H. (2016). The datafication of mobility and migration management: the mediating state and its consequences. In I. van der Ploeg & J. Pridmore (Eds.), *Digitizing identities. Doing identity in a networked world* (pp. 242-260). Routledge.
- Broeders, D. & Hampshire, J. (2013). Dreaming of seamless borders: ICTs and the pre-emptive governance of mobility in Europe. *Journal of Ethnic and Migration Studies*, 39(8), 1201-1218. <https://doi.org/10.1080/1369183X.2013.787512>
- Canzutti, L. & Tazzioli, M. (2023). Digital-nondigital assemblages: data, paper trails, and migrants' scattered subjectivities at the border. *International Political Sociology*, 17(3), Article olad014. <https://doi.org/10.1093/ips/olad014>
- Caplan, J. & Torpey, J. (Eds.). (2001). *Documenting individual identity. The development of state practices in the modern world*. Princeton University Press.
- Cardinale, M. E. & Cherini, O. (2023, February-July). Cooperación y seguridad en el espacio transfronterizo del "Comité para el Desarrollo de la Cuenca del Río Uruguay"-CCRU. *Revista Eúmene de Ciencias Sociales*, 4(1), 211-249. <https://ri.conicet.gov.ar/handle/11336/221537?show=full>
- Cardinale, M. E., De Bernardi, K., Foti, M., Cherini, O. & Polito Acosta, M. (2024). Cooperación transfronteriza y seguridad ciudadana en el espacio transfronterizo del "Comité para el Desarrollo de la Cuenca del Río Uruguay (CCRU)". *Suplemento CDyT*, 14(16), 308-322. <https://pcient.uner.edu.ar/index.php/Scdyt/article/view/1934>
- Ceriani, P. (2004). Nueva ley: un paso hacia una concepción distinta de la migración. In R. Giustiniani, *Migración, un derecho humano. Ley de migraciones N° 25.871* (pp. 113-135). Prometeo.
- Ceyhan, A. (2008). Technologization of security: management of uncertainty and risk in the age of biometrics. *Surveillance & Society*, 5(2), 102-123. <https://doi.org/10.24908/ss.v5i2.3430>
- Chaar López, I. (2024). *The cybernetic border. Drones, technology and intrusion*. Duke University Press.
- Cook Martín, D. (2008). Rules, red tape, and paperwork: the archeology of State control over migrants. *Journal of Historical Sociology*, 21(1), 82-119. <https://doi.org/10.1111/j.1467-6443.2008.00331.x>

- Cote-Boucher, K. (2008). The diffuse border: intelligence-sharing, control and confinement along Canada's smart border. *Surveillance & Society*, 5(2), 142-165. <https://doi.org/10.24908/ss.v5i2.3432>
- Courtis, C., Pacecca, M. I. & Pita, M. V. (2009). *Migración y seguridad en la Argentina. Construcciones discursivas y prácticas* [Unpublished manuscript].
- Dalmasso, C. (2016). ¿Quiénes son terroristas? La migración irregular y forzada como nuevas amenazas a la seguridad en el Cono Sur [Dossier]. *Astrolabio*, (17), 114-145. <https://doi.org/10.55441/1668.7515.n17.15705>
- De Genova, N. P. (2002). Migrant "illegality" and deportability in everyday life. *Annual Review of Anthropology*, 31, 419-447. <https://doi.org/10.1146/annurev.anthro.31.040402.085432>
- Decreto 237 (Número DECTO-2018-237-GDEBA-GPBA), *Boletín Oficial de la Provincia de Buenos Aires*, núm. 28.246, pp. 21-29, April 3, 2018 (Argentina). <https://boletinoficial.gba.gob.ar/secciones/8693/ver#page=22>
- Decreto 1414 MGJ, *Boletín Oficial Provincia de Entre Ríos*, núm. 26.537, p. 4, November 15, 2018 (Argentina). <https://www.entrerios.gov.ar/boletin/calendario/Boletin/2018/Noviembre/15-11-18.pdf>
- Decreto 2686 MGJ, *Boletín Oficial Provincia de Entre Ríos*, núm. 26.595, p. 5, February 15, 2019 (Argentina). <https://www.entrerios.gov.ar/boletin/calendario/Boletin/2019/Febrero/15-02-19.pdf>
- Decreto 3129, *Boletín Oficial Provincia de Salta*, núm. 19.180, p. 7454, November 4, 2013 (Argentina). <https://boletinoficialsalta.gob.ar/pdfs/2013/19180.pdf>
- Decreto 3276 MGJ Aprobando convenio de colaboración, *Boletín Oficial Provincia de Entre Ríos*, núm. 26.617, pp. 9, March 21, 2019 (Argentina). <https://www.entrerios.gov.ar/boletin/calendario/Boletin/2019/Marzo/21-03-19.pdf>
- Devoto, F.J. (2001). El revés de la trama: políticas migratorias y prácticas administrativas en la Argentina (1919-1949). *Desarrollo Económico*, 41(162), 281-304. <https://doi.org/10.2307/3455989>
- Disposición 4202-E/2017, *Boletín Oficial de la República Argentina*, núm. 33.667, pp. 49-51, July 17, 2017 (Argentina). <https://www.boletinoficial.gob.ar/detalleAviso/primera/166596/20170717>
- Domenech, E. (2013). "Las migraciones son como el agua": Hacia la instauración de políticas de "control con rostro humano": La gobernabilidad migratoria en la Argentina. *Polis (Santiago)*, (35), 119-142. <https://journals.openedition.org/polis/9280>
- Domenech, E. (2020). La "política de la hostilidad" en Argentina: detención, expulsión y rechazo en frontera. *Estudios Fronterizos*, 21, Article e057. <https://doi.org/10.21670/ref.2015057>
- Domenech, E., Basualdo, L. & Pereira, A. (2023). Migraciones, fronteras y política de datos: nuevos medios de control del movimiento en el espacio sudamericano. In L. Rivera Sánchez, G. Herrera & E. Domenech (Coords.), *Movilidades, control fronterizo y luchas migrantes* (Colección Miradas Latinoamericanas, pp. 317-355). Clacso / Siglo XXI. <https://www.clacso.org/wp-content/uploads/2023/04/Movilidades-control-fronterizo.pdf>

- Domenech, E. & Pereira, A. (2022). Migration and border control policies in South America (1900-1945): non-admission, identification, and deportation. In P. A. Baisotti (Ed.), *Social, political, and religious movements in the modern Americas* (pp. 169-198). Routledge.
- Domenech, E. E. (2011). Crónica de una ‘amenaza’ anunciada. Inmigración e ‘ilegalidad’: visiones de Estado en la Argentina contemporánea. In B. Feldman-Bianco, L. Rivera Sánchez, C. Stefoni & M. I. Villa Martínez (Comps.), *La construcción social del sujeto migrante en América Latina. Prácticas, representaciones y categorías* (pp. 31-77). Clacso / Flacso / Universidad Alberto Hurtado. <https://biblioteca.clacso.edu.ar/clacso/gt/20160219033452/SujetoMigrante.pdf>
- Estado Argentino. (2014, August 5). *Rodríguez y Urribarri firmaron la adhesión de Entre Ríos al Programa Federal para la Seguridad*. <https://www.argentina.gob.ar/noticias/grodr%C3%ADguez-y-urribarri-firmaron-la-adhesi%C3%B3n-de-entre-r%C3%ADos-al-programa-federal-para-la-seguridad>
- FitzGerald, D. S. & Cook-Martín, D. (2014). *Culling the masses. The democratic origins of racist immigration policy in the Americas*. Harvard University Press.
- García Ferrari, M. (2015). *Marcas de identidad. Juan Vucetich y el surgimiento transnacional de la dactiloscopia (1888-1913)*. Prohistoria.
- García, L. (2013). *Nueva política migratoria argentina y derechos de la movilidad. Implementación y desafíos de una política basada en derechos humanos a través de las acciones ante el Poder Judicial (2004-2010)* [Doctoral thesis, Universidad de Buenos Aires]. <https://bit.ly/4eyeggg>
- Georgi, F. (2010). For the benefit of some: the International Organization for Migration and its global migration management. In M. Geiger & A. Pecoud (Eds.), *The politics of international migration management* (pp. 45-72). Palgrave Macmillan.
- Gobierno de Entre Ríos. (2021, August 3). *Se presentó el nuevo sistema 911 SIS para Paraná y área Metropolitana*. <https://portal.entrerios.gov.ar/noticias/67579>
- Gobierno de Jujuy. (2017, June 29). *Acuerdo para mejorar el control migratorio*. <https://seguridad.jujuy.gob.ar/2017/06/29/acuerdo-para-mejorar-el-control-migratorio/>
- Heins, V. M. (2025). Internalization of borders: the concept and its applications. *Society*, 62(4), 419-429. <https://doi.org/10.1007/s12115-024-01004-5>
- Heyman, J. McC. (2008). Constructing a virtual wall: race and citizenship in U.S.-Mexico border policing. *Journal of the Southwest*, 50(3), 305-333. <https://jsw.arizona.edu/wp-content/uploads/2021/01/Constructing-Virtual-Wall.pdf>
- Idemia. (n.d.). Idemia traveler analytics suite. Smart analytics for efficient risk assessment at borders. <https://www.idemia.com/wp-content/uploads/2021/02/traveler-analytics-suite-idemia-brochure-202006.pdf>
- Leese, M. (2022). Fixing State vision: interoperability, biometrics, and identity management in the EU. *Geopolitics*, 27(1), 113-133. <https://doi.org/10.1080/14650045.2020.1830764>
- Leese, M., Noori, S. & Scheel, S. (2022). Data matters: the politics and practices of digital border and migration management. *Geopolitics*, 27(1), 5-25. <https://doi.org/10.1080/14650045.2021.1940538>
- Ley 22.439. Ley general de migraciones y fomento de la inmigración, *Boletín Oficial de la República Argentina*, núm. 24.637, p. 6, March 27, 1981 (Argentina). <https://www.argentina.gob.ar/normativa/nacional/ley-22439-16176/texto>

- Ley 25.871. Ley de Migraciones, *Boletín Oficial de la República Argentina*, núm. 30.322, pp. 2-6, January 21, 2004 (Argentina). <https://www.boletinoficial.gob.ar/detalleAviso/primera/7259562/20040121>
- Lyon, D. (2005). The border is everywhere: ID cards, surveillance and the other. In E. Zuriek & M. B. Salter (Eds.), *Global surveillance and policing. Borders, security, identity* (pp. 66-82). Willan Publishing.
- Mejias, U. A. & Couldry, N. (2022, July). Datificación. *Revista Latinoamericana de Economía y Sociedad Digital*. <https://doi.org/10.53857/hced6196>
- Menjívar, C. (2014). Immigration law beyond borders: externalizing and internalizing border controls in an era of securitization. *Annual Review of Law and Social Science*, 10, 353-369. <https://doi.org/10.1146/annurev-lawsocsci-110413-030842>
- Milivojevic, S. (2013). Borders, technology and (im)mobility: 'Cyber-fortress Europe' and its emerging Southeast frontier. *Australian Journal of Human Rights*, 19(3), 101-123. <https://doi.org/10.1080/1323-238X.2013.11882136>
- Ministerio de Seguridad de Argentina. (2014, November 6). *Resolución 1066*. <https://jurmendoza.gob.ar/wp-content/uploads/2023/05/Conv-01-3-RM-1066-2014-Creacion-SIFCOP.pdf>
- Ministerio del Interior y Seguridad Pública de Chile. (2019, April 16). *Oficio N° 11.750* (Decreto N° 77. Aprueba contrato de prestación de servicios entre la Subsecretaría del Interior e Idemia Identity & Security Chile). <https://www.camara.cl/verDoc.aspx?prmTIPO=OFICIOFISCALIZACIONRESPUESTA&prmID=78317&prmNUMERO=11750&prmRTE=0>
- Moulin Aguiar, C. & Magalhães, B. (2020). Operation shelter as humanitarian infrastructure: material and normative renderings of Venezuelan migration in Brazil. *Citizenship Studies*, 24(5), 642-662. <https://doi.org/10.1080/13621025.2020.1784643>
- Müller, M. (2015). Assemblages and actor-networks: rethinking socio-material power, politics and space. *Geography Compass*, 9(1), 27-41. <https://doi.org/10.1111/gec3.12192>
- Neira Orjuela, F. (2015). Biometría y control migratorio en América Latina. *Cuadernos de H Ideas*, 9(9), 1-19. <https://perio.unlp.edu.ar/ojs/index.php/cps/article/view/2760>
- Neira Orjuela, F. (2023). *Las tecnologías biométricas en la migración latinoamericana: el caso de Chile, Colombia y México*. Universidad Nacional Autónoma de México.
- Novick, S. (1997). Políticas inmigratorias en la Argentina. In E. Oteiza, S. Novick & R. Aruj, *Inmigración y discriminación. Políticas y discursos* (pp. 83-165). Grupo Editor Universitario.
- Novick, S. (2008). Migración y políticas en Argentina: tres leyes para un país extenso (1876-2004). In S. Novick (Comp.), *Las migraciones en América Latina. Políticas, culturas y estrategias* (pp. 131-152). Catálogos / Clacso.
- Organización de Aviación Civil Internacional (OACI). (2010). *Directrices sobre los datos del registro de nombres de los pasajeros (PNR)* (Documento 9944). https://www.icao.int/sites/default/files/TRIP/Publications/9944_cons_es.pdf
- Organización de Aviación Civil Internacional (OACI). (2011, July). *Facilitación* (Normas y métodos recomendados internacionales. Anexo 9 al Convenio sobre Aviación Civil Internacional, 13th ed.). https://apada.org.ar/wp-content/uploads/2019/08/an09_cons_es.pdf

- Pacecca, M. I. (2000). Legislación, migración limítrofe y vulnerabilidad social. *Realidad Económica*, (171).
- Pfeifer, M. (2021). Intelligent borders? Securitizing smartphones in the European border regime. *Culture Machine*, 20, 1-22. <https://culturemachine.net/vol-20-machine-intelligences/intelligent-borders-securitizing-smartphones-in-the-european-border-regime-michelle-pfeifer/>
- Pollozek, S. & Passoth, J. H. (2019). Infrastructuring European migration and border control: the logistics of registration and identification at Moria hotspot. *Environment and Planning D: Society and Space*, 37(4), 606-624. <https://doi.org/10.1177/0263775819835819>
- Resolução N° 255. Estabelece regras sobre a disponibilização de informações antecipadas sobre passageiros (API) e do registro de identificação de passageiros (PNR), *Diário Oficial de la Unión*, November 19, 2012 (Brasil). <https://www.anac.gov.br/assuntos/legislacao/legislacao-1/resolucoes/resolucoes-2012/resolucao-no-255-de-13-11-2012>
- Resolución 22 de 2015, *Diario Oficial*, núm. 49.399, January 19, 2015 (Colombia). https://www.cancilleria.gov.co/normograma/compilacion/docs/resolucion_uaemc_0022_2015.htm
- Resolución 475/2018. *Boletín Oficial de la República Argentina*, núm. 33.889 (Primera sección), pp. 16-18, June 12, 2018 (Argentina). <https://www.boletinoficial.gob.ar/detalleAviso/primera/185518/20180612>
- Resolución General 3667, Disposición 1/2014, Resolución 618/2014 y Disposición 1/2014, *Boletín Oficial de la República Argentina*, núm. 32.976 (Primera sección), pp. 11-13, September 25, 2014 (Argentina). <https://www.boletinoficial.gob.ar/detalleAviso/primera/112527/20140925>
- Rios, A. (2020). Seguridad y biometría en cuestión: El sistema federal de identificación biométrica (SIBIOS) en Argentina. *Aposta: Revista de ciencias sociales*, 18(87), 57-72. <https://revistaaposta.com/index.php/ra/article/view/503>
- Rios, A. L. (2019). Las tics y el gobierno de la (in)seguridad en Argentina. Avances de un estudio exploratorio. *Delito y Sociedad*, 28(48), Article 48. https://www.scielo.org.ar/scielo.php?script=sci_arttext&pid=S2468-99632019000200004
- Ruppert, E., Isin, E. & Bigo, D. (2017). Data politics. *Big Data & Society*, 4(2). <https://doi.org/10.1177/2053951717717749>
- Ruppert, E. & Scheel, S. (2021). *Data practices. Making up a European people*. Goldsmiths Press.
- Salter, M. B. (2004). Passports, mobility, and security: How smart can the border be? *International Studies Perspectives*, 5(1), 71-91. <https://doi.org/10.1111/j.1528-3577.2004.00158.x>
- Santi Pereyra, S. E. (2018). Biometría y vigilancia social en Sudamérica: Argentina como laboratorio regional de control migratorio [Dossier]. *Revista Mexicana de Ciencias Políticas y Sociales*, 63(232). <https://doi.org/10.22201/fcpys.2448492xe.2018.232.56580>
- Santi, S. (2020). ¿Qué es la “migración ordenada”? Hacia el multilateralismo asimétrico como motor de las políticas de control migratorio global. *Colombia Internacional*, 104, 3-32. <https://doi.org/10.7440/colombiaint104.2020.01>

- Scheel, S., Ruppert, E. & Ustek-Spilda, F. (2019). Enacting migration through data practices. *Environment and Planning D: Society and Space*, 37(4), 579-588. <https://doi.org/10.1177/0263775819865791>
- Scott, J. C. (1998). *Seeing like a State: How certain schemes to improve the human condition have failed*. Yale University Press.
- Singler, S. (2021). Biometric statehood, transnational solutionism and security devices: The performative dimensions of the IOM's MIDAS. *Theoretical Criminology*, 25(3), 454-473. <https://doi.org/10.1177/13624806211031245>
- Stanton, J. M. (2008). ICAO and the biometric RFID passport. History and analysis. In C. J. Bennett & D. Lyon (Eds.), *Playing the identity card. Surveillance, security and identification in global perspective* (pp. 253-267). Routledge.
- Trabalón, C. (2019). Estrategias de movilidad, visados y fronteras: Trayectorias de haitianos y haitianas hacia la Argentina. *Estudios Fronterizos*, 20, Article e039. <https://doi.org/10.21670/ref.1918039>
- Walters, W. (2011). Rezoning the global: technological zones, technological work and the (un-)making of biometric borders. In V. Squire (Ed.), *The contested politics of mobility. Borderzones and irregularity* (pp. 51-73). Routledge.
- Zolberg, A. R. (1997). The Great Wall against China: responses to the first immigration crisis, 1885-1925. In J. Lucassen & L. Lucassen (Eds.), *Migration, migration history, history. Old paradigms and new perspectives* (pp. 291-316). Peter Lang.

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