A Pampean cultural landscape under construction: territorial organization of the western frontier of Santa Fe (Argentina, 1858-1908)

Un paisaje cultural pampeano en construcción: ordenamiento territorial de la frontera oeste santafesina (Argentina, 1858-1908)

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Abstract

The aim of this article is to address the construction of the Pampean cultural landscape in the border area of the central western part of the Province of Santa Fe (Argentina) during the second half of the 19th century and the first decade of the 20th century. The methodology used is the analysis of the historical cadastre in relation to the specialized bibliography which, approached in its diachronic dimension, allows the reconstruction of a cultural landscape that left a definitive mark on this geographically and socially frontier sector. It is possible to observe how the geographical area in question underwent changes in its physiognomy as a result of the colonizing development encouraged by the different governments of the time. These changes were both productive and social. Productive, due to the division of the land into plots, and social, due to the massive introduction of immigrants, mostly European, who were considered apt to exploit the land and thus position Argentina in the agro-export market.

Keywords: territorial planning, cultural landscape, investment, colonization, frontier.

Resumen

Este artículo tiene como objetivo abordar la construcción del paisaje cultural pampeano sobre el área fronteriza del centro oeste de la provincia de Santa Fe (Argentina) a lo largo de la segunda mitad del siglo XIX y la primera década del XX. La metodología empleada es el análisis del catastro histórico en relación con la bibliografía especializada que, abordados en su dimensión diacrónica, permite la reconstrucción de un paisaje cultural que dejó una impronta definitiva en este sector geográficamente y socialmente fronterizo. A través del mismo se puede observar cómo el área geográfica indicada ve modificada su fisonomía producto del

developed colonizers encouraged by the different governments in turn. These changes were both productive and social. Productive through the parceling of the lands and social through the massive introduction of immigrants, mainly Europeans, considered suitable to exploit them and thus position Argentina in the agroexport market.

Key words: territorial organization, cultural landscape, investment, colonization, frontier.

Introduction

In general terms, at the beginning of the period under study (1858-1908), what is known today as the Argentine Republic was in the midst of a civil war between the State of Buenos Aires and the Argentine Confederation, which was comprised of the interior provinces. Both states struggled for a decade to consolidate their economic and political-institutional structures and achieve national unity and supremacy (Lanteri, 2013). Although the different provinces sought to reinforce their military presence along the frontiers, few resources were allocated to their armies; as a result, the indigenous population recovered a large portion of the territories along the southern frontier (the provinces of Buenos Aires, Santa Fe, Córdoba, San Luis, and Mendoza).

Following the Battle of Pavón (1861), the triumph of the State of Buenos Aires led to the process known in Argentine historiography as national pacification and reorganization. This process was carried out by the administrations of three presidents—Bartolomé Mitre (1862-1868), Domingo Faustino Sarmiento (1868-1874), and Nicolás Avellaneda (1874-1880)—who provided heterogeneous leadership, albeit with the idea of the “nation” as a central objective (Dosztal, 2017).

Consequently, securing and extending the frontier in the province of Santa Fe was a matter of vital importance for successive administrations during the second half of the nineteenth century, as this province had few urban centers and a scattered agricultural-military population. The sale of public land and its colonization by European immigrants was the primary strategy for controlling the frontier territories. The focus in the present work is on the impact of these policies on the department of San Gerónimo, which, due to its strategic geographical location, was immediately affected by these new settlement and modernization policies (Figure 1).

Most of the public and private land recognized by successive provincial administrations was occupied by native populations, who resisted settlement by foreign immigrants, which jeopardized the new policies. This social instability was compounded by several factors that exacerbated the chaos in the province’s organizational structure, including lack of surveys, property registry, knowledge regarding the limits of public land, and political partisanship.
This confusing situation regarding property and the laws governing public land led Governor Domingo Crespo (1851-1854) to suspend the sale of public land and ask the former owners of land grants\(^1\) to produce their titles in order to facilitate the general cadaster that was being planned. Similarly, all sales that were not carried out through public auctions were declared null and void, and beginning in 1855, purchasers were refunded the price recorded in the registry (Cárcano, 1972).

These control measures, together with the creation of the General Registry of Property Titles (Registro General de Títulos de Propiedad) in 1862, comprised the territorial management plan aimed at regulating public and private land tenure in the province.

The first Direct Contribution Registry (Registro de la Contribución Directa) in the territory examined by this article—the department of San Gerónimo—was created in 1858\(^2\) with the objective of recording the names and surnames of the owners, the

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\(^1\) Land grants (mercedes de tierra) were a legal institution of the Crown of Castile that was applied in the colonies of the Americas and involved the allocation of land to encourage the colonization of the conquered territories (Mejía, 2012).

\(^2\) General Archive of the Province of Santa Fe (Archivo General de la Provincia de Santa Fe [AGPSF]). Accounting, Vol. 104. File 18. Direct Contribution Registry (Registro de la Contribución Directa) 1858-1859.
location, the capital classification, the appraisal of the estate, and the amount of direct contribution. This registry revealed a total of 128 owners, with cattle production as the mainstay of economic activity, occupying a relatively small area: A strip of land on the coast of the Paraná River, 50 km to the west of the 14,712 km² that comprised the department (Montenegro, 1994; Frid, 2010).

This scenario underwent a drastic change with the planning and construction of the Central Argentine railway line and the territorial expansion resulting from this project. This transformation (discussed in the first section of the article) occurred at the spatial and the population level: The land was revalued, and the policies followed by the Land Company facilitated the mass entry of immigrants, who moved to different areas in the department. Many of those who had an entrepreneurial background became involved in rural business in San Gerónimo.

To address this transformation process, this paper will first analyze the evolution of land tenure as a consequence of a settlement policy that led to the subdivision and sale of public and private land, which began with the planning (1853) and construction (1863-1870) of the Rosario-Córdoba branch line of the Central Argentine Railway linking the main port in the province of Santa Fe with the province of Córdoba, located in the center of the national territory.

This branch line crosses the departments of Rosario and San Gerónimo in the province of Santa Fe; the focus in the present work is on the latter, because its western area is not only the jurisdictional border with the province of Córdoba but a socio-geographical frontier due to the characteristics of both its land and its population. The planning of the Central Argentine Railway thus involved the expropriation of private land and the surveying and sale of public land.

Next, this frontier space will be characterized at both a geographic and populational level to delve into the territorial evolution of the department of San Gerónimo. This reconstruction will make it possible to consider the agricultural colonies as new territorial units producing raw materials under the control of settler families, who began to construct a Pampean cultural landscape that endures to the present day. The Pampean cultural landscape is understood as the consolidation of a project based on the establishment of agricultural colonies populated and run by predominantly European immigrants. That is to say, the land, which seemed infinite, was demarcated with wire fences, and brick buildings began to appear in the environment, turning it into a rural landscape with specific patterns of spatial occupation, social relations, and socioeconomic structures that presented a different panorama than the one previously found in the region.

Finally, to describe this construction of a new cultural landscape, cadastral maps of the province from 1867, 1872, 1889, 1895, and 1901 are analyzed comparatively alongside the literature that constitutes the background corpus to demonstrate how that land tenure evolved through the division and sale of the land, specifically within the department, and through colonization policies that encouraged private investment in frontier sectors, which in earlier decades had been viewed as inhospitable and unproductive.
The Central Argentine Railway: an engine of territorial transformation

The signing of a contract in March 1863 between the Central Argentine Railway company and the national government initiated a process of territorial transformation, which began to permanently alter a sparsely inhabited landscape characterized by colonial vestiges, lean cattle, and strong winds (Ferns, 1968), turning it into a promise of modernity. This project had two aims: The construction of a railway line and the colonization of peripheral land to ensure steady traffic in the region; however, from the beginning of the negotiations, the government authorities (national and provincial) considered the final contract an excessive and controversial concession that put the nation at a disadvantage (Scalabrini Ortiz, 1958; Wilcken, 1873).

According to the contract, the government granted the company full ownership of one league (5 km) on either side of the tracks along their entire length, starting at a distance of four leagues from the Rosario and Córdoba stations (Miguez, 1985). In order to manage this land, the railway company created the Central Argentine Land Company (Calco). At the time, this monopoly administered the continuous stretch of land bordering the 396 km of tracks linking the cities of Rosario and Córdoba. This comprised a total of 346 727 ha, which, prior to the full concession, had to be expropriated from their owners, who had managed them up to that point (Dosztal, 2018).

The expropriation process led to a cumbersome negotiation between the officials and the landowners, who complained about the violation of their rights and financial speculation. We should not forget that this land would automatically increase in value once the railways crossed it. For this reason, Minister of the Interior G. Rawson advised that the land should be appraised for acquisition without considering this increase; and thus, between 1867 and 1881, the land was sold, and the estancias ceased to belong to their original owners, passing instead into the hands of the Land Company.

To cover the purchase price and legal expenses, both provinces, Santa Fe and Córdoba, ceded public land to the national government. The province of Santa Fe, under the law of March 6, 1864, transferred public land comprised of

to the North, the length of the northern side of the land owned by Mr. Cosentino Fontanilla until the San Antonio Stream. To the South, the land owned by Mr. Miguel Otero, located on the Tortugas Creek. To the East: The western border of the properties sold by the Treasury during the administration of Mr. Juan Pablo López belonging to Mr. Cosentino Fontanilla, Mr. M. Saavedra, Mr. Thomas Armstrong, Mr. S. Lafone, and others. To the West: Las Tortugas Creek and San Antonio Stream, western border of the province. (Ministerio de Gobierno, 1866, p. 414)

This documental record placed on the real estate market a hitherto peripheral portion of land located on the central western border of the province whose interprovincial boundary was defined until 1886. The land comprised 175 597 square leagues,\(^3\) i.e., 474 287 ha, divided into 53 suertes de estancias\(^4\) whose area ranged from

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\(^3\) The Spanish square league (legua) was used in the settlement regions prior to 1879 and was equivalent to 2 701 ha (Miguez, 1985).

\(^4\) The suerte de estancia was a unit of surface measurement that had to be at least one and a half leagues long and half a league wide, with one of its sides bordering water to provide a water source for cattle (Reguera, 1999).
1,083 to 4 square leagues (2,925 ha to 10,804 ha). The surveyor in charge of the task described them in general terms as “fields with strong, good, and plentiful pastures; their forests do not have wood suitable for rural constructions, and of the 53 suertes, only 25 have natural watering places in the streams that cross them” (Ministerio de Gobierno, 1866, p. 453). In 1866, sales began through public auction, initiating the occupation and development of a frontier space that quickly became the hinterland of the productive center formed by the railway colonies; at the same time, the first section of the line that reached what is now Cañada de Gómez was opened to public service, and in 1867, it reached Villa María (Córdoba, Argentina).

The topographic map made by the engineer Albano M. de Laberge for the Central Argentine Railway (1867) is the oldest cartographic record (Figure 2) that could be located showing the old land division prior to the railway, in which one of the boundaries for the estancias was a watercourse for their cattle from both the Carcarañá River and the different streams crossing the territory. The plan also shows the territorial expansion (1858-1864) that transformed both the space and the actors of the rural world of San Gerónimo as a result of the new land valuation schemes related to the construction of the railway; this expansion was a product of the policies followed by the land companies and new strategies implemented by the empresarios who became involved in local business in San Gerónimo.

**Figure 2. Plan drawn by De Laberge in 1867, modified by the author to highlight the geographical demarcation of the department of San Gerónimo and the specific area of public land subdivided into suertes de estancia. First record of the region’s territorial control.**
In the plan shown in Figure 2, the borders of the department are indicated (in light blue) to show how the longest section of the railway line would cross it. The national government had to compensate the 52 owners of that land (in gray) with the money obtained from the sale of public land. These estancias, dedicated exclusively to cattle raising, would need free access to watercourses for their operation, and thus, it is important to mention the testimony of owners Pedro and Ramón Araya, for example, who in a letter dated August 18, 1864, stated “that the expropriation of a one-league strip of land would deprive their establishment of the most important part of the land and render it completely unusable” (Scalabrini Ortiz 1958, p. 131); i.e., with that expropriation, the sector of the estancias bordering the Carcarañá River was taken away. As this plan shows, other owners were similarly affected.

The public land was subdivided, as mentioned above, into suertes de estancias (shown in orange), which, as shown, corresponded to the northwest sector of the department and extended towards the north of the province, where the quality of the land diminished. The national government obtained $f 204,500 from these sales, and the expropriations were made using this amount.

The engineer De Laberge included the names of the rural empresarios who purchased the land in the sector examined by this article; a total of 19 units (shown in green) were purchased. The investors were Zubelzu, who purchased Lots 35, 39 and 43; Arzac, who purchased Lot 36; Aldao, who purchased Lots 37 and 38; Parfait, who purchased Lot 40; Devoto, who purchased Lot 41; Simpson, who purchased Lot 44; Brandt, who purchased Lots 45 and 52; Compañía Talbot, Richardson, Trail & Cape, who purchased Lots 42, 46, 50 and 53; Ledesma, who purchased Lots 47 and 48; Bolleart, who purchased Lot 49; and Thomas, who purchased Lot 51.

These 19 suertes de estancia, with a total area of 69 square leagues, entered the land market, and as will be seen in the following sections, over the rest of the nineteenth century and the early twentieth century, they changed owners, were divided into plots, increased in price, and became colonies and towns. As time passed, pastures and mountains without resident populations were transformed into productive fields that were leased and operated by settler families, primarily immigrants, i.e., the forest was cut down; the land, which seemed infinite, was demarcated with wire fences; and brick buildings began to appear in the environment, turning it into a rural landscape.

The frontier space: sociogeographical characterization of revalued land

A cultural landscape is shaped by the human activities in a specific territory, the identifying components of which are the natural substrate (orography, soil, vegetation, water) and human action, understood as the modification or alteration of natural elements and structures for a specific purpose and activities carried out there (a functional component related to the economy, ways of life, beliefs, culture, etc.) (Centro del Patrimonio Mundial, 2008).

This article presents the construction of a Pampean cultural landscape in the second half of the nineteenth century, whose natural base was an expanse of uniform land with slight undulations, covered by stunted forests, grasslands, and large areas
devoid of vegetation. This monotony was broken only by a salty watercourse called the San Antonio Creek, a natural boundary with the province of Córdoba that crosses the region from north to south and was the only fixed reference point in the territory during the nineteenth century (Figure 3, A and B).

Figure 3. Current-day photographs of the natural interprovincial border. A. During a drought period (2009); soil salinization can be observed. B. During a period of normal rainfall (2021); it is also possible to observe the boundary marker indicating the border between the two provinces, dated 1884 (photographs by the author).
This watercourse is a shallow and relatively wide linear depression with a straight line and defined banks that functions as a local collector of surface runoff from the marshes. It flows partially into the Carcarañá River to the south through Las Tortugas Creek. Its low gradient and the high degree of unevenness caused by the presence of vegetation make runoff very slow, creating a temporary concentration of water (Carignano et al., 2014; Fresina, 2001; Manavella & Iriondo, 1984). This stagnation has enriched the soil with salt, and the quality of the surrounding land was not originally good for agriculture; however, further from the stream, the soil is slightly reddish, contains a percentage of organic matter and clay, and is fertile (Scobie, 1964). The temperate climate, with four distinct seasons and a rainfall ranging from 700 to 1000 mm, has allowed the people living in the area from the second half of the nineteenth century to the present day to successfully engage in agricultural and livestock activities (Gallo, 2004).

The salty water of the San Antonio Stream was the main impediment to the settlement of indigenous populations; since prehistoric times, the region functioned solely as a transit area between the Carcarañá River and the central highlands of Córdoba (Ceruti, 1998).

From the colonial period until the nineteenth century, this inhospitable landscape—an interprovincial border with dense vegetation—served as a refuge for those fleeing from justice, who eventually became frontier people or gauchos matreros (outlaws). The devastating impact of the civil wars, invasions, and plundering that took place during the first 20 years of the nineteenth century gave a particular character to the provincial society, which lived in a state of permanent alertness (Gallo, 2004). During the period immediately following colonization, to cross the pampas, it was necessary to be armed due to the heavy presence of bandidos rurales (rural bandits). In this countryside, there were ranches belonging to those gauchos matreros, who led a marginal life and roamed the region, stealing cattle and goods transported by muleteers for both their own benefit and that of people who hired them for this purpose (Caldcleugh, 1825; Ortiz Gambetta, 2013; Gentile, 2013). The term bandidos rurales refers to gangs of highway robbers that mainly operated along the routes linking Buenos Aires with Santa Fe and Córdoba (Fradkin & Ratto, 2009) and is laden with meaning, since these bandits were a spontaneous and individual reaction by the most disadvantaged sectors to the violence imposed by the state, they were respected by the dispossessed and fought by the law as they sought to simultaneously transgress and challenge the economic, social, and political order (Hobsbawm, 1999).

By the 1840s, the civil wars subsided, and the province began to undergo geographic and social reorganization. The relative peace allowed the revival of interprovincial traffic, and new estancias were formed in the vicinity of the main urban centers (Gallo, 2004), although it was not until the second half of the nineteenth century that the province began to progress at a sustained pace.

From 1858 to 1869, great advances were made into the indigenous territory, which made it possible to secure the northern region of the city of Santa Fe from the incursions of native groups. By 1864, the eastern end of the northern frontier was consolidated, reinforcing the border of the town of San Javier; similarly, in 1869, the line of guardposts from San Javier to Soledad and Morteros was consolidated in a

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6 For example, it has been reclaimed in popular culture through artistic expressions such as music (León Gieco, *Bandidos Rurales*, 2001 studio album) and literature (David Viñas, 2011).
straight line to the west (Carrasco, 1888), and the southern frontier was secured well below the Carcarañá River at the edge of the department of General López (Figure 4). This consolidation of the frontier made it possible to incorporate virgin land into the provincial domain and, as described in the previous section, place it on the market, protected from indigenous invasions (Ministerio de Gobierno, 1866, p. 453).

Figure 4. Based on the plan designed by Carrasco (1886), the progression of territorial control in the study area through the establishment of new lines of guardposts is marked in purple. Emphasis is placed on the interprovincial border; its consolidation coincides with the colonizing process in the region.

The transformation of the land that was called desierto (wilderness) began, as mentioned above, with its sale to rural empresarios and traders, primarily based in the city of Rosario, combined with the social and legal security provided by the provincial government.

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7 Desierto is understood as the area outside the effective control of the state and the influence of the first agricultural colonies that brought civilization.
These multiple factors had a favorable impact on the province’s rural economy, making it possible to settle land that had been considered inhospitable until several years prior. As will be shown below, the area under study entered the market in 1866, but it was not until the 1880s that the first agricultural colonies began to form.

The department of San Gerónimo: its territorial evolution

The department of San Gerónimo is one of the four departments into which the province of Santa Fe was divided in the early nineteenth century; together with the departments of San José, La Capital, and Rosario, it was founded for political and administrative purposes in 1826, and its capital was placed in the district of Coronda. With an original surface area of 14,712 km², it was subdivided in different decades of the nineteenth century, and thus the areas under study changed departmental domains. To the north, it bordered the department of La Capital, and the other three borders were watercourses: The Paraná River to the east, the San Antonio Stream to the west, and the Carcarañá River to the south.

In 1883, due to the increase in the province’s population, it was subdivided into nine departments. Consequently, the southern part of its territory became the department of Iriondo. During this period its surface area increased to 9,000 km², and its territory comprised the area bound by the Paraná River and the department of Las Colonias in the north; a line parallel to the northern boundary extending from the confluence of the Carcarañá and Paraná Rivers and passing through the properties of Messrs. Alzogaray, Lafone, Chavarri, Smith and Smithies, Tregasthen, Fraire, Espinosa, Thomas to the south; and the interprovincial boundary with Córdoba to the west (Carrasco, 1886). In 1890, the final subdivision was made. The western sector became the department of San Martín, which became the province’s western border, and this change reduced the province’s surface area to 4,282 km² (Figure 5). After that date, the area under study became part of the new department of San Martín, and therefore, only its division into plots will be analyzed.

Regarding the evolution of land tenure in the department of San Gerónimo, later San Martín, this paper will begin with the earliest cadastral source that was identified (De Laberge, 1867) and then present successive cadastral plans (Carrasco, 1889; Chapeaurouge, 1872, 1901; Ludwig, 1895) that show the territorial expansion resulting from the implementation of a settlement policy that encouraged capitalist colonization through companies, resulting in the intensification of agricultural work and the division of the land into plots. The time frame chosen is the period in which the colonization process experienced its peak and consolidation.

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8 Although it did not affect the area under study, it is relevant to mention that in 1907, the province underwent its final administrative territorial modification with the creation of the department of 9 de Julio to the north with land from the departments of Vera and San Cristóbal. That same year, Reconquista changed its name to General Obligado.
Figure 5. Departmental divisions in the province of Santa Fe. On each map, the location of the department of San Gerónimo is indicated and the departments that were derived from it are shown. Prepared by the author based on Carrasco, 1886; Ludwing, 1895; and Martirén, 2015.

Pampean cultural landscape: the colonies as a new territorial unit and their development in the study area

According to what has been discussed thus far, during the period immediately prior to the construction of the first interprovincial railway project, the department of San Gerónimo was characterized by economic stagnation, depopulation, and insecurity due to the threat from indigenous groups.

This situation was not unique to the department, as those factors were widespread throughout the province, and therefore, successive administrations during the second half of the 19th century sought to eliminate the peripheral circuits of production with a modernization program that involved the entry of foreign capital and labor.

It was therefore necessary to break free from the cattle production system that was inherited from the colonial period; consequently, as will be seen throughout this section, during this stage, the colony became the new territorial unit, and the chacra (farm) became the productive unit.

Three variables converged to make this change possible: The division of the land into plots, settlement, and productive expansion. These are the variables that will be considered in the analysis of each of the cadastral plans, which reflect this change process and the change of production to a capitalist system.

The first source is the plan made by the engineer Albano M. de Laberge for the Argentine Railway Company in 1867. In the plan that the author prepared based on the original, it is possible to observe the coexistence of the past and the future, graphically captured and separated by a diffuse frontier marked in orange (Figure 6).

The past was materialized by the large cattle estancias with unclear boundaries. These estancias were emblematic of landowner power and required natural water sources to prosper due to the low level of investment from the owners.
Meanwhile, the future was materializing in a program of territorial sovereignty that urgently needed to be implemented and was accelerated by the demands of the railway company and the poverty of the provincial coffers. The expropriation of land and the territorial expansion towards the sector without property titles stimulated a land market that attracted the attention of rural *empresarios* in search of diversified investments, who introduced new productive practices and new technologies (Zeberio, 2007) to give added value to land that had remained inert for centuries, enabling them to face the challenges ahead.

De Laberge identified 43 previous owners of the area along the railway line and the area towards the center east of the department; they were joined by the owners of the area of new subdivisions adjacent to the provincial border, the public land that became *suertes de estancia*.

Figure 6. Plan prepared by the author based on the original plan made by the engineer De Laberge (1867), which seeks to graphically represent the first solid progress in the consolidation of a new system of land ownership and operation in the study area.

As mentioned in the previous sections, the division of the land into plots was gradual and took approximately 40 years. Accordingly, by the end of 1860, the concentration of capital was far from falling; on the contrary, San Gerónimo had the highest concentration of wealth in the province (Frid, 2010).

This slow fragmentation could be observed 15 years later, in the second cadastral plan considered in this study: That of Carlos de Chapeaurouge (1872).
This plan is the first complete topographic plan of the province of Santa Fe, and it addresses a debt that had to be settled to obtain a true, comprehensible, visible, and, above all, demonstrable representation of the true boundaries of the province (Dócola et al., 2008) with the objective of attracting the investors and immigrants who would begin to work this vast land (Figure 7).

Figure 7. Graphical representation in which the original plans of the engineer De Laberge (1867) and the surveyor Carlos de Chapeaurouge (1872) are superimposed. At first glance, the changes are not significant, but they mark the beginning of a process that would continue over time.

As Figure 7 shows, the subdivision occurred specifically in two sectors, both in areas adjacent to the new suertes de estancia: One in the sector immediately below it, and the other in the sector to its west. It was possible to identify 151 properties, only 18%

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9 This graphical representation, as well as those that follow, were made possible through the collaboration of the surveyor Marina Cardonato (Registration No.: 2-0482-0, Association of Professional Surveyors of the Province of Santa Fe, Argentina (Colegio de Profesionales de la Agrimensura de la Provincia de Santa Fe, Argentina).
more than in the previous period, in the hands of 128 owners; i.e., land tenure was still concentrated in the department.

Only three colonies were established (Carcarañá, Cañada de Gómez, and Jewell). These are represented by a grid showing the new land division system that was to be imposed. The first two belonged to the Central Argentine Land Company: In Carcarañá, there were 102 families, 89 of which were dedicated to agriculture, and a total of 510 people lived in this colony; in Cañada de Gómez, a population of 335 inhabitants comprised 67 families, including 46 settlers (Wilcken, 1873). Although the Jewell colony had a legal existence due to the approval of the design (Montenegro, 1994), it never had a real existence, according to the province’s Department of Topography, as no families ever settled there.

Beginning in the early 1870s, colonies were established at a steady pace, becoming the territorial unit par excellence. This gave rise to a preferred production system of small and medium-sized *chacras*, which gradually replaced the larger estancias (Bonaudo et. al., 1992; Bonaudo & Sonzogni, 2000).

*Figure 8. Graphical representation superimposing the original plans of the surveyor Carlos de Chapeaurouge (1872) with those of Gabriel Carrasco (1889), director of the province’s first population census. The gridded areas show the progress of the establishment of colonies and the subdivision of the large estancias.*

References
- Colonies 1872
- Central Argentine Railway
- Watercourse
- Colonies 1889
- Cañada de Gómez - Sastre
  Central Argentine Branch Line
  Scale 1:6000
Towards the late 1870s, the population was increasing, as was the demand for land to work, and the Santa Fe countryside began to show significant changes compared to the landscape surveyed by Chapeaurouge in 1872. As shown in the cadastral plan in Figure 8 (Carrasco, 1889), the colonies began to occupy expansive areas dedicated to cattle raising, and the surviving estancias were pushed into the background. At the same time, they underwent changes at the productive level, combining cattle raising with agriculture (Gallo, 2004). This modified their dynamics, as they began to periodically receive “swallow workers”10 to raise crops. As a result, the region was populated by both foreign migrants and migrants from neighboring provinces.

This plan shows the first subdivision of the department of San Gerónimo, which preserved the northern sector. The colonization process had begun and seemed to have no end, which necessitated a legal framework for the process, and in October 1884, the first land law was passed.11 Articles 80 to 90 stipulated the requirements for individuals to establish agricultural colonies.

This law represents the first record of urban planning for Santa Fe’s rural areas. The colonies were to be crossed by streets with a width of 20 meters every four concessions and with a width of 15 meters in the towns. The main motivation for convincing landowners to enter the colonization system was a six-year tax exemption for colonies larger than one square league and located more than 20 leagues away from a railway or navigable river, and a three-year tax exemption for those more than 15 leagues away.

In this system, known as private colonization (colonización privada) (Gallo, 2004), a rural empresario purchased a portion of land of one or more square leagues at market price and subdivided it and sold it to the highest bidder, or divided and sold properties they had bought decades earlier, in order to create agricultural colonies with a spontaneously developing population.

In addition to the legal framework, the provincial administration needed to obtain a demographic survey of its population. To this end, in 1887, it organized and conducted the first population census of the province. According to this census, the department of San Gerónimo had 20,997 inhabitants: 5,687 inhabited the urban areas, and 15,310 lived in the countryside.

Taking the topographic plan of 1889 as a reference and comparing it with what was found during that census, it is evident that the division had become more complex in terms of urbanization and administration. Urbanization became more complex because the old colonies began to form their own urban areas with the establishment of the first railway line running from Cañada de Gómez to the colony of Sastre, which crossed numerous properties that would soon enter the colonization market, and administration became more complex because the provincial government defined the districts in the most developed cities that would be responsible for the public administration of the surrounding colonies. Table 1 shows the organization of the department in the late 1880s.

10 The term swallow workers (trabajadores golondrina) refers to seasonal rural migrant workers (Andreani, 2013); its origin alludes to immigrants who, attracted by the local seasonal harvest, fled the lack of work during the European winter and returned to the old continent during the summer.

11 Land Law of the Province of Santa Fe (Ley de Tierras de la Provincia de Santa Fe), October 28, 1884. The Senate and Chamber of Deputies (Carrasco, 1886).
Table 1. Political-administrative division of the department of San Gerónimo (Carrasco, 1888)

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<th>Department of San Gerónimo</th>
<th>Inhabitants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronda (city)</td>
<td>2 255</td>
<td></td>
</tr>
<tr>
<td>Colastine</td>
<td>465</td>
<td></td>
</tr>
<tr>
<td>Lomas</td>
<td>453</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 273</td>
</tr>
<tr>
<td>Oroño and Gessler</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oroño (town)</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Oroño (rest of the colony)</td>
<td>251</td>
<td></td>
</tr>
<tr>
<td>Gessler (town)</td>
<td>341</td>
<td></td>
</tr>
<tr>
<td>Gessler (rest of the colony)</td>
<td>587</td>
<td></td>
</tr>
<tr>
<td>Rest of the district</td>
<td>1 000</td>
<td>2 350</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gálvez (town)</td>
<td>646</td>
<td></td>
</tr>
<tr>
<td>Colonia Margarita</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Campo Aldao</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Campo de Giménez</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>Monte de José Ñudo</td>
<td>222</td>
<td></td>
</tr>
<tr>
<td>Campo de Irigoyen and others</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Monte Ralo</td>
<td>274</td>
<td>1 645</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgrano (town)</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Rest of the district</td>
<td>1 327</td>
<td>1 404</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Martín de las Escobas (town)</td>
<td>440</td>
<td></td>
</tr>
<tr>
<td>Rest of the district</td>
<td>1 570</td>
<td>2 010</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sastre: Ortíz, Concepción, and San Jorge (colonies)</td>
<td>292</td>
<td></td>
</tr>
<tr>
<td>Cañada San Antonio</td>
<td>458</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piamonte (colony)</td>
<td>410</td>
<td></td>
</tr>
<tr>
<td>Nueva Creación (rest of the district)</td>
<td>404</td>
<td>814</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Genaro (town)</td>
<td>285</td>
<td></td>
</tr>
<tr>
<td>Rest of the colony</td>
<td>925</td>
<td></td>
</tr>
<tr>
<td>San Agustín (colonized countryside)</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Bustinza (colonized countryside)</td>
<td>118</td>
<td></td>
</tr>
</tbody>
</table>
Monte del Gato 129
Carrizales Afuera 472 2 187
Irigoyen (town) 417
Irigoyen (rest of the colony) 2 474
Campo de Aldao 57
Colastiné 292 3 240
Gaboto (town) 732
Gaboto (rest of the colony) 405
Díaz (town) 224
Puerto Aragón 99
Puerto Aragón (riverside) 7
Barracas (rest of the district) 1 857 3 324

As is shown, 20 years after the beginning of the process, the division of the department, and of the entire province, increased in complexity to include colonies, districts, rural establishments, sites with their own names, and towns with a higher population growth rate in the rural areas; at the production level, three methods converged: The agricultural-livestock estancia, the chacra (family labor force), and the seasonal labor force (salaried swallow workers).

Towards the mid-1890s, private individuals continued to subdivide their large estancias, transferring them to settler families for the cultivation of medium and small plots or leasing the entire property. This system of land management and the multiplying number of railways that crisscrossed the length and breadth of the province represented the conclusive decision to turn the colonization process, and with it, the agricultural transformation of the province’s profile, over to private hands (Cárcano, 1972).

As of 1895, public land no longer existed, and all of the land had been appropriated by labor and capital (Bonaudo & Sonzogni, 2000); the value of land increased, and access to property ownership was limited, leading to the emergence of new forms of contracts: Peonage, tenancy, and sharecropping.

During this period, the department underwent its final subdivision, and as the primary focus of this article is the consolidation of the western frontier, from this point on, it will focus on the development of the new department: San Martín. The cadastral plan made by Pablo Ludwing, dated 1895, shows this separation (Figure 9).
Figure 9. Graphical representation superimposing the original plans of Carrasco (1889) with the original plan of Ludwing (1895). The departmental subdivision is marked in orange, and it is possible to observe the consolidation of the western frontier due to a high rate of division and the presence of agricultural holdings.

The northern sector of the department was influenced by currents of colonizers from the departments of Las Colonias and Castellanos, which had little land that was free of colonization (Gallo, 2004), while the southern sector received the remaining immigrants who had not found a place in the southernmost departments.

It is interesting to note that at the end of the nineteenth century, the southeastern sector had not yet entered the land market, and its owners continued to maintain mixed operations of livestock and agriculture on their large properties, as shown above.

The year that this plan was published, the second census of the Argentine Republic was conducted, and by comparing the census records, it is possible to establish how the department of San Martín was organized and to determine its total number of inhabitants (Table 2) (De la Fuente, 1898).
Table 2. Urban and rural population of the geographic and administrative divisions in the department of San Martín.

<table>
<thead>
<tr>
<th>District</th>
<th>Name of the town or colony</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgrano</td>
<td>Belgrano</td>
<td>224</td>
<td>687</td>
<td>861</td>
</tr>
<tr>
<td>Piamonte</td>
<td>Carlos Pellegrini</td>
<td></td>
<td>2 322</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Castelar</td>
<td>362</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crispi</td>
<td>80</td>
<td>342</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Las Petacas</td>
<td>319</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Piamonte</td>
<td></td>
<td>460</td>
<td></td>
</tr>
<tr>
<td></td>
<td>San Martín de Las Escobas</td>
<td>548</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tais</td>
<td></td>
<td>333</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas and Cárcano</td>
<td></td>
<td>237</td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Trébol</td>
<td></td>
<td>3 303</td>
<td></td>
<td>8 306</td>
</tr>
<tr>
<td>San Martín</td>
<td>Armstrong</td>
<td>150</td>
<td>1 354</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Castro</td>
<td></td>
<td>148</td>
<td></td>
</tr>
<tr>
<td></td>
<td>San Martín</td>
<td>570</td>
<td>4 540</td>
<td>6 762</td>
</tr>
<tr>
<td>Sastre</td>
<td>Sastre and Ortiz</td>
<td>615</td>
<td>1 271</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Las Yerbas</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>San Jorge</td>
<td>619</td>
<td>1 443</td>
<td>4 248</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2 591</td>
<td>17 636</td>
<td>20 177</td>
</tr>
</tbody>
</table>

At that time, the department was divided into four districts that administered colonies with urban and rural populations, except for the two cases of a town (Tais) and a colony with solely a rural population (Las Yerbas). Rural areas accounted for the largest portion of the population: 87% of all inhabitants lived in the countryside.

In 1901, the first edition of the *Atlas of the Cadastral Plan of the Argentine Republic* (*Atlas del Plano Catastral de la República Argentina*) was published by the renowned Carlos de Chapeaurouge; unlike reports, it was a private initiative and did not have a tax purpose (Favelukes, 2015). However, the updating of the context, extent, occupation, and distribution of land and the construction of the railways, as well as the definitive delineation of boundaries, did have a tax purpose, as important changes had taken place since 1895.

The most significant change was meant to address the new demands for the land (Bonaudo & Sonzogni, 2000). In other words, occupying the territory was no longer a priority; instead, the priority shifted to working the land in such a way as to obtain the best profit by intensifying and diversifying rural operations.

At the turn of the century, a new requirement was to increase production and reduce costs in order to balance the country’s financial situation. This led the National Congress to conduct an investigation of the country’s agricultural situation in 1898, which gathered an immense number of scientific observations (Cárcano, 1972). The final cadastral source by de Chapeaurouge (1901) can be considered a result of these...
agrarian studies. They indicated positive outcomes for the province of Santa Fe, whose countryside presented an organic and balanced scenario.

In terms of this scenario, the plan (Figure 10) shows that at the local level, 70% of the surface area of the department of San Martín was cultivated (Cárcano, 1972), and landowners, farmers, estancia owners, tenant farmers, and sharecroppers coexisted. This intensive use of the land was supported by new railway lines that transported the agricultural products to granaries in the city of Rosario.

Figure 10. Graphical representation superimposing the original plans of Ludwing (1895) with the original plan of de Chapeaurouge (1901). It shows that at the dawn of the twentieth century, with an established agrarian program, agricultural chacras continue to coexist with some of the old mixed-production estancias.

Table 3 presents the data recorded by the surveyor. In it, it is possible to identify three types of territorial units.

Of the total of 51 territorial units, 53% were agricultural colonies, 41% were estancias, and 3% were stops along the different railway lines. To interpret the productive matrix of the department, the second agricultural census, carried out in 1908 (República Argentina, 1909), was used as a complementary source. According to the census record, the department of San Martín had an area of 446 400 ha, and there were 2 909 productive units in operation, varying in size and activity.

Of this total, 212 362 ha were dedicated to mixed production, 53 600 solely to agriculture, and 180 438 to cattle raising, calling into question the social imaginary that claims that most of the colonies were agricultural. The preponderance of cattle raising reflects the agroecological reality of the soil. Most of the soil was loamy and somewhat rich in structure, suitable for agriculture, but towards the west, it became lighter, with naturally tender pastures suitable for cattle raising and alfalfa cultivation (Lavenir, 1909).
Table 3. Existing territorial units in the department of San Martín according to the cadastral plan of Carlos de Chapeaurouge (1901)

<table>
<thead>
<tr>
<th>No.</th>
<th>Colonies</th>
<th>Railway stations</th>
<th>Estancias</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Castelar</td>
<td>Oroño</td>
<td>Jewell Hnos.</td>
</tr>
<tr>
<td>2</td>
<td>Las Petacas</td>
<td>Trail</td>
<td>C. Arteaga</td>
</tr>
<tr>
<td>3</td>
<td>Santa Anita</td>
<td>Casas</td>
<td>Fa. de Yrigoyen</td>
</tr>
<tr>
<td>4</td>
<td>Normando</td>
<td></td>
<td>Didd Norton and Jackson</td>
</tr>
<tr>
<td>5</td>
<td>Piamonte</td>
<td></td>
<td>Diego Simpson</td>
</tr>
<tr>
<td>6</td>
<td>Colonia Thomas</td>
<td></td>
<td>Espinosa</td>
</tr>
<tr>
<td>7</td>
<td>Crispi</td>
<td></td>
<td>D. Munro</td>
</tr>
<tr>
<td>8</td>
<td>Las Yerbas</td>
<td></td>
<td>Wildermuth</td>
</tr>
<tr>
<td>9</td>
<td>Landeta</td>
<td></td>
<td>C. L. Duarte</td>
</tr>
<tr>
<td>10</td>
<td>Ortiz</td>
<td></td>
<td>Las Castañas Hnos. Dickinson</td>
</tr>
<tr>
<td>11</td>
<td>San Jorge</td>
<td></td>
<td>J. Cane</td>
</tr>
<tr>
<td>12</td>
<td>El Ingerto</td>
<td></td>
<td>J. Bertel</td>
</tr>
<tr>
<td>13</td>
<td>Del Bajo</td>
<td></td>
<td>La Ñata</td>
</tr>
<tr>
<td>14</td>
<td>Sastre</td>
<td></td>
<td>Benedetto</td>
</tr>
<tr>
<td>15</td>
<td>Concepción</td>
<td></td>
<td>Basualdo</td>
</tr>
<tr>
<td>16</td>
<td>Las Limpias</td>
<td></td>
<td>Nuñez</td>
</tr>
<tr>
<td>17</td>
<td>Carlos Pellegrini</td>
<td></td>
<td>Faleu</td>
</tr>
<tr>
<td>18</td>
<td>La Caledoña</td>
<td></td>
<td>Basualdo</td>
</tr>
<tr>
<td>19</td>
<td>Las Taperas</td>
<td></td>
<td>A. Juárez</td>
</tr>
<tr>
<td>20</td>
<td>Los Laureles</td>
<td></td>
<td>La Francia</td>
</tr>
<tr>
<td>21</td>
<td>Cárcano</td>
<td></td>
<td>Juan Watt</td>
</tr>
<tr>
<td>22</td>
<td>San Martín</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>San Genaro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Armstrong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Cañada Rosquin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Santo Tomás</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Belgrano</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in this final plan and verified by the information provided in the census, 50 years after the territorial control process began through division and colonization, the era of desolation, isolation, and economic stagnation was left behind. The land was productively occupied, and although there were still estancias of 2,500 ha and larger, most of the productive plots were of medium sizes and did not exceed 300 ha (Figure 11). They were mainly planted with wheat, followed by corn, and, to a lesser extent,
barley, oats, flax, and alfalfa for cutting. While corn and alfalfa were sown in the spring and required labor in the fall for harvesting, the rest of the crops were harvested in the spring.

Figure 11. Data from the 1908 Agricultural Census (Censo Agropecuario) show that the percentage of medium-sized plots far exceeded that of the surviving large estancias.

Consequently, the influx of swallow workers occurred between spring and autumn of the following year and comprised temporary international immigrants, rural laborers from the country’s northern provinces, urban workers, and rural producers on small plots of land; all of them sought to generate a significant income, which implies that this seasonal work made a great contribution to the family economy.

The division of land into plots did not result in access to property but to productive units operated by family groups under tenancy or sharecropping agreements. In this context, some settler families lost their concessions, while others expanded theirs. The latter group relied on the presence of other landless immigrants in the form of tenant farmers or sharecroppers (Barsky & Gelman, 2009). Thus, over the course of 40 years, the social fabric of those who engaged in agricultural production became more complex in accordance with the producers’ access to land and capital. It was transformed from a scenario comprised of muleteers and cattle ranchers into one of settler families who were landowners, tenants, sharecroppers, and salaried workers. This restructuring, which revolutionized this isolated frontier landscape, can be recognized even a century later.

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12 The causes of those losses are diverse: Crops grown in unsuitable areas, droughts, locust infestations, high costs of agricultural inputs and services, etc.

13 The terms tenant farmer and sharecropper refer to immigrants without resources who were provided with all the elements required for farming and were paid a portion of the harvest in exchange for their labor (Djenderedjian, 2012).
Conclusions

Over the course of 40 years, the landscape of central western Santa Fe and the province of Santa Fe gradually lost its flat and arid physiognomy as a result of the colonizing development, which, through the subdivision of the land into small and medium-sized properties, introduced artificial nuclei of agricultural production: Colonies.

Examining the historical cartography, it was possible to observe that the first form of subdivision of the frontier land was suerte de estancias, which addressed the challenge of productive expansion by incorporating European immigrants, thus ending centuries of economic stagnation inherited from the colonial period.

Although this process was slower and had heterogeneous results depending on the size of the property to which the settler family had access and on the land regime, soil quality, climatic instability, occurrence of locust invasions, and distance from railway lines, the Pampean agricultural model tended to become homogenized over the years. It laid the foundations for the dominant model at the national level: The agro-export model.

Its implementation was a trial-and-error method that did not always yield positive results for either governments, rural empresarios, or immigrants, who, on more than one occasion, were unable to obtain full ownership of the land they worked.

As has been shown throughout the article, this vertiginous evolution involved changes not only at the production level (the division of land into plots, agricultural development, and technological modernization) but at the social level (immigrants, tenant farmers, landowners, and permanent and temporary rural laborers).

Although the policies were based on extensive agriculture (primarily of wheat, corn, and flax) in the department of San Gerónimo and later in the area that became the department of San Martín, this coexisted until the early twentieth century with cattle estancias, where mixed agricultural and livestock activity predominated, allowing producers to survive despite political and economic vicissitudes, soil and climate variability, and the effects of economic and political changes.

The historical cartography shows the process of the division of land and the formation of colonies and urban centers, but also the preservation of estancias in the hands of large landowners. As such, family labor on small and medium-sized chacras coexisted with salaried labor on large productive holdings.

The landscape thus underwent a profound alteration that eliminated the colonial desolation, isolation, and lack of productivity. The desolation was combatted with a sustained immigration policy, the isolation was addressed by with the railway connection, and the lack of productivity was countered by access to land for vast strata of producers.

This heterogeneity of producers in the early twentieth century included smallholders, including owners, tenant farmers, and sharecroppers. According to the 1908 census, those smallholders were predominant in the department of San Martín, holding farming units no larger than 300 ha.

In describing the geographical and social transformations of this peripheral and frontier land, it is accurate to state that the process was particularly remarkable. Despite inconsistent government support, an agro-export production model was consolidated within a few decades, and the province of Santa Fe was transformed into one of the main producers of the necessary raw material.
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