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The La Plata Basin: Rivers, Plains, and Societies in the Southern Cone¹

*...just as the men of other lands worship the sea and can feel it deep inside them, the men of ours (including the man who weaves these symbols) yearn for the inexhaustible plains that echo under the horses' hooves. – Jorge Luis Borges, "The Dead Man"*²

*The smell of those rivers is like no other on earth. It is the smell of primeval beginnings, the dank smell of things painfully taking shape, caught in the very process of growing. – Juan José Saer, *The Witness**³

Let us begin with Jorge Luis Borges who, in the epigraph, highlights one of the two main protagonists of the history of this region: a society that has long had to relate, in ways often estranged or purged of any trace of nostalgia, to the immensity of the world around it. Borges himself, speaking through the figure of the *gaucho*, the cowboy of the South American grasslands, describes the plains environment as inexhaustible and "elemental," almost "secret." The plains are traversed by the other main protagonist, the rivers, which to Juan José Saer smell of primeval beginnings, of the very process of growing.

The La Plata River Basin is a complex network of people, plains, and rivers that covers over three million square kilometers. It spreads across southern Brazil, southeastern Bolivia, most of Uruguay, all of Paraguay, and much of central and northern Argentina. It contains three important river systems: the Paraguay, Paraná, and Uruguay. The latter two merge to form the La Plata River, an estuary that drains into the southern Atlantic. Additionally, the basin includes tributaries that originate in mountainous areas and flow latitudinally until they meet up with the mighty rivers of the plains, such as the Paraguay River, which flow south, gathering water filtered by enormous wetlands.

This macroregion is comprised of several exceptional biomes. To the north lie the dry Quebracho forests and other landscapes of the Gran Chaco. Nearby is the Pantanal, the gigantic expanse of wetlands shared by Brazil, Bolivia, and Paraguay in the upper drain-

1 English translation by Shawn Van Ausdal.

2 Jorge Luis Borges, *Collected Fictions*, trans. Andrew Hurley (New York: Penguin Books, 1999).

3 Juan José Saer, *The Witness*, trans. Margaret Jull Costa, (London: The Serpent's Tail, 1990), 22.

Figure 1:
Map produced in 1616, which indicates the way in which the La Plata Basin was perceived as a territorial unit. This map is the work of Willem Blaeu (1571–1638). Original title: “Paraguay, or prov. Rio de La Plata, Tucuman et cum adiacentibus regionibus Santa Cruz de la Sierra” Source: http://objdigital.bn.br/acervo_digital/div_cartografia/cart527467.jpg



age area of the Paraguay River. Connecting the Pantanal and the Paraná Delta (where the Paraguay River flows into the La Plata River) is another enormous network of highly biodiverse wetlands. The other biome of global importance in the La Plata Basin, given its size, is the Pampas.

To consider this basin as an integrated region is nothing new; it was envisioned in this manner from the outset of European colonization (see Figure 1). This perspective, however, was lost with independence and the subsequent formation of nation states. One of the principal contributions of environmental history has been to champion alternative units of analysis, such as the watershed, which allow us to understand complex processes that extend beyond political borders.

The historical importance of the basin for Latin America, and for the Southern Cone in particular, stems from its vast array of environmental resources, which have provided the

basis for the largest human settlements in South America. It contains one of the world's largest reserves of fresh water, as well as tremendous biological and cultural diversity. The basin's complex of rivers and lakes also constitute the principal recharge system for the Guarani Aquifer, one of the largest subterranean reserves of water in the world.

The social history of this region has been intrinsically tied to its landscapes and their transformation. Based on socio-environmental parameters, this article divides the history of the La Plata River Basin into three overarching periods, with European conquest, the late-nineteenth century, and the mid-twentieth century being the key moments of change in a process of intensifying natural resource use.

Beginnings

Our story begins with the transformation of the basin environment by European conquest and settlement. Of particular importance was the introduction of new plants and animals that thrived in ideal conditions in the plains. One of these, free-ranging cattle, progressively became the region's principal resource, sustaining much of its economic and social activity through at least the mid-nineteenth century.

During this period, the most significant phenomenon throughout the region, from southern Brazil to the Pampas, was the development of export-oriented ranching based on local breeds. The growth of this activity stimulated the expansion of other sectors, both in the towns and in the countryside. As the export industry became increasingly specialized, demand grew for transportation and marketing services that connected rural businesses to North Atlantic markets. The income generated by the export of livestock products from Argentina, Brazil, and Uruguay helped to increase the size of their domestic markets, generating greater demand for goods and services. From Rio Grande do Sul to Buenos Aires, the growth of this territorially extensive activity laid the foundation for the organization of nation-states as well as the subjugation of the rural population that had lived in these regions since the colonial period. Out of this population arose the *gaucho*, who has played such a fundamental role in the configuration of national (and sometimes regional) identities and, given a mutually interdependent relationship with the environment, endowed its spaces with a unique character (Garavaglia, 1992).

Ruptures

In the last quarter of the nineteenth century, the development of capitalist agriculture and the strides made in the nation-state building enterprise initiated what could well be the most important period of environmental transformation to affect La Plata Basin as a whole. Alfred Crosby's concept of "Neo-Europes," from his classic book, *Ecological Imperialism*, succinctly captures the major forces driving this change. More than 11 million immigrants, mostly from southern Europe, settled within the basin, dramatically transforming its social and productive systems. Between 1850 and 1930, Argentina took in close to six million Europeans. In the context of growing demand for primary products by North Atlantic economies, these immigrants radically modified the Pampas by raising massive herds of sheep (the basis of Argentina's capitalist expansion). They also transformed the grasslands by planting new species of forage, which permitted the development of high-quality beef production; and they greatly expanded grain production. All the while, the formation of the modern state allowed the elites who dominated these key productive sectors to monopolize much of the economic benefit. Likewise, Brazil received almost five million immigrants, most of whom settled in the southern part of the country, where they provided the impetus for a similar process of economic modernization.

The combination of modern ranching and agriculture unleashed formidable economic, social, and environmental changes: the plowing up of land on a massive scale, the introduction of new species, the expansion of the agricultural frontier, remarkable population growth, the dramatic extension of railroad networks, and the proliferation of industrial crops. Stimulated by external demand, these dynamic processes encouraged the rapid occupation of much of the La Plata River Basin, and contributed to a significant reduction of its former environmental heterogeneity.

They also encouraged the incorporation of territories ill-suited to such activities, with important social and environmental consequences, such as erosion and overproduction. The staggering growth of Argentina's railway network, for example, illustrates these interconnected processes. Driven by the expansion of ranching and agriculture, and the need to transport their produce, more than forty thousand kilometers of track were laid within 40 years. The creation of this railway network, in turn, contributed to the transformation of the landscape: the growth of new cities and towns, cases of intense deforestation (to pro-

vide sleepers and fuel for the railroads), and, ultimately, the formation of a new territory with a new set of socioenvironmental problems (Adamoli and Fernández 1980).

Transformations

From the mid-twentieth century, a new productive rationality has taken root in the La Plata Basin. Critical social and environmental factors, which require us to ponder the changes taking place in the macroregion, include the rapid industrialization of many subbasins, with a stark concentration of the population into a small number of areas; numerous hydroelectric projects (the dams of Itaipú, Yaciretá, and Salto Grande, among others), which drastically transform the landscape and the hydrological balance; the extension of the agricultural frontier along with the development of industrial agriculture (see Figure 2); rising levels of deforestation; the massive application of agrochemicals and the contamination of the region's waterways; and the abandonment or expulsion of peasant populations, who have been driven to the cities (Pengue 2008).



Figure 2: Picture of massive deforestation as soy cultivation advances. The expansion of the agricultural frontier is a real threat to the forests of the Gran Chaco, South America. Photo courtesy of Guyra Paragua.

The growth of industrial agriculture throughout the different environments of the basin has eliminated forest cover that was critical to maintain healthy ecosystems and hydro-

logical systems. As deforestation rates began to accelerate toward the end of the last century, the forests of Brazil, Argentina, and Paraguay were drastically reduced. Soils cleared of native vegetation and turned into farmland have suffered from compaction and erosion. Overall surface runoff has increased both overall and in pace, swelling the peak discharge of rivers and driving up sedimentation rates. This, in turn, has impacted river navigability and exacerbated the silting up of dams, reducing their capacity to generate energy.

Agricultural and livestock production has made this region famous throughout the world. The plains have been, and continue to be, the basis on which such activities develop. The Pampas of Argentina is the leading ranching region, followed by the northeastern part of the basin. Together they contain 85 percent of its cattle stock—46.5 million head out of a total of 55 million. Soy is the main oilseed crop, occupying the most fertile lands of the Pampas as well as the former cattle fattening grounds to the west and the agricultural zones of Northeastern and Northwestern Argentina. In 2000, Argentina's soy harvest was almost 20,207 million tons, all of which was produced within the basin. Its grain-producing area also lies mostly within the region, and at least half of its wheat production occurs there (Zarrilli 2010). Similarly, Uruguay's best agricultural lands, which account for all its cereal and oilseed production, lie within the basin. And Brazil has become the world's second largest soy producer, after the United States, by expanding soy production into the Cerrado (an extensive biome of tropical savannas covering almost two million square kilometers).

Eastern Bolivia and Paraguay produce cotton, sugarcane, and soy. They are also known for cattle breeding and abundant freshwater fisheries, which include tiger shovelnose catfish, pacu, and, in the Pilcomayo River, sabalo. Soy production has become critical to both economies. In 2008, oilseeds and their byproducts amounted to 78 percent of total agricultural exports, including timber (which occupies third place), for a value of US\$382 million (Salas-Dueñas and Facetti 2007). The significance of this crop throughout the basin has led to the growth of an enormous green stain of monoculture that some analysts identify as the "Republic of Soy."

The cost of this environmental transformation, however, has been profound. Over the last half century, the La Plata Basin has experienced mega-energy projects, poorly planned road networks, and waterways regulated only for commercial ends (with

negative environmental consequences). In addition, overfishing, excessive floodplain grazing, deforestation, fires, and the general lack of integrated wetland management have all led to widespread degradation and the loss of ecosystems and their vital resources.

The fertility of its soils, the wealth of its mineral resources, and its valuable forests (themselves quite diverse) has made the La Plata River Basin the most developed and populated region (with over 100 million people) in South America. It contains 57 cities with over one hundred thousand inhabitants apiece (including the capitals of four countries—Buenos Aires, Brasilia, Asunción, Montevideo, and Sucre, the administrative capital of Bolivia) and is responsible for 70 percent of the GDP of these countries.

As this historical overview suggests, the future of the La Plata River Basin will depend on the ability of its different societies and communities to devise creative, cooperative, and sustainable programs of regional integration that safeguard the region's biological and cultural diversity.