

# From *sagua'a* to Ox-Dollars Cattle and Human Assemblages in the Paraguayan Chaco

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**Abstract** In this article, we will focus on cattle-human relations in the colonisation of two different but connected regions of the Paraguayan Chaco: the Puerto Casado territory and the Mennonite colonies. In particular, we aim at showing how colonisation unfolds through multiple, unpredictable encounters, or what Tsing also calls “contingent lineages”. As these provisional encounters ‘take hold’ through time, they give birth to different worlds and bring different beings into existence. Building on Anna Tsing’s recent work, we trace the historical evolution of these “vulnerable” and “shifting assemblages” of both humans – with their material and financial technologies – and non-human (animals/cows/grasses). In so doing, we propose that colonisation – the “becoming-necessary” of these aleatory encounters, as Louis Althusser puts it –, rather than a fact accomplished once and for all, is constantly (re-)produced through an incessant flux of “precarious combinations”.

**Keywords** Cattle domestication. Plantationocene. Fertility. Paraguayan Chaco.

**Summary** 1 Introduction. – 2 The Casado Territory. – 3 The Age of *Sagua'a* (in the Casado Territory). – 4 Consuming Beef. – 5 The Mennonite Colonies. – 6 The Age of *Sagua'a* (in the Mennonite Colonies). – 7 Ox Dollars, Debts and Machines. – 8 The Grid. – 9 Conclusions.



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## 1 Introduction<sup>1</sup>

Since the beginning, in what is now Latin America, humans chose cattle as one of their main allies in the colonisation of the Americas (Ficek 2019; Specht 2019). The first cattle – of Andalusian origins – arrived to the Caribbean island of la Hispaniola during Columbus' second trip to the New World, in 1493 (Primo 1992) and from there they travelled across the vast South American continent following the colonisers' trajectories on land. The role of these domesticated animals, nevertheless, soon escaped human control and big quantities of cattle fled the *domus* (Lien 2015) and got attuned – finding refuge in remote areas – to new collectives of beings. These feral cattle received, in the language of the colonisers, many names – *baguales*, *cimarrones*, *sagua'a* – most of them being neologisms emerging at the encounter between Castilian and indigenous local languages (Arrom 1983; de Avilez Rocha 2018).

Feral cattle were put by the colonisers in the same category of escaped indigenous people and slaves of African descent, and more in general likened to “convicts on the loose” (Ingold 1994, 3), interpreting their behaviour as an act of “resistance” to humans (Hribal 2003). Terms like *cimarron*, for instance, were used to define both cattle and rebellious humans, and this very word soon settled in the English language in the inter-species category of “maroon” (de Avilez Rocha 2018). For about two hundred years, the expected alliance between humans and cows was constantly challenged by the latter, and raising cattle in South America – because of the large amount of a feral population – was “far less important than hunting them” (Baretta, Duncan, Markoff 1978, 588). This unforeseen outcome, was in part due to the political ecology of the place, since “careful breeding was impossible in the unpoliced, unfenced, and thinly populated territories” (Baretta, Duncan, Markoff 1978, 588). Contemporary geneticists and zoologists refer to the descendants of these first cows in Latin America as “creole” cattle (Martinez et al. 2003), an expression initially used to refer to the local descendants of European settlers and currently used in most countries to indicate the local non-indigenous population of mixed origins.

Beginning with nineteenth century, new breeds (*razas*) of cattle – considered more productively ‘efficient’ than the creole

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ones - were introduced in South America from different regions of the world. In fact, the controlled breeding of cattle - defined as "the production of desired body and hair qualities through the control of reproduction" (Hribal 2003, 437) - had already become a standard practice in Europe since the seventeenth and eighteenth century. The introduction of new breeds had the objective to 'improve' the creole ones, whose bodies and genetic heritage had adapted to the most extreme ecological conditions. As Thurlow Craig, a North-American cowboy working in the Southern Chaco, wrote in his memoirs, while female cows in the 1920s in the estancias were "ordinary range creole", bulls were usually good specimens representative of an extensive variety of breeds, and "this actually happens to be about the best system of improving the breed in that country [Paraguay]" (Craig 1935, 149).

In order to highlight a crucial moment in the history of human-cattle relationships, we will juxtapose in this article what we called 'the age of *sagua'a*' with 'the age of the grid'. The transition from one age to the other implies the shift from a production system based on the exploitation of mainly creole cattle to another based on the introduction of capital-intensive forms of cattle ranching and 'improved' cattle breeds. Although this transition is common to many regions of the world, our aim is to highlight its specificities in the Paraguayan Chaco, in order to show how different ideologies of power, race and progress have shaped its configuration on a local level.

The first cattle entered the eastern part of the Paraguayan Chaco from Brazil at the end of the nineteenth century, although it is possible that the first cows were also brought to the Chaco during the short-lived Jesuit and Franciscan missions of the seventeenth and eighteenth centuries. In this article, we will focus on two different but connected regions of the Paraguayan Chaco: the Mennonite colonies of the central Chaco on the one hand, and a territory governed for more than a hundred years by the Argentinian tannin industry of the Carlos Casado S.A. on the other. Our aim is to show how colonisation unfolds through multiple, unpredictable encounters (Althusser 2006), or what Tsing also calls "contingent lineages" (Tsing 2004). As these provisional encounters 'take hold' through time, they give birth to different worlds and bring different beings into existence. By tracing the historical evolution of these "vulnerable" and "shifting assemblages" (Tsing 2015) of both humans - with their material and financial technologies - and non-human (animals/cows/grasses), we propose that colonisation - the "becoming-necessary" of these aleatory encounters (Althusser 2006) -, rather than a fact accomplished once and for all, is constantly (re-)produced through an incessant flux of "precarious combinations" (Althusser 2006; see Tsing 2015, 20).

## 2 The Casado Territory

In 1887, Carlos Casado del Alisal – a Spanish entrepreneur based in Argentina – bought approximately six million hectares in the Paraguayan Chaco. This large and still uncolonised territory, inhabited by several groups of indigenous people, had been sold to Casado by the Paraguayan government in order to cover the economic deficit caused by the War of the Triple Alliance (1864-70). Casado's intention was to exploit the immense reserve of *quebracho* trees disseminated in the area and process them in order to produce tannin, a substance used internationally since the nineteenth century precisely to 'tan' leather. Nevertheless, the Carlos Casado S.A. relied since the beginning on a double chain of production based on the industrial production of tannin for international export on the one hand, and on cattle farming for internal circulation and consumption of the other. Next to a dense network of logging centres (where *quebracho* trees were cut down and transported to the river side), the Casado territory was populated by an extensive number of cattle ranches, and a 160 kilometres railway track connected some of the centres to the factory on the river shore. When referring to "the centre" (*el centro*) of the Casado territory, local people refer to the interior of the Chaco, and in particular kilometre 83 of the railway track, rather than to the company town itself, called Puerto Casado.

Since the very foundation of the Carlos Casado tannin industry, cattle were instrumental to men in the colonisation of the Chaco. This aspect is clearly stated in his memoir by Adamo Lucchesi, an Italian explorer sent in 1887 by Carlos Casado to find a location for the soon-to-be constructed tannin factory along the Paraguay river. After arriving to the Chaco, Lucchesi's first initiative was to import cattle from the Brazilian side of the Paraguay River in order to improve the local (creole) cattle race, which he considered "inferior, half wild and of little value" (Lucchesi 1936, 238). The company town of Puerto Casado began as a small cattle ranch on the right side of the Paraguay River (on the left in the picture) [fig. 1].

The ability of the company to provide its workers with a cheap and constant flow of beef assured their loyalty to it for more than a hundred years. A symbol of wealth and good life, eating beef – initially a privilege of the higher classes both in the Americas (Specht 2019) and in England (Hribal 2003) – was appreciated transversally by all social classes, from managers to lumberjacks and factory workers. Since Casado's farms were scattered around an extended territory, the majority of the cattle were left free to roam around, and some of them went feral and reproduced on their own into the woods. These runaway cattle were of "creole" breeds, and although well adapted to the aridity of the place, they were "all horns and bone and wild eyes, tough as the devil" (Craig 1935, 184). To improve their breed in



**Figure 1** View of the cerro from the top. Puerto Casado-Puerto Celina. Chaco, Paraguay, 1896.  
Photo by G. Boggiani

a scientific, systematic way, and to produce docile animals, the Casado company established a special centre for cattle insemination at kilometre 11 off the railway track.

The insemination centre, probably founded around the 1960s, had been labelled by the Paraguayan manager - Eugenio Hermosa - as a 'scientific lab', echoing the tannin lab that was functioning in the factory. Don Hermosa would teach his cowboys - with intermittent success - to behave in specific (hygienic) ways, and to inseminate cattle according to scientific standards:

Hermosa was the administrator of km 11. He wasn't compassionate, he was mean to me. If I had a machete, or a gun, he didn't want me to get into his lab. You had to get in with clean hands. It made me angry. I told him: "I do not need to get in, if I want to punch you, I can do it on the street". (Ortiz, Eulogio. *Estanciero*. Puerto Casado, 20 de mayo de 2016)

You can't touch dogs before you inseminate them [the cows]. You can't touch dogs, the whip, or smoke. It is absolutely prohibited. This kills the babies [the bull's semen]. The place has to be clean, really clean. You need to wash your hands, put talcum powder and then gloves. It doesn't have to be noisy. You have to stay calm when you approach the cow. The inseminator has to inseminate quiet-

ly. He has to talk softly. (Arce, Benigno. Estanciero. Puerto Casado, 11 de marzo de 2016)

Into his lab, Eugenio Hermosa would inseminate the cows with semen taken from bulls of different races: Nelore, Santa Gertudis, Hereford, Holanda. Although these races are native from remote places such as India or England, the company bought them from Brazil or from the USA. According to Hermosa's brother, for instance, the company imported his first Santa Gertrudis bull in the late 1950s by plane from King's Ranch in Texas - founded in 1953 - one of the biggest cattle ranches in the USA. In kilometre 11, workers learnt how to behave with cows in a way that would increase their ability to get pregnant. They observed their behaviour and they designed - at least from the workers' point of view - a context that would make them feel at ease in order to increase the lab fertility rate.

Cows were tamed, very tamed. You need to teach them [how to be tamed] from a young age. You flirt with them, you call them by their name and they come. If they wanted to listen to the radio they would go and smell it, and you understood you had to turn it on. That's how it worked. And if the bull did not want to work, you turned on the radio, you put some polka that he liked and then he would start to... [he laughs] they were really not serious in km 11! (Arce, Benigno. Estanciero. Puerto Casado, 11 de marzo de 2016)

Through the insemination centre of kilometre 11, a new 'scientific' way of handling cattle - based on a close control over their reproductive functions and on the 'betterment' of their genetic heritage - was introduced in the Casado territory. In such a controlled environment, workers would call "theft" (*robo*) events such as bulls jumping the fence and impregnating cattle in a natural way, in an act of rebellion towards the limits imposed upon them. Ideally, all cows had to give birth at the same time, be vaccinated at the same time, and produce offspring that would grow up at the same pace. This new way of managing/governing life can be compared to a plantation system. As Tsing writes, in fact, "since the time of the plantation, commercial agriculture has aimed to segregate a single crop and work towards its simultaneous ripening for a coordinated harvest". This unified rhythm of growth and development is opposed by the anthropologist to the "patterns of unintentional coordination" (Tsing 2015, 22), the multiple rhythm produced by other forms of gardening, like the one carried on by indigenous people in the forest of Borneo. In a similar way, the lives of feral cattle were very different from the ones of the cows in kilometre 11, since they became attuned to the collective of beings - the ecology of selves (Kohn 2013) - that formed the patches

of forest – the “polyphonic assemblage” (Tsing 2015, 24) – still existing in between the logging centres and the estancias.

For almost one hundred years, until approximately the 1990s, when feral cattle probably disappeared from the area, two big categories of cattle inhabited the Casado territory: the ‘racially improved’ ones that were living in the estancias, and the creole ones living in the bush (*monte*), that were not branded neither officially owned by anyone (although the company did claim some kind of legitimate ownership over them). This second category of cattle are called in Guaraní *sagua'a*, a term of uncertain etymology maybe resulting from the transformation of the parallel term *bagual*, still used with the same purpose in Argentina and Brazil. This clear division between ‘free’ and ‘controlled’ cattle structured the imaginative horizon of people living and working in the area, in a way that went in many ways beyond the cattle domestication domain. According to Sússekind for instance, who writes about a neighbouring region, “the opposition between feral (*bagual*) and tame, as in many other parts of rural Brazil, seems to make more sense in the case of Pantanal than that between wild and domestic” (Sússekind 2016, 41). The concept of ferality has been lately theorised to account for contemporary ecologies which are the result of complex human and other-than-human interactions. Feral entities are such “because they emerge within human-sponsored projects but are not in human control”.<sup>2</sup> In this article, we will propose to maintain a critical distinction between ‘*sagua'a*’ and ‘feral cattle’, describing *sagua'a* as the result of contingent historical lineages that complexify the notion of ferality by grounding it in a specific context.

### 3 The Age of *Sagua'a* (in the Casado Territory)

Because most of Casado’s cattle became *sagua'a* and roamed freely in the bush, often for several generations, the company organised teams of specialised workers in charge of capturing and bringing them to the slaughterhouse. Hunting *sagua'a* was a difficult job, and people would sometimes get wounded or even die. The teams were usually formed by a non-indigenous foreman (the *capataz*), and a group of about ten indigenous workers. Unlike the urban space of the factory, where indigenous and non-indigenous workers would never come across one another, the indigenous *sagualeros* worked in close collaboration with their non-indigenous *capataz*. This form of cultural intimacy gave rise to unusual contaminations, such as non-indigenous

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<sup>2</sup> <https://feralatlas.supdigital.org/?cd=true&rr=true&cdex=true&text=introduction-to-feral-atlas&ttype=essay>.

foremen learning local indigenous languages and undergoing shamanic healing rituals in case of bad health conditions. On their part, indigenous people sometimes played with their 'exoticism' threatening their bosses with death by shamanism or teaching them how to interact with spirits that didn't belong to their cosmology. As a non-indigenous foreman, Salvador Fretes, once told me that the Maskoy indigenous workers taught him how to be able to see a *pombero* - a spirit belonging to the Guaraní cosmology - by covering his forehead with a scarf so that the *pombero* would not be able to see the cross that invisibly marked all baptised people. This game of mirrors is quite evident if we think that Maskoy workers did not believe in the existence of the *pombero*, which was rather a character of the Guaraní cosmology adopted in Paraguay by the rural population. By spending days and nights trying to hunt *sagua'a* down, the *saguales* learnt to observe their habits and desires.

They [*sagua'a*] are scared of human beings. And the bulls circle the herd so that the lion does not attack. They have an anti-predator scheme, and they are stressed out like any other deer. And when it's time of draught - and draught is terrible there - they resist in the bush thanks to an underground fruit which retains water, and the cows can smell it. It's called in Guaraní *yvy'a* (fruit of the ground). They drink from it. And also the cardoon, they step on it and suckle from it. [...] It is clear when the food is scarce in the bush because of their faeces. They eat the leaves that fell on the ground, dry leaves, and the cows' faeces are not green anymore but they are reddish. That's a sign that they have nothing to eat in the bush. (Del Río, Edoardo. Mayordomo para Montes y Estancias san José. Asunción, 15 de enero de 2016)

*Sagua'a* listen to bird calls, and birds warn them about the proximity of humans, so that *sagua'a* can run away. I'm sure they have a spectacular olfaction, because they are constantly on alert about the presence of animals that could attack them. But they are beautiful, and they have shiny fur. (Bauzá, Justo Fernández. Comerciante. Gobernador. Puerto Casado, 26 de febrero de 2016)

The method that *saguales* used to catch the animals consisted in fencing a portion of the water reservoirs where cattle usually drank at night, waiting for the small herd to be in, identifying the bull and tethering him (*tambear*) to a tree by the horns, thereby stunning him through the endurance of pain. Once the leading animal was dazed enough, they tied him to a *señuelo* - a hyper-domesticated, often castrated ox - that was trained since a young age to follow human orders. The task of the *señuelo* was to pull the *sagua'a* - which was tethered to him with a rope - by the horns, and lead him to the

slaughterhouse. In the North American context, these bulls leading their peers to the slaughterhouse are sometimes called 'Judas' cow'. Because they refused to adapt to life in the ranches, the company never tried to lead *sagua'a* back to the estancia and re-domesticate them. Instead, the animals were captured through violent methods and brought directly to the Paraguay river, where a cargo-boat would be waiting for them in order to bring them to one of the slaughterhouses located downriver.

Violent behaviours towards cattle were in general tolerated and only sporadically judged by the most 'literate' people as a sign of roughness and lack of education, but violence towards the *sagua'a* in particular was deemed legitimate because of their status of 'wild' animals. The company workers would spend their festive days hunting them down in the bush, caching them with a lasso, and when the company - in the 1960s - needed to get the *sagua'a* out of the forest in order to count them, the managers didn't hesitate to shoot fire-crackers into the bush to create panic amongst all the animals and push them out "crying" (Arce, personal communication) into the open fields. If it's true that *sagua'a* were freed from human control, the "time of the *sagua'a*" was a time of physical violence and confrontations, marked by the violence that regularly took place over the weekends in the logging centres, where people could be stabbed to death after a night of heavy drinking. Both categories of cattle, the improved races nursed in kilometre 11 and the *sagua'a* brutally captured in the bush, would at some point in their life be transformed in beef and become objects of exchange and desire.

#### 4 Consuming Beef

The use of the word 'meat' - or even more specifically 'beef' - in order to mean the flesh of the cattle has been interpreted as a move to invisibilise the animal's personhood and reduce it to a mere object of consumption. According to Marek Muller, that particular kind of meat which is the flesh of domestic animals - cattle, pigs, chickens - has acquired in our society the status of safe, civilised food, and has been juxtaposed to the meat of wild animals, considered dangerous and potentially infectious. The author calls this ideology "carnistic colonialism" (Muller 2021). In a similar way, eating 'beef' in the Casado territory became a way of getting civilised. In a personal testimony gathered in 2016 in Puerto Casado, Juan Benitez recalled his decision to get married, leave his job as *hachero* (lumberjack) in a logging centre and move to Puerto Casado as a pivotal moment in his life:

My wife made me and my children into people. She tamed me and brought me here [to live in Puerto Casado]. We had two children

and I decided to stay. I collected woods from the bush, I killed armadillos, I collected honey and I sold it to the factory workers, or I gave it to them in exchange for beef and rice. That's why I'm telling you that she made a Christian out of me (Benítez González, Juan. Estanciero. Puerto Casado, 28 de abril de 2016).

The consumption of beef, in the words of Juan Benitez, has a transformative effect. In particular, just like the possession of non-human animals transforms humans into owners, in Benitez' view beef has the power to transform humans that live in harsh and semi-wild conditions into people. Like rice (and pasta), beef retains and transmits the power of colonisation-turned-into civilisation. A similar process of bodily transformation is described by indigenous people, who often underline - with a negative undertone - how they "didn't know how" to eat rice, pasta and especially beef before the arrival of colonisation.

The amount of cows slaughtered per week by the company is often used by the ex-workers as an index of prosperity, and the number of times per week when they ate beef served a similar function. Maskoy people, in particular, sometimes differentiate good from bad Paraguayan bosses on the basis of how much and what kind of beef they received from them. Good Paraguayans would share with them primal cuts, while the bad ones only gave them entrails or meat coming from cows that died because of illness. Nostalgic memories of past are often accompanied by comments on how Casado would give them a heifer to eat when they organised an initiation ritual, or on how Casado gave cattle to powerful shamans because of their healing powers. This is the case, for example, of the Cacique Michi, a famous Maskoy shaman who lived with his wife in proximity of kilometre 40 of the railway track. According to some, Michi already possessed cattle before the arrival of Casado to the Chaco, and the company took the cows away from him because they didn't want anyone else to own animals besides the company itself. According to others, because of his healing powers, Michi was the only person allowed to possess cattle in the Casado territory. In one way or another, possessing cattle was the ultimate symbol of power, and possessing big quantities of cattle was a clear sign of political power. Cattle ranches themselves absorbed this power as symbols of economic prosperity. When the Maskoy, after a long struggle for land in the 1980s, finally obtained a territory of 30,000 hectares from the Carlos Casado company, they founded most of their communities in the premises of Casado's estancias, usually keeping the name that the company had previously given them (Machete Vania, kilometre 39, kilometre 40, Casilda).

Different types of human actors accumulated political power by trading cattle in the Chaco. Fernando Bauzà, an ex-governor of Alto Paraguay and ex-cattle dealer (like many of the political figures

of Casado), explained to me how he used to buy cattle in the north of the region and then accompany them 400 kilometres south, all the way to Robert Eaton's ranch, in order to sell them. Along the way, the group of 7-8 cowboys was welcomed with enthusiasm by the inhabitants (indigenous and non-indigenous) of the settlements where it spent the night, and with whom it would share the meat of a cow that had been killed on purpose for the occasion. As Villagra emphasises when talking about indigenous perceptions of cattle, cows were the best animal in a sharing economy because of their size, and because of the vast number of alliances and exchanges they facilitated (Villagra 2010). Cattle dealers such as Bauzà relied on the body of cattle and the sharing economy it allowed in order to accumulate political power, and used it to acquire a political office once they decided to stop the business and settle down in the region. It is not by chance that nearly all contemporary politicians in Puerto Casado were also butchery owners.

## 5 The Mennonite Colonies

A black irregular stain on a green background – this is how the area centred in Filadelfia, capital of Boquerón Department in the Gran Chaco of western Paraguay, appears on the satellite images elaborated by Hansen et alii to track environmental hotspots worldwide (Hansen et al. 2013). Driven by the expansion of cattle industry, the dry forest once typical of the Central Chaco has been increasingly substituted by extended pastures (Baumann et al. 2017). The main driver of deforestation has been the activity of a group of Mennonites, who arrived in the Chaco at different waves starting from 1919.

“Pacifist Christians who for generations had farmed the rich grain lands” in Germany, Russia, Canada (Goossen 2017, 16), Mennonites belong to an Anabaptist sect born out of the Protestant Reform in Friesland in the XVI century. Over the centuries, persecuted both by Catholics and Protestants, they sought refuge in Russia, North America and, at last, in South America. Their encounter with the Paraguayan Chaco can arbitrarily begin on 4 October 1919, when the business magazine *The Economist* publishes a comment on Paraguay in its *Latin American Notes*. Together with the usual accounts on Stock Exchange Indexes and capital markets – low interest rates; “credit extremely plentiful”; Italian lira depreciating – the magazine reports on investment opportunities in the cattle industry. Just like Argentina, but second to no other South American country, Paraguay would offer unquestionable advantages, “so far as climate, water, and labour are concerned”. The superior qualities of the herbage, and the comparative freedom from insect pests, had made the first investments in cattle industry promising. From 200,000 heads of cattle in

1877, in 1915 there were more than 5,000,000, making Paraguay the 6th cattle-rearing country in the world (after US, Brazil, Argentina, Australia, Uruguay). Writing a few years later in German - the language of Mennonites - Adolf Schuster, the Swiss consul in Paraguay, confirms the bulk of the *Economist* editorial, but qualifies some details. Not all cows are equal under the measure of meat. Descendant from those imported by the Spanish in 1556, Paraguayan cows are “more bones than meat”, half the weight of Argentinian ones (250 kg against 600 kg). And yet, continues Schuster, Paraguayan cattle are immune to *Tristeza*, the sleeping sickness, which kills most of the imported breed cattle (Schuster cited in Friesen 2013, 43).

Indeed, at the beginning of the twentieth century, the devastation left by the Triple Alliance war and the prospect of a *negocio pingue* attracted a strange mixture of adventurers, entrepreneurs, and criminals - sometimes combined in a single person. With very little investment, almost no need of technology and workforce, cattle ranching in the Chaco could ensure returns well above 15% - with the yield of Treasury bills being well below 5% (Kleinpenning 2009). According to Theodore Roosevelt, who visited him in 1914, George Lewis ‘Tex’ Rickard, for example, started cattle ranching in the Chaco with 468,000 acres of land and 35,000 heads of cattle after a career as a gold digger in Alaska. Initially helped by Texan cowboys, he later resorted to the cheaper local workforce. Or take George West Musgrave, whose legend is still alive among Mennonites. After having worked for Rickard, he started a sort of business to steal cattle and falsify their marks, thus gaining a fame as Gringo rustler (Friesen 2013).

Among these legends of luxurious ranches, the story of the black stain and the Mennonites unfolds. In the 1910s, following the enforcement in Canada of new education laws, which standardised English as the only teaching language, Canadian Mennonites were planning to emigrate to South America, attracted by the prospect to run there their own schools in German without state interference. To this end, they contacted and met in New York Samuel McRoberts, a “well-to-do and well-connected financier” who had strong ties with the Paraguayan government and business. Through a complex deal, the banker intermediated the sale of the valuable Canadian farms in exchange of vast pieces of land in Central Chaco from the Casado family (Loewen 2013, 34 ff.). This first deal with the Canadian Mennonites was soon followed by the sale of more Chaco land to a few thousands Russian Mennonites, who were escaping the Soviet collectivisation campaign. Crucially, this second deal was made possible by a credit obtained by the Mennonite Central Committee (MCC), a North America-based organisation committed to help and sustain Mennonites groups worldwide.

## 6 The Age of *Sagua'a* (in the Mennonite Colonies)

While the deal turned out to be extremely lucrative for both Casado and McRoberts (Fretz 1953; Klassen 2001), the first encounter between Mennonites and Central Chaco did not “take hold”, and colonisation, as the “becoming-necessary” of aleatory encounters, was not an “accomplished fact” (Althusser 2006). With prolonged droughts, tropical diseases, and lost crops plaguing the colons, discourses of leaving the Chaco gained momentum. Yet, their debts enchained them to their farms, and only few of them had the financial resources to undertake the return trip. One of us met one of these few, an old man we call here Helmuth, who was born in the Chaco but moved to Germany as a boy in the mid 1950s.

I met Helmuth in Asunción, at the Mennonite Guest House. He is having breakfast with his wife and he wants to talk. Judging from their backpacks, probably bought in Germany, they look like tourists. He tells proudly that he was born in Neuland, in the Chaco, and that he spent his early childhood there. The conditions were harsh: the parents had tried some crops without success – cotton, sesame, more. His father, a Russian Mennonite, was wounded while fighting for the Nazi army in Russia, and was no longer able to work: they needed help, but the natives (“Indianer”) – the only available workforce – were too unreliable.

Rather than mythical images of ranches like the one Richard King founded in 1859 in Texas, still among the biggest in the world with its tenths of thousands of heads of its own brand (Sizer 1999) we need to imagine small, poor villages engaged in subsistence agriculture, plagued by diseases and food insecurity. The few livestock were managed collectively and raised open-range. Left free to graze for entire seasons, cows often went wild (Fretz 1953; Loewen 2013), becoming *sagua'a*.

Contrary to the celebratory article on *The Economist*, water scarcity, the absence of suitable pasture and the lack of proper technologies, made impossible to scale up cattle ranching in Central Chaco. Reports of lucrative wheat farming and cattle ranching referred in fact to the wet tropical areas next to the Rio Paraguay. When applied to the inner, drier zones they were at best misleading. Where Casado promised “a veritable utopia”, “absence of any winter”, “plentiful and nutritious manioc plant” (Loewen 2013), the Mennonites, hit by diseases, exposed to temperatures ranging between above 40°C in summer, and below 0°C in winter, found themselves struggling for survival. As the average annual rainfall decreases moving westwards from the Rio Paraguay, the area of the Mennonite Colonies is usually classified as a transition zone between a ‘semi-humid’ and a ‘semi-arid’ area (Rohmeder, Wilhelmy 1963; see also Métraux 1946). Even for human consumption fresh water is scarce, and locating the

wells required indigenous guidance. A 1959 census classified water sources according to its quality: only 10% of the springs were suitable for human consumption (Hack 1961). Areas of dry forest (*monte* in Spanish, bush) alternate with open areas, called *campo*. These grasslands or savannahs, often dotted with the typical bottle trees, are not the consequence of anthropogenic fires, as initially geographers thought, rather the trace of prehistoric river beds (Rohmeder, Wilhelmy 1963; Hack 1961). An old map (Hack 1961), certainly drawn before 1948, accounts for the extension of these open fields relative to the bush, and allows a comparison with the mentioned image of a black stain recently published (Hansen et al. 2013). With the bush always reconquering the *campo*, this landscape, however, was not static, as Lengua reports testify (Hack 1961).

Apparently ideal for farming and cattle ranching, these open areas were the obvious choice for a settlement, as they would avoid the tiresome manual deforestation of the surrounding bush. As one interlocutor stressed, in the old times deforestation had to be carried out with bare hands. But appearance is sometimes deceiving, and the tall, thick, grass, of the *campo* deceived indeed the first Mennonites (Klassen 2001). Instead of the ideal pastures, the luxurious *campo* in Central Chaco were all covered with “bitter grass” (Spanish *Espartilla*, Latin *Elionurus múticus*), that, in fact, cattle do not eat; only dairy cows sometimes eat its young leaves, and even in this case their milk tastes unpleasant (Klassen 2001). Perhaps understandably, the first expedition of Mennonites was misled not only by the Casado 22,500-head cattle ranch, which they visited, but also by the modern American-owned meat-packing plant nearby – “with cement walls, washed clean, beautifully in order” (Loewen 2013, 36).

Unsuitable pastures were not the only missing element for a successful colonisation of Central Chaco. As most of the water sources were too salty even for cows, intensive cattle ranching was excluded. Even today, water is the limiting factor for an intensification of farming and the landscape is characterised by *tajamares*, huge basins that store rainwater. Furthermore, before the introduction of barbed wire, fencing was also an issue, and the few cows strayed. In June 1929, a correspondent reported that “Johan F. Wiebe, whose ox wandered off some time ago, has searched almost the entire colony, but cannot find him”, and that “Peter Kauenhoven of Weidenfeld recently was fortunate to have recovered his ox, which had wandered off about a year and a half ago; Mr. Casado noticed it in his herd and at once shipped it back to the Chaco by rail” (Loewen 2013, 64).

Those years, until the 1950s, are indeed the years of the *sagua'a*, and their legend is still retold by local bestsellers (Funk 2017). One of us first learned about them during a conversation with his guest, near Philadelphia, in 2017:

I'm in the car with Gerhard, driving back to Philadelphia from his estancia on the main road, not asphalted, full of holes due to recent rains. Two large trucks, with trailers, are parked on the side of the road. I notice the empty cages used to transport cows to their final destination. In the cab of the trailer, the two drivers look at us like someone who has nothing to do and is waiting. It's getting dark. The night before, explains Gerhard, a trailer overturned; the cows fled, taking refuge in the bush. What will happen? I ask. They will hide, he answers, the bush is large, it will not be not easy to catch them. We stop for a moment. Gerhard speaks Spanish with the 'Indians'. But what happens to the cows, I ask again. We will take them, he replies, there is no longer room for wild cows here. We drive again. After a few meters Gerhard abruptly brakes: a cow runs across the road and jumps - surprisingly agile - into the bush.

But in the old times, so the Mennonite stories go, there were a lot of *sagua'a* hiding in the bush. Just with the *lasso*, one *estanciero* and his two helpers would capture in ten years more than 2,000 of them - while trapping a few hundreds more. Bounties were offered, and hunting trips were organised, often ending with a duel between the man and the animal. Appropriating somehow their strategies of resistance, such stories exceed the dichotomy between wild and tamed animals<sup>3</sup> and describe *sagua'a* as wiser than wild animals, exactly because of their intimate relation with humans. Almost mythical, they were endowed with exceptional characteristics like giant horns, the ability to jump like jaguars, and extraordinary sensory capabilities. But, above all, these stories underscore their stubborn recalcitrance to be dominated by men, with duels between *saguale-ro* and *sagua'a* often enduring over years. This obstinate tendency to mutiny is still recalled by Mennonites when they address restless children with a "You are a wild *sagua'a*!"

Ruben Funk tells the story of *sagua'a* Hoco, a bull castrated when he was two years old and escaped during a Rodeo:

It often happened that young cattle ran wild. Cowboys found that these 'tame' cattle, when they become wild, behave much 'wiser' than animals born in the wild. As they know how human think, they are very careful whenever they leave the bush. One of these wild oxen had already become a phenomenon. He was known as 'Hoco' [...]. On one occasion a group of men went on a *hunting trip* to this salt lagoon area. One of the men [...] suddenly sees huge cattle tracks and dung. Everything still fresh. [...] There.... there lies

<sup>3</sup> See for example Descola 2013, 53.

a big, *colourful ox with giant horns*. He has his eyes closed and is chewing. The man stands still for long moments contemplating his deep-rimmed horns. He estimates the length of the horns at 1.30 metre. They are pointed and bent forward. He stands behind a tree, aims his gun, a calibre 22, at one of the horns and pulls the trigger. *The ox jumps up like a jaguar*, snorts, and comes right at him. [...] “The old Hoco is still alive” (Funk 2017, 63-7; Authors’ transl.; emphasis added)

He also recalls how Mennonites used *tamjares* to attract *sagua'a* during periods of drought and catch them:

The cattle strayed in distant pastures. These cattle became feral so easily that it became impossible to take care of them and herd them together. They bred in the wild steppe, so there were already *several generations of cattle that had never been corralled or lassoed*. They had neither the ‘ear cut’ nor a brand. Such a wild cattle is called *Sagua-á*, or as the Argentines and Brazilians say: “*Bagualada*”. [...] Forest clearing had already begun and part of the estancia had been already fenced. Larger *tajamares* were also dug in these forest-free areas – water reserves for times of drought. This drought gave the opportunity to capture these herds of wild cattle [by attracting them with the *tajamares*]. In the steppes outside the fences only a few pools remained that still had water. The administration had given the order to capture these *Sagua'a* herds... *Sagua'a* lassoes from around the area were recruited, paying them a *bounty* on each *Sagua'a* caught. (Funk 2017, 130; Authors’ transl.; emphasis added)

A linguist also classifies *sagua'a* as one of the few guarani words imported in Plattdeutsch, the German dialect Mennonites speak:

The word *sagua'a* (‘wild’) was only known for a wild, ownerless cattle, of which there were plenty in earlier times. Today one says to a Zappelphilipp [fidgety child]: “Dü best en willa *sagua'a*”. (Thiesen 2007, 70)

This is a world then where *sagua'a* escape the grip of human control and remain mostly illegible to their human hunters. Like James Scott’s (1998) nomad populations, they don’t live in the “striated”, or gridded, space humans were striving to impose them, but rather in the “smooth”, amorphous space in-between (Deleuze, Guattari 1987, 474). One early power dispositif that inserts cattle (Deleuze 2018) into an element of a grid is the practice of branding. This is mentioned for the first time in 1940 in the records of the central Mennonite administration. According to this ‘Protocol’, each colon was forced to

brand his cows with the mark CM (Colonia Menno) and the sale of unbranded cows was forbidden (Funk 2017, 38). As it emerges in a discussion with an interlocutor, rituals of branding set in motion the accounting machine of the estancia (see Strathern 2003), they capture the cow into the organised world of administrative records and prepare it for the market. Interestingly, in these legends the fact that a cow could be unbranded, without even an ear-cut, is often mentioned together with other abnormal characteristics like monstrous horns, as if both were spectacular monstrosities.

## 7 Ox Dollars, Debts and Machines

Since the 1950s, a number of factors converged to solve the existential crisis of the Mennonite colonies, leading to a revolution in their mode of production. Driven by the financial and technological help of North American Mennonites, this territory is inserted into the global economy through the introduction of new biological species, technologies, and foreign capitals. The always changing alternation between *campo* and *monte* gives increasingly way to the emergence of the black stain. The bush, and their inhabitants like the *sagua'a*, are more and more substituted by pastures.

Mostly financed by the MCC, US equipment began to arrive in Central Chaco. American from Minnesota, son of Russian Mennonites, Harry Harder introduced the first bulldozer to the colonies in 1953. “A successful farmer, who worked with the largest and most powerful machinery of the time”, he opened with his TD7-Bulldozer new roads and began to deforest the areas around the colonies (Stoesz, Ratzlaff n.d.). The iconic arrival of Harder’s Caterpillar, celebrated on the local newspaper, was soon followed by an electricity generator, tractors, dairy machinery, and other machines.

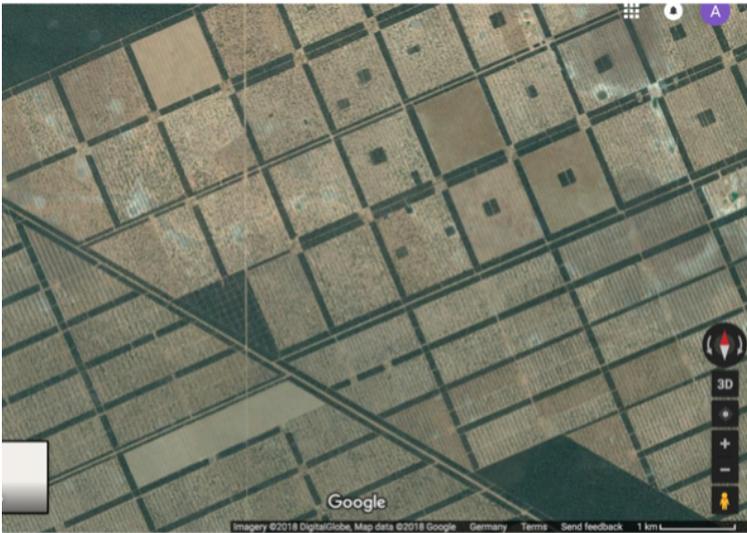
Mechanical equipment came together with new species and the north American biological know-how. Funded again by the MCC, and initially run by North American Mennonites (Ratzlaff n.d.), the Fernheim Agricultural Experimentation Station (Landwirtschaftliche Versuchstation Fernheim) dates back to 1946 (Ratzlaff n.d.). A key element of the agricultural success of the colonies, it was responsible for the introduction of the Büffelgrass (*Cenchrus ciliaris* L.), an herb of African origin, which spread in Chaco starting from the 1950s, “like a fire” (Goerzen 2003). Introduced in the Great Plains around the 1930s, this herb was kept in highly esteem. Resistant to drought, it was an excellent fodder for the increasingly genetically selected cattle. But capable as it is of quickly invading even non-target environments – the biological counterpart of the machinic Caterpillar TD7 – it is today a much-discussed species, as it causes dramatic losses of biodiversity. Perhaps an example of the fragility of mono-

species plantations, increasingly attacked by various diseases, this grass has been recently replaced by another African species, with a curious Latin name: *Panicum Maximum* (Glatzle 2005; Marshall, Lewis, Ostendorf 2012).

While before the 1950s agricultural products could only be traded through the narrow-gauge railroad run by the Casado Company, and even so, only after a days-long travel with oxen-drawn wagons; the opening of the Ruta Transchaco in 1961, which connects the Mennonite colonies with the capital Asunción, provided the infrastructure needed to reach the global market.

Other than infrastructure, mechanical and biological technologies, finance did also its part to reshape this world. Credits obtained from North America and, increasingly, from the central Paraguayan government begun to flow into the colonies and to be redistributed among Mennonites, to foster investments in the cattle industry. In a movement which fully reflects the underlying practices of financialisation of nature, these credits were denominated in a local fictitious currency, the ox-dollar, still partially in use in the colonies. Just as old currencies (such as the dollar and the lira) were tightly anchored to gold and stabilised, linking debts to the price of an ox avoided risks due to the volatility of the price of the meat, as cattle production was becoming the main source of income for Mennonites. Initially used only for the debts contracted by the farmers, its use as main currency to be used for all transactions spread out. So, for example an interlocutor's old refrigerator would cost 9 Ox \$ and his used car 22 Ox \$. It is done, he explains, to help young people, to protect them from the external market. And yet, these credits, granted in proportion to the market value of the land, are one of the main mechanisms by which farmers and cows are introduced into the dynamics of the capitalist markets.

By juxtaposing cows and dollar in the same signifier, and by linking it to imaginaries of debts and profits, the ox-dollar performed in fact a further commodification of the cows. A comparison between an imaginary '*sagua'a*-dollar' and the ox-dollar might help to explore this point. While some Mennonite stories on the *sagua'a* point to the fact that they were indeed priced and hunted to be traded, often with the Paraguayan military in the North (Funk 2017), a currency '*sagua'a*-dollar' to hedge inflation risks is hardly thinkable because of its structural instability (or volatility as financial practitioners would have it). Although sometimes objects of exchange, and indeed objects of priced competitions, *sagua'a* were born neither as commodities nor as assets, while contemporary cows are undergoing a process of both commodification and assetisation. They were not commodities, because they were possessed after a successful duel, and often named, as the old legends clearly show. At best, bounties were offered on them. They were not commodities, because they were possessed



**Figure 2** Satellite image. Green stripes protect from the wind. Source: Google (public domain)

after a successful duel, and often named, as the old legends clearly show. At best, bounties were offered on them. In that *sagua'a* were intimately connected to their hunters through a web of diverse relations, they entered these exchanges in the form of persons, and not as fungible ‘things’ disentangled from any previous context.<sup>4</sup> Thus, even when their meat was sold on the market, the transformation of a *sagua'a* into a commodity was dependent on the successful unfolding of unpredictable events, and never foregone. And they were not assets, as they could not provide any capital return in time, contrary to the Ox-dollar. Indeed, the transition from the impossibility of a ‘*sagua'a*-dollar’ to the very reality of the ox-dollar signals the transformation of the relations of production whereby new kinds of beings are performed, produced, and reproduced [fig. 2].

<sup>4</sup> As Strathern, building on Chris Gregory, puts it: “if in a commodity economy things and persons assume the social form of things, then in a gift economy they assume the social form of person” (Strathern 1988, 134). Building on James Carrier, we take ‘possession’ here to signify “a relationship of identity between person and object” and “the object in such a relationship”. Its opposite is a commodity, “which is alienated, seen as separated from the people associated with it” (Carrier 2005, 9).

## 8 The Grid

Through the complex entanglement of debts and profits, capital accumulation will fuel from now on an ethos which regards Nature as something to conquest, defy and exploit. In 1956 on the local newspaper *Mennoblatt*, a teacher cries (see also Goerzen 2003):

We are bothered by the bush, we need to make room. With the first rains of spring, we need machines to plant much more. Not 10, not 50 but 100 hectares we have to plow. (*Mennoblatt*, 5 May 1956; Authors' transl.)

But increased deforestation and the substitution of native species soon prompted ecological problems. In 1968, a piece on the *Mennoblatt* openly warned that the ecological catastrophe then plaguing the south of Argentina was also threatening the Paraguayan Chaco. During periods of drought and high wind, and without the protection of the bush, the soil, the writer warns, "the solid earth", was becoming "a toy of the wind" (*Mennoblatt*, 16 August 1968). Just as in the dramatic events that caused that catastrophe known as the Dust Bowl (Worster 1979; see also Steinbeck's *The Grapes of Wrath*) which hit the Great Plains in the 1930s. Still in 2017, Helmuth recalls without hesitation his experience of fear as he witnessed as a boy such events. He talks about the great dust storms that sometimes plagued his house and limited the view to a few metres. His parents kept telling him that all was normal, but he never believed it. And cows also suffered under these events, as the same article in the *Mennoblatt* recalls. During these droughts, lack of hay and water caused the death or the premature slaughtering of many of them (Goerzen 2003; *Mennoblatt*, 16 August 1968).

A Mennonite forest engineer, also talked with us about these events, which became critical when bulldozer began to clear large areas - in the 1950s and 1960s, when Helmuth was a child. The practice of providing protective strips of forest against the wind and plowing fields orthogonal to the wind direction would be advised by UN staff visiting the colonies. These recommendations were taken seriously by the Mennonite administration. Already in 1971 an internal regulation prescribed a protective strip every 500 meters; two years before this practice was regulated by law by the Paraguayan state. Credits to the colons were linked to the compliance to this regulation. This version of the story, apart from the intervention of UN technicians, was also confirmed by Gerhard, who often stressed in our chats the ecological responsibility of the Mennonites. They understood for themselves that there was a need for protective strips: further laws were useless.

It is therefore in this way that the landscape of Chaco is taking on post-apocalyptic traits, reminiscent of the opening scenes of Blade

Runner 2049. The striated, squared, grid-like, satellite images we see via Google Earth (see [fig. 2]) are in fact performed by the forest law No. 422 (promulgated in 1973, still in force) which regulates deforestation and imposes protective strips and the maintenance of certain amount of bush. Furthermore, justified and exploited in the name of 'sustainability', processes through which "money leverages nature to produce more money" (Ouma, Johnson, Bigger 2018, 500) are now inserting cows and cattle ranching into the financialised world of 'sustainable finance', signalling an intensification of practices of commodification. In this process, ecological discourses, by now hegemonic, seem to provide the legitimising ground for a whole new set of tools of social/environmental control. For example, beyond their established role as fungible commodities in the global meat market, cows are now even participating in carbon markets.<sup>5</sup> Here, the enteric 'emissions' produced by their digestion - rich in methane, a greenhouse gas - are measured, assessed and quantified to be made commensurable and tradable with other industrial CO<sub>2</sub> emissions (S&P 2021; see MacKenzie 2009). Pricing these emissions would thus allow the market to efficiently evaluate environmental costs, and limit climate change. Along similar lines, new financial instruments like 'sustainable bonds' seem to be turbocharging commodification by leveraging on the latest technologies. Whereas the ox-dollar, as we pointed out, performed commodification through relatively simple (analogue?) operations of disentanglement (branding, accounting etc.), these operations now fully rely on digital technologies. As a case in point, the meat giant JBS recently issued a 'sustainability-linked bond' whose interest paid to investors are pegged to the deployment of a transparent supply chain, one which would discard meat produced through illegal deforestation. As a result of the effort of tracing meat products to their producers, the primitive act of branding gets now digitalised into a QR code - a digital name only computers can read - and old accounting registers evolve into the latest version of a blockchain platform,<sup>6</sup> called Transparent Livestock Farming Platform, which "extend socioenvironmental monitoring with security of the data, reliability and producer engagement".<sup>7</sup> As a result, the mesh of the gridded (or striated) space gets narrower and narrower.

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5 Carbon markets seek to limit climate change by pricing greenhouse emissions.

6 Blockchain platforms are essentially digital systems designed to record information transparently and reliably.

7 <https://jbs360.com.br/en/transparent-livestock-farming>.

## 9 Conclusions

As we have shown, in the twentieth century the Paraguayan Chaco has been the theatre of a series of multiple aleatory encounters between humans and non-humans, some of which precariously stabilised into distinct yet interconnected and interdependent worlds. In particular, we highlighted a historical transition from what we called “the age of *sagua'a*” and “the age of the grid”. This transition is not only a temporal, but also an ontological one: it is characterised by the disappearance of certain beings and of the assemblages they were part of, and by the birth of new ones (cf. Blaser 2018).

The beginning of the age of *sagua'a* can be placed at the very beginning of colonisation, when the first herds of cattle started to adapt - and to be modified in their bodies and genetic heritage - to Latin American ecologies. Some of them (called *bagual*, *sagua'a*, *chirmarrones*) became part of new collectives of being, where humans only had a peripheral role. According to Darwin, these creole cattle were visibly present in Paraguay up to the nineteenth century, where they would “swarm southward and northward in a feral state” (Darwin 1988, 58). For instance, while cattle ranching played a minor role in the Mennonite Colonies in the 20th century, in the Casado Territory it represented since the beginning a complementary activity to the production of tannin. In this phase, *sagua'a* and their life-world existed at the intersection between the Mennonites Colonies, the Casado Territory, and their economies.

In Puerto Casado, special teams of *sagua'a* hunters were organised by the Casado company. Hidden in the bush that extended in between the Casado territory and the Mennonite colonies, *sagua'a* cohabited with jaguars and other animals - like the *urutau*, a bird that would warn them when enemies were approaching - they learnt to find water in an arid landscape and to forage at night when their human predators were supposed not to be around. Radically different from the cows bred and governed in kilometre 11, too fat or too slow to escape from the estancias that produced them, *sagua'a* were agile beings, ready to fight against humans and to refuse their status of domesticated animals. Nevertheless, while *sagua'a* were treated like hunting trophies and highly de-humanised through the legitimisation of purpose-free violence, ‘improved’ cattle entertained a personal relationship with the humans that governed them.

As it emerges from memoirs of Mennonite colonisers, hunters engaged *sagua'a* in duels which often span over years. Mennonites devised ingenious traps to attract and capture *sagua'a*, but these proved unpredictable and not less resourceful, giving their adversaries hard time. Around campfires, stories about these battles were told and retold, and *sagua'a* like the old Hoco often assumed mythical characteristics. Killing one of them fulfilled the dream of each Mennonite

cowboy, making them proud. Commercial motives were present, but often to the side. As in Anna Tsing's (2015) *matsutake* hunts, these fights indeed confronted persons: *sagua'a* hunters were not alienated labourers, nor were *sagua'a* born as commodities.

In the age of the grid, a whole new world emerges. Through practices of branding and accounting, cows are dissociated or alienated from their life-world (see Callon 1998). Enclosed in estancias surrounded by barbed wire, they cannot escape. They have neither histories nor names. "Purified" through operations of assessment (Tsing 2013), they are increasingly performed as financial assets. As the fictitious local currency – the ox-dollar – iconically demonstrates, they are used to guarantee farmers' investments and to produce new profits, thus becoming the pivotal point around which capital accumulation revolves.

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