



**Carlos Chagas in the  
“war of the rivers:” the  
passage of the Instituto  
Oswaldo Cruz commission  
up the Yaco river  
(Alto Purus, federal  
territory of Acre, 1913)**

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**Abstract**

The writing of the *Relatório sobre as condições médico-sanitárias do vale do Amazonas* (Report on the medical and sanitary conditions in the Amazon Valley) is analyzed from the perspective of the macro- and micropolitical implications of the Instituto Oswaldo Cruz’s expedition to the departments in the federal territory of Acre. The analysis focuses on the interactions between Carlos Chagas, Pacheco Leão, and João Pedroso and judges, doctors, and rubber barons from the Yaco and Caeté rivers at the town of Sena Madureira, capital of Alto Purus, in January 1913. The scientific report was also influenced by the contact the commission members had with the major players in the rubber industry and their resulting immersion in local and regional political conflicts.

**Keywords:** Amazon; Acre; scientific voyages; medical reports; politics.



The year 1912 was marked by the outbreak of the rubber crisis – a direct consequence of the successful attempt by the botanist Henry Wickham, with British state sponsorship, to smuggle *Hevea brasiliensis* seeds out of Brazil in 1876. The subsequent small-scale experiments in growing *Hevea* in Ceylon and Malaysia yielded good results, such that in 1910, according to Warren Dean (1989, p.64), there were already four hundred thousand hectares of plantations in South-East Asia. Exports of wild rubber from the Amazon reached the historical high of 42,286 tons in 1912, far outstripping the previous year's export volume of 36,547 tons (Benchimol, 1977, p.252). However, the following year's exports from Southeast Asia already summed 54,356 tons as against Brazil's 36,232 tons, and the same trend continued in 1914, when Brazil's exports fell to 33,531 tons, while Asia's rose to 75,692 tons (Martinello, 2004, p.139).

Faced with the threat of Asian rubber production, Brazilian politicians and rubber barons put pressure on the government, especially the Ministry of Agriculture, Industry, and Trade, to pass legislation designed to boost rubber production in the Amazon. Colonel Avelino de Medeiros Chaves was one of the players from the federal territory of Acre who lobbied the federal government for help for the rubber industry. Based on the Yaco river, he managed to get the Minister of Agriculture Pedro de Toledo to call a meeting of politicians, governors, and officials from the states in northern Brazil to draft an economic plan (Informações, 20 jun. 1911). On August 14, 1911, the key elements of the Rubber Defense Plan (Plano de Defesa da Borracha) were debated and on January 5, 1912, National Congress approved the creation of the Department for the Defense of Rubber (Superintendência de Defesa da Borracha) and the Rubber Defense Plan. The plan provided economic incentives for the planting of *Hevea brasiliensis*, healthcare services for migrants going to work in the rubber industry, and the building of a railroad between the capitals of the administrative departments in Acre, amongst other measures (Brasil, 1912, p.153-167).

The Rubber Defense Plan was never executed in full. One of the few measures that actually materialized was a sanitation commission to study the health status of the populations along the main rivers in the Amazon basin to serve as the basis for proposed sanitary measures for the region. The endemics in the Amazon, especially malaria, were seen by the federal government as the main obstacle to the development of a rubber industry capable of withstanding Asian competition. For this reason, the Oswaldo Cruz Institute (Instituto Oswaldo Cruz) was assigned to coordinate the commission, whose members were Carlos Chagas (a scientist at that institute), João Pedroso (the general secretary for public health in Rio de Janeiro), and Pacheco Leão (a professor at the Faculty of Medicine of Rio de Janeiro [Faculdade de Medicina do Rio de Janeiro]). From October 1912 to April 1913, they traveled along the Solimões, Tarauacá, Purus, Yaco, Negro, and Branco rivers. Oswaldo Cruz provided a kind of rearguard action, collating the data collected and correcting and rewriting the final version of the *Report on the medical and sanitary conditions in the Amazon Valley (Relatório sobre as condições médico-sanitárias do vale do Amazonas)* (Brasil, 1913) submitted by Chagas. The final version of the report is signed by Oswaldo Cruz (Schweickardt, Lima, 2007; Schweickardt, 2011, p.209).

Some historians have analyzed Carlos Chagas's 1912-13 expedition of the Amazon basin based solely on the report submitted by Oswaldo Cruz to the Minister for Agriculture

Pedro de Toledo. In her analysis, Nancy Stepan (2003) focuses on the insalubrious conditions the commission encountered there, especially malaria, and the sanitation projects formulated to control the disease. For their part, Eduardo Thielen et al. (1991, p.116-124) analyze the social and sanitary conditions reported on by the commission, the way they represented the social reality in Amazonas state and Acre, and the “civilizatory” nature of the expedition, as expressed by the commission members.

Taking a similar approach, but investigating in greater depth the actual process by which the commission’s report was written, Júlio Cesar Schweickardt and Nísia Trindade Lima observe the way the commission represented and depicted the Amazon basin. They begin with the report writing process itself, cross-checking Carlos Chagas’s handwritten travel notebooks, a manuscript version of the report signed by all the commission members, a first typewritten version, and the final version reviewed by Oswaldo Cruz. The authors focus particularly on the daily activities of the commission, the research of diseases, the services provided to the river-dependent communities, the problems relating to the work regime on the rubber estates, and, above all, the actual process by which the reports were written (Schweickardt, Lima, 2007; Schweickardt, 2011, p.209).

The historian Sérgio Roberto Gomes de Souza (2014, p.112-132) draws attention to the fact that the commission only came into contact with a small proportion of the local populations – the ones who lived in villages or worked at the rubber estate headquarters, not at the rubber production hubs, which were several hours’ or days’ journey away from the rivers in the heart of the forest. He also stresses the role of the information provided by the rubber barons in the preparation of the report submitted by Oswaldo Cruz, questioning whether the scientists had enough time on their visits to the rubber estates and settlements to effectively research the diseases in the region. Importantly, Souza reaches this conclusion drawing exclusively on the published version of the report, without referring to the earlier handwritten and typewritten versions.

Details of the critical macropolitical circumstances in the federal territory of Acre at the time when the expedition was heading to the region fall well outside the scope of all these studies. Likewise, they do not problematize the way the report was prepared from the perspective of the concrete micropolitical relationships between the commission members and the officials who received them in the towns and villages along the way. If much of the report drew on information provided by local officials and rubber barons, as Sérgio Gomes de Souza suggests, then surely the political goals of the hegemonic oligarchs – especially those in the departments of Acre – must have had some impact on the form the report took. Here, we will analyze the commission’s passage along the Yaco river, especially at Sena Madureira, where Carlos Chagas, Pacheco Leão, and João Pedroso stayed from January 18 to 20, 1913. We will not go into the scientific nature of the commission, which has received much attention elsewhere. Similarly, we will not address the “civilizatory” nature or identity of the expeditions, or, indeed, that of the Amazon river basin represented in the report. Rather, the focus here is on the relationship between Carlos Chagas and the river oligarchs, mapping out how it influenced the writing of the report and the final shape it took.

The commission’s involvement in local political affairs is analyzed by drawing on news stories published in the *O Alto Purus* newspaper, Carlos Chagas’s own notes, the different

versions of the report, and a letter sent to Carlos Chagas by a judge from Sena Madureira who had taken refuge in Boca do Caeté. Oswaldo Cruz's editing of the manuscript version of the report prevented the part about Sena Madureira, on the banks of the Yaco river, from becoming an uninterrupted eulogy of the representatives of the Yaco elites who received the expedition, especially its mayor, Bernardo Porto, and the physician Astolpho Margarido da Silva. Attention is also drawn to the fact that the commission must have travelled through the settlement of Boca do Caeté on their way to Sena Madureira, but neither the handwritten texts nor the later versions of the report make any mention of this, the stronghold of the Yaco river rubber barons' political enemies.

### **The Yaco river oligarch and the “war of the rivers” in Alto Purus**

The area that constitutes the upper watersheds of the Purus and Juruá rivers was annexed by Brazil under the Treaty of Petrópolis, signed with Bolivia in 1903. A legal dispute between the two countries had started in 1894, when the Bolivian government had learnt that the area was already populated by migrants from northeastern Brazil. Following the example of the US, after its annexation, the Brazilian government made Acre a “federal territory” by decree 5188, of March 7, 1904. Under its terms, the area was administrated by mayors appointed by the federal executive power under the supervision of the Ministry of Justice and Internal Affairs. The new federal territory was split into three politically independent units: the department of Alto Acre (Upper Acre), the department of Alto Purus (Upper Purus), and the department of Alto Juruá (Upper Juruá), although Juruá was broken up in 1912, giving rise to a new department, Tarauacá. The residents of Acre did not have the right to vote for the president or vice-president of Brazil, nor could they choose their mayors or have any political representatives in the upper or lower houses of Congress. The taxes levied on rubber exports were managed exclusively by the federal government (Tocantins, 1979, p.311-316; Costa, 2005, p.91-92; Vital, 2016, p.232-233).

The new political organization introduced contradictions on a regional level. The first had to do with the geographical layout of the rubber estates. The rivers were the only highways between the region and the international market, via the cities of Manaus and Belém, and it was along them that Brazilian migrants penetrated the region, setting up rubber estates on their banks. The rivers flowed parallel to one another in a northeasterly direction, and there was little or no need for the rubber barons from different rivers to communicate with one another. In other words, each waterway was its own territory run by the rubber barons who controlled its waters. The political and administrative organization imposed by the federal government was arranged in horizontal (east-west) strips (Tocantins, 1961, p.125), which had the effect of reinforcing the isolation of the departments and fostering political cooperation amongst rubber estate owners from the same rivers. The clustering of rubber barons from different rivers into the same political units spawned tensions and disputes for power in the fledgling towns. This state of affairs was most evident in the department of Alto Purus, where the rubber barons from the Yaco and Caeté rivers clashed violently over control of the city hall as of 1909 (Loureiro, 2004, p.40-41).

The leading rubber barons on the Yaco river were Colonel Childerico José Fernandes and Colonel Avelino de Medeiros Chaves. Childerico Fernandes was from Pau dos Ferros, a town in inland Rio Grande do Norte. Having lost his mother, he set out for Belém at the age of 15 with the idea of making a living in the upper Amazon basin. Having arranged a sponsor in Pará, he made his way to the Purus river basin, where, around 1899, he set up the Oriente and Natal rubber estates in the middle Yaco river (Casculo, 24 ago. 1939). Avelino Chaves was from Sítio do Meio, inland Sergipe state. After a short period serving in the military in Rio de Janeiro, he retired and did a course in agricultural surveying at the Polytechnic School (Escola Politécnica) of Pará. In 1896, with the assistance of capital from the Amazon River Steam Navigation Company, a British shipping enterprise, he penetrated the upper Yaco river at the same time as João Cântio Fernandes, Childerico's half-brother (Chaves, 1 jul. 1911). The two men reached an agreement and founded A. Chaves & Cia., which became the owner of the Guanabara, Arvoredo, and Peri rubber estates, the last two in the upper Yaco river basin. Both shareholders also invested in river transport, forming a fleet to ship the rubber from their own and neighboring estates and thereby consolidating their economic power along the Yaco river.

Meanwhile, much of the Caeté river was dominated by two companies, J. Gadelha & Irmãos and Gadelha & Bastos, owned by three brothers, Antônio, José, and Tristão da Costa Gadelha. Both firms had several properties at the confluence of the Caeté and Yaco rivers, notably the Granja, Campinas, Canamari, and Curitiba estates. A.J. Gadelha & Irmãos was much more than just a large rubber extraction company. Much like Avelino Chaves and Childerico Fernandes on the Yaco river, the Gadelhas also had their own vessels to ship rubber and other merchandise. As such, they were both rubber producers and middle-men for the supply chain along the Caeté and Purus rivers. By 1909, the Gadelhas were keen to boost their political influence in Sena Madureira, the capital of the department of Alto Purus, during the administration of Mayor Cândido José Mariano (1905-1910).

Aside from the power struggles, the desire to turn Acre into a fully-fledged state heightened the tensions between the barons along the Yaco and Caeté rivers, exacerbating their differences of opinion about how such autonomy should be achieved. There were also disagreements about which city should be the capital of the future state. These divergences led to the consolidation of and conflict between these different river-based oligarchs, impacting the professional and social groups active in the capital of Purus. Political hegemony and a monopoly over relations with the State were the prizes at stake.

The first efforts to make Acre an autonomous state in the department of Alto Purus were made by a group of lawyers and judges under the leadership of Laudelino Benigno and José Martins de Freitas. Benigno and Freitas were both lawyers who worked in Sena Madureira and Boca do Caeté, a settlement about one hour downstream, at the confluence of the Yaco and the Caeté. They set up a newspaper, whose first issue came out on March 11, 1909, called *Estado do Acre* (State of Acre), in which they declared themselves to be "emancipationists" and against the economic and political discrimination suffered by the territory of Acre at the hands of the Brazilian federal authorities. Their main grievance was that the high taxes levied on Acre's rubber by the federal government were not matched by anything like a corresponding sum in investments in the region, which was treated like

a colony of Brazil (Acreanos!, 11 mar. 1909). This group had the support of the Gadelha brothers, who made Boca do Caeté the hub from which these pro-autonomy ideas radiated (Loureiro, 2004).

In response to the formation of this pro-emancipation movement, the rubber barons on the Yaco river created a political party, Partido Progressista (Progressive Party), on November 30, 1910. It was made up of rubber barons, traders, lawyers, and others who defended the gradual achievement of state autonomy for the territory of Acre through legal avenues and without the use of force. The newspaper *Brazil Acreano* had already existed since April 1910, run by a lawyer, Antônio Pinto de Areal Souto, one of the party's core members. From November 1910 onwards, *Brazil Acreano* was the official mouthpiece of the Progressive Party, and Mayor Samuel Barreira was appointed the party's leader.

Initially, the Yaco and Caeté rubber barons preferred not to take any leadership positions in the parties, nominating representatives who lived in Sena Madureira. On both sides, they initially kept in the shadows as their representatives sparred on the pages of the newspapers. But as tensions escalated the situation reached breaking point and the rubber barons stepped into the fray, which ultimately culminated in death threats and armed conflict.

### **Dispute between the capitals and Sena Madureira as a “salubrious capital”**

Sena Madureira was founded on September 24, 1904, amidst tensions between Brazil and Peru. General José Siqueira de Menezes, a veteran of the Canudos war, had just months before been appointed commander-in-chief of the Brazilian troops fighting their Peruvian counterparts and mayor of the department of Alto Purus, whose capital he was charged with founding. He led a detachment of three hundred men, but even as he was traveling up the Purus river, an arbitration agreement was signed by Brazil and Peru, ruling out the need for military action, and he was stripped of his military position. Siqueira de Menezes continued on with the troops, who he stationed at Boca do Caeté, in the state of Amazonas. Days later, he made the return trip in the company of a group of rubber barons, lawyers, judges, and other figures who lived on the Caeté and lower Yaco rivers to found the department's capital city. They moored on the left bank of the Yaco river in the Santa Fé rubber estate, slightly above the Amazonas state line. The name they gave the place was Sena Madureira (Loureiro, 1981, p.67-70; Ranzi, 2008, p.251).

The designation of Acre as a “federal territory” split into departments was seen in the region as a provisional measure. Amidst the emergence of self-rule movements, a central question was voiced: Which city should be the capital of the future unified state? The city elected capital of the state or territory of Acre would grant the oligarchs in the respective department instant hegemony over the others and a monopoly in dealings with the federal government. The founding of the towns of Cruzeiro do Sul, in Alto Juruá, and Volta da Empresa (Rio Branco), in Alto Acre, consolidated this dispute, which was played out in the newspapers published by the local administrations and the mayoral reports.

According to Laurent Vidal, projecting an image of consolidated power and stability is a key ingredient in any bid for a capital city. Likewise, for the marketing of any future capital, it is important to reflect the social aspirations of the day and host events symbolic

of the coming of a new era: found the first hospital, for instance, or the first secondary school, or the first tramway (Vidal, 2011). The rubber barons on the Yaco river picked public health as the cornerstone of their bid to make Sena Madureira the capital of Acre. As such, the priority of Cândido José Mariano, who served as mayor from 1906 to 1910, succeeding Siqueira de Menezes, was to set up departments of hygiene and public works for Alto Purus to promote town planning policies for Sena Madureira in order to create the image of a salubrious town by providing for public health (O Acre..., 1 mar. 1908). The Yaco rubber barons also took the initiative, funding and founding the first hospital in the federal territory of Acre, called Hospital de Caridade 22 de Maio (May 22 Charity Hospital), on May 22, 1908, the birthday of Mayor Cândido Mariano (Libanio, Libanio, 1909, p.53).

Sena Madureira had one major advantage over the other competing towns: it was situated in a central part of the territory of Acre. At the time, the prevailing political philosophy was that capital cities should be in the geographical center of the areas they represented. In the US, most of the new territories and states added to their constitutions the provision that their capitals should be centrally located (Vidal, 2011). The geographical location of Sena Madureira (between Volta da Empresa and Cruzeiro do Sul) and the sanitation policies for its urban hub meant that as early as 1908 it started being picked to host the main federal entities in Acre, such as the appeals court, the federal revenue office, the main post office, and the regional Ministry of Agriculture office. With the presence of these government bodies, it gradually became the de facto capital of the federal territory of Acre, inspiring the Yaco river rubber barons to call it the "queen of Acre," directly provoking the other departmental capitals.

The mayor of Alto Juruá, General Thaumaturgo de Azevedo (1905-1907), set about promoting Cruzeiro do Sul, then the capital of Juruá. Standing two hundred meters above sea level, as Azevedo explained in one of his reports, "malaria, which is such a bane in the Amazon, is almost unheard of in Juruá" (Alto Juruá, 1906, p.84).<sup>1</sup> He boasted about the local temperatures, indicating that it enjoyed a milder climate than elsewhere in the Brazilian Amazon. The department of Alto Juruá was also the target of major investments in education. Several primary schools were built there, and in 1906 plans were made for the first museum of the territory of Acre, Museu Acreano, although it never got off the drawing board (Alto Juruá, 1906, p.140). In 1908, the first secondary school in the territory of Acre, Liceu Afonso Penna, was founded, but was short-lived. The main outcome of the decision to invest in education in the bid to make Cruzeiro do Sul the most attractive option for the future capital of Acre was to get a greater number of children enrolled in local schools (Território do Acre, 1922, p.11).

It was only in 1910 that the department of Alto Acre effectively entered the race. With a rubber baron, Deoclesiano Coelho de Souza (1909-1914), as its mayor, the administration put every effort into showing the Union that Rio Branco, then the capital of Alto Acre, was the best choice of capital for the future state of Acre. In his first report to the Ministry of Justice and Internal Affairs, Souza severely criticized its rival, Sena Madureira. His argument homed in on one inherent weakness of the town: the navigability of the Yaco river. The problem had already been identified by Mayor Cândido Mariano, he explained, in a report for the Ministry of Justice, in which he stressed that correspondence rarely

reached Sena Madureira during the low-water period of the Yaco river, leaving the Purus authorities “without news of the rest of Brazil” (Alto Purus, 1906, p.69). Rio Branco had another advantage: it was on Acre river, the most populous in the region.

Throughout the period when Acre was divided into departments (1904-1920), the battle of the rivers took shape not only as a dispute amongst the leading rubber barons from the same departments for control of their respective capitals, but also as a tussle between the departmental seats to be named the capital of the future state of Acre. These disputes affected and involved the residents of these areas and especially the federal government agents sent there. One example of the kind of harassment such agents suffered and how they were involved, albeit unwittingly, in the political struggles between the river barons can be found in the documents of the Oswaldo Cruz Institute expedition, which crossed the Amazon valley between October 1912 and April 1913. The representatives of the Yaco river rubber barons based in Sena Madureira won over the members of the commission, headed by Carlos Chagas. As a result, their report, written for the federal government, enhanced the image of the capital of Purus as the most salubrious city in the territory of Acre.

### **Carlos Chagas and the “war of the rivers” in Sena Madureira**

On November 9, 1912, the federal government appointed the Yaco-based judge and rubber baron, Bernardo Magalhães da Silva Porto, as the acting mayor of Alto Purus. His appointment came shortly after a total amnesty for the members of a pro-autonomy uprising in May-July 1912 and the removal of Mayor Tristão Araripe from office. It was an attempt by the federal government to impose peace on the department.

Tristão de Araripe’s appointment as the mayor of Alto Purus in March 1912 by the Hermes da Fonseca government triggered political commotion. Araripe had sided with the Gadelha brothers and spoken out openly against the Yaco-based elites. In May 1912, Colonel Childerico José Fernandes led an episode known as the “Alto Purus autonomist uprising” in which, thanks to several rubber barons, the mayor was overthrown and the free state of Acre was declared. This episode was only quelled by the intervention of federal troops sent by the government, who fought the rebels alongside armed men from Caeté river. The Yaco river forces lost the battle and several of the rubber barons, including Childerico Fernandes, were imprisoned (Telegramas, 9 jun. 1912). However, in August 1912 the Federal Supreme Court granted *habeas corpus* for all those involved directly and indirectly in the armed movement in May 1912 (Atos..., 15 set. 1912). Realizing that the uprising had been fueled more by local political rivalries than any real aspirations for state autonomy, the federal government decided to retreat. In November, Tristão Araripe was removed from the mayorship of the department and his administration was replaced with people close to Colonel Childerico Fernandes, thereby pacifying the department (Vital, 2016, p.247).

The first issue of the official Alto Purus town hall newspaper under the administration of Bernardo Porto called for the people to embark on a new era of peace in the department, stressing the Yaco elites’ willingness to let bygones be bygones – in a clear allusion to the pro-autonomy group that supported the former mayor, Tristão Araripe (Paz..., 24 nov.



1912). Despite this discourse of appeasement, Laudelino Benigno and other supporters of Araripe fled Sena Madureira the moment he was removed from power.

At this time, the Oswaldo Cruz Institute commission was already voyaging along the Amazonian rivers. Porto appointed the pharmacologist Rui de Alencar Matos as provisional director of hygiene (Atos..., 24 nov. 1912). In the run-up to the commission’s arrival, the Hygiene Department passed three clean-up orders in the second half of November (Atos..., 8 dez. 1912). On December 8, Astolpho Margarido da Silva reached Sena Madureira, having been released from prison in Manaus, and took over as the new director of hygiene (Vital, 2016, p.137-138). In preparation for the commission’s arrival in the town, the department affixed notices in public places on January 16 ordering home owners and tenants to clear their backyards and land. Undergrowth had to be cleared, potholes filled in, and waste removed, especially cans and bottles, which could retain rainwater. The deadline for this was 15 days and the fine for non-compliance was two hundred mil-réis (Getúlio, 20 jan. 1913).

Just two days after the order had been published, the Department of Hygiene had issued 74 orders to clear land and backyards (Atos..., 20 jan. 1913). This shows just how much disruption the imminent arrival of the commission must have caused to the town residents. After the commission left Sena Madureira, the Department of Hygiene extended the deadlines for clearing undergrowth and clearing the land, and there are no extant records of any fines (Atos..., 2 mar. 1913).

On January 18, 1913, Carlos Chagas, Pacheco Leão, and João Pedroso disembarked in Sena Madureira. It was the last town on their journey through the territory of Acre. The newspaper *O Alto Purus* reported that the commission was received by the mayor, Bernardo Porto, the senior judge Alberto Diniz, the judge Gustavo Farnese, and the director of hygiene, Astolpho Margarido da Silva, who promised to offer them “comfortable accommodation on land” (Comissão..., 20 jan. 1913).

One interesting feature of the news coverage is how the careers of the respective commission members were reported on. There were four paragraphs on Carlos Chagas, giving particular attention to the recent discovery of Chagas disease, his participation in the Hygiene Exhibition in Dresden, Germany, in 1910, and his recent receipt of the Schaudinn prize in Hamburg. The careers of Pacheco Leão and João Pedroso were sketched out in two short paragraphs (Comissão..., 20 jan. 1913). The way they were depicted indicates that the Sena Madureira authorities clearly had Carlos Chagas in their sights, not only because he headed the commission, but because of the prestige he had acquired in scientific circles in Brazil and abroad. More than likely, Astolpho Margarido and the other officials from the department were bent on making Chagas an ally, whether knowingly or not, of the Yaco elites’ political pretensions.

Carlos Chagas was by then 34 years of age. He had earned a degree from the Faculty of Medicine of Rio de Janeiro in 1903, and since 1902 had worked at the Oswaldo Cruz Institute. It was in April 1909 that his great discovery of the etiology of the vector of what came to be called American trypanosomiasis, or Chagas disease, was published in different Brazilian academic circles, lifting his career to unprecedented heights. In 1910 he passed the competition for “head of service” at the Oswaldo Cruz Institute and was admitted to the ranks of the National Academy of Medicine (Academia Nacional de Medicina), broadening his

influence both inside and outside the institute. In 1911 he presented his experiences at the International Exhibition of Hygiene and Demographics in Dresden, Germany, and in June 1912 he won the Schaudinn prize, which was awarded every four years by the Institute of Maritime and Tropical Diseases in Hamburg for outstanding work in the area of protozoology.<sup>2</sup> In other words, by the time of his trip to Acre, Chagas had spent at least two years rubbing shoulders with the great and the good of Brazil and elsewhere, thanks to his discovery. To have a physician of his caliber attest to the salubrious nature of Sena Madureira and the capacity of its officials, with the support of the Yaco river rubber barons, to build a healthy city appropriate for living in the region would do wonders for Sena Madureira's image with the federal government.

On January 19, Mayor Bernardo Porto offered a banquet in honor of the expedition. Most members of the government and other prominent figures from the region were invited, including the judges Alberto Diniz, Virgolino Alencar, and Gustavo Farnese. The mayor, the aforementioned judges, and the director of hygiene, Astolpho Margarido da Silva, all gave speeches in which they warmly supported the commission's work. The commission members "thanked, with words of praise, the courteous deference with which the host of the banquet, Dr. Bernardo Porto, had honored them" (Comissão..., 2 fev. 1913). The following day, a Sunday, the commission set off from Sena Madureira for Manaus.

The political malcontents amongst the Yaco elites were fully aware of what Carlos Chagas's visit to Sena Madureira meant, and were quick to take action. On January 19, the judge Daniel Vieira Carneiro, aligned with the emancipationists who had supported the former mayor, Tristão Araripe, sent Carlos Chagas a letter. This correspondence is in the Carlos Chagas archive at the Department of Archives and Documentation of Casa de Oswaldo Cruz, which means Chagas certainly received it, probably read it, and decided it was worth keeping. Carneiro had worked in the department of Alto Purus since the Cândido José Mariano administration (1905-1911), and by 1911 he was a substitute judge (Cavalcanti, 18 jul. 1915). In January 1913, Daniel Carneiro was a fugitive in Boca do Caeté and felt it to be his "imperative duty ... to direct these lines about the things and the men of this land" to Carlos Chagas (Carneiro, 19 dez. 1913).

Carneiro opens the letter with the explanation that he was sending it in the fear that Chagas would quickly be taken in by "false appearances, not about scientific data, but about the composition of this city in formation." He interrupts this subject to express his regret that he could not meet him personally, and refers to Chagas as one of the "most celebrated talents of the modern generation of my country." He then justifies his absence, swearing on the lives of his three small children that, since the commission's arrival, he had been prevented from circulating freely around Sena Madureira because of the "pressure of vile hatreds in conflict" (Carneiro, 19 dez. 1913).

He explains that no sooner had he and other people headed for the wharf to greet the commission members than he had been forcibly prevented from doing so by armed henchmen, who were allowed to range the city with the acquiescence of the mayor and Judge Alberto Diniz. He goes on to say that this came about because he was "disaffected with the prevailing situation" (Carneiro, 19 dez. 1913). He also mentions that Judge Gustavo Farnese was a member of the opposition, but he was forced to maintain friendly relations

with Alberto Diniz, which was why he was allowed to attend the luncheon hosted by Bernardo Porto.

Carneiro also writes that the people in the public jail had been released on the eve of Chagas's arrival as a threat to the judges who were not aligned with the town hall, arguing that this was one of the proofs of the non-existence of civilized life in Purus. He adds that in his first clash with the local authorities, he unleashed "the ferocity of instincts in their unaltered primitive state, the bestiality of burning hatred and tireless actions driven by ambition" (Carneiro, 19 dez. 1913). This account culminates with the case of a man called Franklin Passos, whom Carneiro had found guilty and for whom an arrest warrant had been issued, but who was seen walking around in daylight hours and still sent written death threats to the judge for having convicted him (Carneiro, 19 dez. 1913).

Later, Daniel Carneiro (19 dez. 1913) explains why he felt bound to write that letter and what he hoped from Carlos Chagas:

All this I must tell you in order to guide your observations more clearly, so you may compare my statements with the truth that seems to you to be from the best source.

I am aware that you came to Sena Madureira on the service of medical science and that, as a prodigy, you have surpassed the highest levels.

In this transcendent task, you should devote studies not just to well-being of a physical order, but, equally, of our moral order here, seeking out in the very ecological circumstances the profound modifications that affect it under the direct action of man, unlike the other environments where nature is not reshaped and is not altered within sight of the explorer.

Here the work of the human is capital. To transform physical phenomena and prepare the conditions for moral health, which we need in equal measure here.

In this part, Daniel Carneiro draws on a certain naturalistic view (of man as a product of his environment) to suggest that the eminent physician should also analyze what he called the "moral health" of the residents and officials in Sena Madureira. In just one paragraph, his argument calls forth not just the perceptible material dynamism of the Amazonian environment, but also a very broad set of ideas on climatic and environmental determinism, which, as early as the eighteenth century, had associated the moral and even racial degeneration of humans to the climate in tropical regions.<sup>3</sup> However, these argument must have been less persuasive here for two reasons. A few years later Carlos Chagas joined a movement of medical men and intellectuals who held that the root causes of the sufferings of populations living in inland Brazil were actually diseases and government neglect, roundly rejecting the ideas of climatic and environmental determinism.<sup>4</sup> Also, it was explicit in Carneiro's text that his focus was not on the physical or moral health of the people of Yaco, but the supposed immorality of a small portion of its inhabitants, to wit, the political elites on that river, who governed in Sena Madureira.

In the last part of the letter, Daniel Carneiro appeals to what he assumes to be Chagas's observational nature by trying to convince him of the random acts committed by the ruling classes in Sena Madureira at that time: "Did you notice the damage caused by gunshots on many houses, some with pockmarked walls? This is all solely the work of the current rulers." He then laments the Union's decision to put them in power, abandoning him and

everyone else who struggled for legality alongside the army troops, saying that he was in Boca do Caeté awaiting the first steamboat headed for Manaus. Carneiro also asks Carlos Chagas for a “ride” on the steamboat taking him to Manaus, promising to provide further details on the situation sketched out in the letter (Carneiro, 19 dez. 1913).

Daniel Carneiro’s attempt to touch Chagas’s sensibilities does not seem to have had the desired effect. Indeed, it could well have had quite the opposite effect, since no mention is made of the political group who opposed the ruling elites in Yaco in the notes or the manuscript report signed by the commission members.

The handwritten version of Chagas’s report does contain some brief comments on the political clashes in some settlements in the state of Amazonas where there had been bloodshed. These comments were edited out of the final version of the report by Oswaldo Cruz, and are the most revealing indications of the commission members’ interactions, impressions, feelings, and positions in their dealings with the leading political players along the Amazonian waterways. A case in point is Chagas’s observations about the political struggles in Antimari (Floriano Peixoto), a settlement on the Acre river inside the borders of the state of Amazonas:

In this village there have been great political struggles between local groups who fight over administrative predominance. And not long ago the village was attacked by a rubber tapper [baron?] from the neighborhood in the company of several henchmen, because of a political disagreement with the big boss. There was therefore actual gunfire between the opposing groups, resulting in several deaths (Chagas, Leão, Pedroso, s.d., s.p.).

In the part about the capitals of Alto Acre and Alto Purus, the narrative is quite different from the accounts of the settlements in inland Amazonas state. In this case, warm praise is heaped on the local politicians. The commission wrote the following about the mayor of the department of Alto Acre:

The current mayor of Alto Acre, Dr. Deocleciano Coelho de Souza, is a very cultivated young man, very active, and apparently well guided on administrative issues. He enjoys the widespread esteem of his constituents, from all of whom flattering references were heard about his government orientation, his honesty and tolerance (Chagas, Leão, Pedroso, s.d., s.p.).

These observations were removed from the final version of the report. In the case of Rio Branco, the commission clearly supported the local government, run by a rubber baron from Acre river (Vital, 2016, p.113). In the next passage, also cut from the final version, the report clarifies the mayor’s role in gathering background information for the commission’s work and in welcoming its members. Mayor Deocleciano Coelho de Souza earns the authors’ praise for “giving us the information we needed about the current-day population of the territory, lethality, the life of the rubber tappers, the output and income of Acre etc.” (Chagas, Leão, Pedroso, s.d., s.p.).

The parts edited from the final report show just how hard it was for the commission to remain neutral in its dealings with the people in Acre, especially in view of the constant demonstrations of amiability on the part of the local medical and political elites. The

part in which the commission members record the names of the doctors working in Rio Branco is particularly revealing. In the final version of the report, the section reads: "Three colleagues practice medicine in Rio Branco, with great proficiency. The federal force also has its doctor" (Brasil, 1913, p.21). The handwritten version of this part reads as follows:

Three colleagues from whom we received enchanting demonstrations of cordiality practice medicine in Rio Branco, with great proficiency. One of them, Dr. Leone Menescal was an academic assistant at the Yellow Fever Prophylaxis Service. Another, Dr. Domingues Carneiro, has some notions of clinical microscopy and is an adept medical practitioner, certainly having a very rational spirit of observation. The 3<sup>rd</sup> colleague, Dr. Fabiano Alves, also scholarly, executes the functions of Director of Hygiene in the Department. The federal force also has a doctor, Dr. Ferreira Braga with whom we were on friendly terms (Chagas, Leão, Pedroso, s.d., s.p.).

Despite the expressions of empathy towards some Acre river physicians and officials and the letter sent by Daniel Carneiro, Sena Madureira was the place about which most positive information was provided in the manuscript and final versions of the report. The section about the Yaco river is very short (less than one page long, divided into thirteen paragraphs) and it only covers the capital of the department of Purus, making absolutely no mention of Boca do Caeté, at the confluence of the Yaco and Caeté rivers. In the final version of the report, Sena Madureira is described as a town that "has a level of comfort that is incomparably superior to that of all the other towns the commission knows in the Amazon valley" (Brasil, 1913, p.30). The commission members further reported that the capital of Purus had good topographic conditions for its embellishment and sanitation, and praised the layout of its roads and squares, its rainwater drainage system, and the interiors and façades of the houses, which were "very comfortable and of a pleasing appearance" (p.30).

The commission also drew some direct comparisons between certain social and economic features of the Yaco, Acre, and Purus rivers – which, as we have seen, were in a constant state of mutual competition:

Life in this town, albeit very costly, is not as much as it is in the towns of Acre ... The Yaco river is one of the richest in rubber, almost on a par in this respect with Acre river. The same cannot be said for the part of the Purus river, between the mouths of the Acre and the Yaco. A zone of labor in clear decadence, the rubber production huts there, for their appearance, translate well the lack of economic prosperity in this section of the river. In contrast, the Yaco river is prosperous, and along its banks there are major rubber estates and the river is well inhabited (Brasil, 1913, p.30).

Both sections indicate, albeit without expressing it directly, that Sena Madureira had what it would take to be the capital of a unified state. In the parts of the report on Rio Branco and Xapuri (the two towns in the department of Alto Acre), little mention is made of their topographical potential for "embellishment" or "sanitation." Indeed, part of Rio Branco is mentioned as being prone to flooding when the water level was high (the district of Empresa) and the same applied to Xapuri. As for Acre river, the commission reported that "it is one of the biggest centers of morbidity in the Amazon ... and its reputation as the top death trap, which it has had since it was first explored, is well justified" (Brasil,

1913, p.22). Commenting on malaria in Sena Madureira, the commission indicated that its prevalence was “incomparably lower than in the towns of Acre and Purus” (Brasil, 1913, p.30). Sena Madureira was thus portrayed in the report as being propitious for its “embellishment and sanitation,” more than likely in reference to the developments made in cities like Belém and Manaus at the turn of the twentieth century, and with a town center with better sanitation and basic infrastructure than the towns with which it vied to be named the capital of a future state. These observations would have strengthened the arguments of the Yaco ruling classes from Sena Madureira that it was indeed the most salubrious town in the region.

The final version of the report mentions a “scholarly clinician” who provided medical care in the department of Alto Purus. In the handwritten version, this person is named as doctor Astolpho Margarido (Chagas, Leão, Pedroso, s.d.). The commission members, reporting on the reception they received from the Purus government, said they were greeted by Bernardo Porto and members of the local judiciary, receiving from them all an “exceptional welcome, where they heard the most flattering references to the sanitary and scientific work of the Director of the Oswaldo Cruz Institute” (Chagas, Leão, Pedroso, s.d., s.p.).

We might speculate that the compliments expressed about the work of the Oswaldo Cruz Institute made the commission members more favorably inclined towards the representatives of the Yaco river estate owners. They were not, it should be noted, well received everywhere they went. At the Sebastopol estate, in the middle Purus, for instance, according to the final version, the manager refused to give any information on the state of local sanitation, while the manuscript version adds that this person was a “rude, bad-tempered individual” (Chagas, Leão, Pedroso, s.d., s.p.). No mention is made of their receiving such warm welcomes as they did at Rio Branco and Sena Madureira anywhere else in the Purus river basin.

Before the commission reached Sena Madureira, they passed by Boca do Caeté (about an hour away), but in none of the reports is there any mention whatsoever about this small settlement. Nor, indeed, is there any reference to the rubber estates along the Yaco river between the confluence of the Purus and the town of Sena Madureira (where Boca do Caeté was situated). Did they decide not to disembark at Boca do Caeté? If so, why? And if they did disembark, why did they not mention it? Whatever the reason, their silence with respect to this settlement was again to the benefit of the Yaco river elites, because Boca do Caeté was the main stronghold of those who were against the governments supported by the Yaco-based rubber barons.

In February 1913, Carlos Chagas was a well-known public figure and surely could not have been a naive character. What would the consequences have been if he had given voice to minority political voices from a federal territory in a report signed by Oswaldo Cruz? The risk of incurring the displeasure of the hegemonic oligarchs in the territory could have been great, and this could have had serious political consequences in the short and mid-term if Acre was to become a state. It could well have been these macropolitical circumstances that explain the praise the report heaped on the mayors of the departments of Acre and Purus. Informally recognized as the capital of the federal territory, Sena Madureira garnered

the most exalted praise for its infrastructure and administrators, even if the commission members were there for just two days. In other words, Carlos Chagas made the decision to side with the groups who controlled the town halls and not to upset the status quo. This must be why, in the final version of the *Report on the medical and sanitary conditions in the Amazon Valley*, the picture painted of Sena Madureira as the most salubrious, most comfortable town in the inland parts of the Amazon basin is so striking.

The report explicitly cites how an “incomparably lower” number of people required medical attention for diseases in Sena Madureira. The commission members did not voyage up to the middle or upper Yaco, putting absolute faith in the “very precise indications of a doctor who travels along the whole river,” who must have been Astolpho Margarido da Silva (Brasil, 1913, p.30). January, February, and March were the months when the water levels in the rivers were at their highest, and there were no rubber tappers at the production facilities, which was also a good reason for the commission not to carry on upriver. Thus, with the effort of its representatives and the help of the hydrological regime, the rubber barons of the Yaco river successfully won over an important ally in their claim that there was indeed civilized life in the territory of Acre and that this civility emanated from Sena Madureira.

### **Final considerations**

At the National Congress, whenever the “autonomy of Acre” was on the agenda, the deputies debated whether the territory was ready to be made into a state. Being ready meant being able to offer public health services, education, means of communication between towns, urban development, justice, public order, and a settled population. All this was summed up by the congressmen themselves in one question: Is Acre civilized enough to become a state? This is why the rubber barons on the Yaco and other rivers in the territory felt such a need to display symbols of “civilization” in their respective departments.

The Oswaldo Cruz Institute expedition to the Amazon river valley was designed to map out the living conditions of the locals and the diseases they were affected by and put forward sanitation measures for the region. It was part of a broader effort to boost the rubber trade. However, Chagas’s arrival in Acre was also seen as an unparalleled political opportunity for the Yaco river rubber barons to raise the profile of Sena Madureira as a healthful capital. The result was an escalation of the political power struggles in Alto Purus for a narrative that favored both the nomination of Sena Madureira as the future capital of Acre and one of the political groups vying for dominance in the department. In Alto Acre, the result was the political consolidation of the Acre river rubber barons in the administrative apparatus around the figure of the mayor and rubber baron, Deoclesiano de Souza.

Oswaldo Cruz, who reviewed the manuscript signed by Carlos Chagas, Pacheco Leão, and João Pedroso, noticed the tenuous dividing line between the scientific and the political content of the report. At a physical distance from the complex web of tensions, political in-fighting, and flattery that permeated the environment in which the report had been written, Cruz edited out most of the parts that explicitly replicated facts as given by one or other of the local political groups on all manner of subjects. Even so, the report did not shed all the marks of the relationships built up between the expedition members and the

local political leaders, especially on the Yaco river. However good the sanitation of Sena Madureira was, the commission members were there for just two days and offered few paragraphs to actually confirm the image depicted by the Yaco ruling classes. The *Report on the medical and sanitation conditions in the Amazon Valley* may have been a scientific work, but it had profound political implications for the oligarchs along the rivers in the territory of Acre.

## NOTES

<sup>1</sup> In this and other citations of texts from non-English languages, a free translation has been provided.

<sup>2</sup> For further details on Chagas's trajectory, see Kropf (2009, p.64-111).

<sup>3</sup> These ideas were originally propounded by Montesquieu (1689-1755), who noted the apathy and depravation of people dwelling in tropical climes, and were reinforced by Alexander von Humboldt (1769-1859), Carl Philipp von Martius (1794-1868), and other nineteenth century naturalists, who stressed the influence of the climate on the nature of populations. See, for instance, Foucault (1984) and Kury (2001).

<sup>4</sup> For more on the sanitation movement in the First Republic, which resulted in the creation of the Pro-Sanitation League of Brazil (Liga Pró-saneamento do Brasil) between 1917 and 1919, see Lima (1999) and Lima, Hochman (1996).

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