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The development of a train station in tropical Africa: the S. Sebastião Maritime Station in São Tomé Town, São Tomé and Príncipe – cocoa production as catalyst for change

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Introduction

Context and definition

The two islands of São Tomé and Príncipe, in the Gulf of Guinea, off the western equatorial coast of Central Africa, form a Portuguese-speaking island nation. The islands represent one of the least known independent states in the world. Only in the first decade of the 20th century São Tomé and Príncipe, then a Portuguese colony, was internationally well known. Extensive world-wide publicity over the use of de-facto slave labor on the plantations of the islands created an international scandal, made the country infamous for some years.

At the time of these labor scandals, São Tomé and Príncipe was the of the largest cocoa producers of the world. These days, many grand but crumbling plantation houses spread over the islands are a visible reminder of a once thriving cocoa plantation economy, as are a large group of highly diverse buildings at the São Sebastião station yard in São Tomé town, the capital of the country.[1]

The international pressure on Portugal early 20th century aimed at ending the de-facto slave labor plantation workers, made building a state railway on São Tomé and Príncipe an urgent matter. The idea was for the state railway to facilitate optimization of cocoa production, through significantly reducing transportation by manual labor. In 1908 railway building works began on the main island of São Tomé and from 1909 onwards a superb set of railway buildings were erected on a yard in São Tomé town. The complex was known as the S. Sebastião Maritime Station *(Gare Maritima de S. Sebastião),* the main hub for the STP railway. Many of these buildings are still standing, run-down or semi-derelict, or in a few cases well recovered and renovated. No in-depth study has been undertaken of the history of the site and its buildings, this study is the first attempt.

This work, *The development of a train station in tropical Africa: the* S. *Sebastião Maritime Station in São Tome Town, São Tomé and Príncipe – cocoa production as catalyst for change,* is the result of a research project on the history of the S. Sebastião station yard, and the architectural merits of its buildings. The different construction phases of its individual structures are taken into consideration. The functions of the buildings and the architectural influences are assessed within these arguments. The current architectural legacy in existence at the station yard lies within the orbit of this research project, and is duly investigated.

The architecture of these railway buildings is not seen in isolation; they can only be explained in the context of the specific social, political and economic conditions. Hence this study strives to understand how the state railway came about, with the S. Sebastião Maritime Station as its main hub. This invited me to investigate the roça agricultural estates, which provided cocoa in such great quantities that eventually a state rail infrastructure was needed to service them. My focus is on how these roças functioned and on their formal architectural quality. A few of the most remarkable roças are singled out for discussion in detail.

[1] São Sebastião is hereafter referred to as S. Sebastião.

The structure of my thesis is as follows. The first chapter provides an historical context of São Tomé and Príncipe, from the discovery by the Portuguese in the 15th century to its heyday as a plantation powerhouse around 1900, when the cocoa production was booming; to such extent that São Tomé and Príncipe had become the largest producer in the world.

The second chapter describes how the plantations on São Tomé and Príncipe, locally referred to as roças, functioned. Within this framework, the architectural details and ornamentation of some of the of the most remarkable roças are discussed. The socio-political context of the Saotomean plantation economy during the cocoa boom is thereby examined, triggering the decision to build the state railway for the country.

In the next chapter the focus is on the planning and construction of the Saotomean state railway. Here it is examined how the planning phase of said railway lead the Portuguese engineers to discover that the urban environment at São Tomé town was extremely insalubrious, bringing about concerted attempts to redesign and clean up this civic environment, with architecture suitable to a tropical climate. This chapter then goes on to discuss the railway that was built, with the extensive S. Sebastião Maritime Station yard as its prestigious center.

Chapter 4 charts the various master plans designed for the S. Sebastião Maritime Station. The final, realized plan for the area is discussed in-depth, whereby the individual buildings of the station area are explored in terms of function and formal architectural quality. Chapter 5 describes the S. Sebastião Maritime Station in its current state. The surviving historic buildings are examined in detail, engaging with significant newer structures.

Finally, the last chapter assesses the current state of built heritage protection on São Tomé and Príncipe vis-à-vis the historic buildings at the station yard. The main factors marking the strong historic international significance of the station yard and the substantial architectural and historic merits of the surviving structures are described. An attempt is made to provide specific recommendations as to how conservation of individual buildings at the yard may lead to intelligent reuse.

The work ends with a formal conclusion.

Historiography

The company of authors who have written on the whole sweep of the history of São Tomé and Príncipe (STP) is small. Among the best books are Tony Hodges' and Malyn Newitt's *São Tomé and Principe. From Plantation Colony to Microstate* (Boulder, 2008) and Isabel Castro Henriques's *São Tomé e Príncipe: A Invenção de uma Sociedade* (Lisboa, 2000) In preparing this study, I also consulted Francisco Tenreiros' *A Ilha de São Tomé* (Lisbon, 1961).

Fortunately, a number of useful collective studies of the history of the Portuguese empire

with ample focus on STP do exist. Among the best is A. R. Disney's *A History of Portugal and the Portuguese Empire - The Portuguese Empire* (New York, 2009), with a distinguished contribution on the history of STP until early 19th century. W.G. Clarence-Smith writes refreshingly and candidly about the plantocracy on STP and its economic impact in *The Third Portuguese Empire 1825-1975: A Study in Economic Imperialism* (Manchester, 1985), as well as in *Cocoa and Chocolate 1765-1914* (New York, 2000). Catherine Higgs' *Chocolate Islands: Cocoa, Slavery and Colonial Africa* (Athens, 2008) provides substantial insights on the how the Portuguese plantations on STP functioned, and on its critics. Through pointed observations on roça infrastructures with comparisons between STP and various Caribbean islands, chocolate producer William Cadbury's *Labour in Portuguese West Africa* (London, 1910) provides an unique eye-witness account. Worthy of mention too is Malyn Newitt"s *Portugal in Africa: The Last Hundred Years* (London, 1980).

Specifically on plantation economies, Philip Curtins' *The rise and fall of the Plantation* (Cambridge, 1990) provides thoughtful writing on the functioning of plantations in the tropics, as set up by planters from the main colonial powers. R. J. Hammond's, *Portugal and Africa 1815-1910/A study in uneconomic imperialism* (Stanford, 1966) delivers an unsentimental view of Portuguese plantation politics. The working and living conditions at a Saotomean roça are the subject of planter Henrique de Mendonça's book *The Boa Entrada Plantations: S. Thomé, Portuguese West Africa, "La Perle Des Colonies Portugaises"* (Edinburgh and London, 1907). It is a sentimental account, aimed at the time to enhance Portugal's international standing as a colonial power.

There are three specialized monographs on Saotomean architecture, all recent publications. Jose Manual Fernandes's *São Tomé and Príncipe, Cities, Terrain and Architecture* (Lisbon, 2014) is the best and most accessible introduction to Saotomean architecture from its early beginnings to the 21st century. João Sousa Morais's and Joana Bastos Malheiro's work *São Tomé e Príncipe – Património Arquitectónico* (Lisboa, 2013) is a beatifully presented volume. It explores Saotomean architecture from the early to mid-20th century in-depth. Here a detailed account of the difficulties of getting the state railway constructed is provided, with detailed focus on Ezequiel de Campos, the leading engineer working on infrastructural projects on STP and principal advocate of the STP railway. Thoughtful insights into Campos's plans for improved urban planning in Sao Tome city are provided. The S. Sebastião station yard just receives a few cursory remarks, however. For individual roça plans coupled with many sumptuous photographs, but fewer words, Duarte Pape's and Rodrigo Rebelo de Andrade's *As Roças de São Tomé e Príncip*e (Lisboa, 2013) is a good general introduction to its subject.

Architectural expressions on plantation societies in the Caribbean, and Southern US significantly influenced the building styles of Roça estate houses and workers housing at the S. Sebastião Maritime Station. Among the best introductions to the architecture of the main building types on Caribbean islands is Edward Crain's *Historic Architecture in the Caribbean Islands* (Gainesville, 1994). Michael Connors' *Caribbean Houses: History, Style, and Architecture* (New York, 2009) represents a thoughtful study on the architecture of plantation houses and urban mansions on prominent Caribbean islands, the book is superbly illustrated. John Lawrence's *Creole Houses: Traditional Homes of Old Louisiana* (New York, 2007) discusses the architectural styles of the main surviving plantation buildings in Louisiana, with lavish images. I also consulted Virginia McAlester's, *A Field Guide to American Houses* (New York 2014), useful for identifying and sourcing historic architectural styles, variants and details.

Although railway buildings have been with us for nearly 200 years, their architecture has not received the same attention as for example churches, palaces, country estates or generic housing. Nevertheless, some distinguished and comprehensive surveys regarding American and European railway architecture exist. Among the best is Carroll Meeks' The Railroad Station: An Architectural History (New York, 1956), which deals extensively with the evolution of the architecture of the railroad stations in both Europe and America, from the 1830s to the 1950s. Andrew Saint's 'book *Architect and Engineer A Study in Sibling Rivalry* (New Haven and London, 2007) examines the history of large infrastructural buildings in Europe and the US, and thereby provides a detailed account of the building history of various railway stations in the US and Europe.

As an area history concerning railways, João Paulo Martins ed., *O Caminho de Ferro Revisitado: O Caminho de Ferro em Portugal de 1856 a 1996* (Lisboa, 1996) takes the form of a series of thematic essays on the history of railways in Portugal, including one on the architecture of stations. As a pictorial overview of Portuguese train stations from late 19th century to the 1st half of the 20th century, Jorge Branco's *Estações Ferroviárias Portuguesas em Postais Ilustrados Antigos* (Lisboa, 2006) is of note.

The architectural practice of railway buildings on the African continent seems to have been overlooked by architectural historians. Those work of note concerning railways that exist, emphasize train working, locomotives or the history of a particular railway. As a broad outline of the history of Adrian railways, A.E. Durrant's, A E & Lewis, and C. P. Jorgensen's *Steam in Africa*, (London, 1981) is a useful general introduction. E.T. Honig's, *Railway networks in West Africa* (Krefeld, 1988) provides maps and images of railway lines in West Africa, including STP.

There are a few area histories concerning railways in individual African countries. In preparing this study I consulted Salomão Vieira's *Caminhos-de-ferro em S. Tomé e Príncipe* (Lisboa, 2005), which delivers a refreshing review of how the STP railway came about, from the early planning stages to decommissioning. Fernand Lebbe's, *Au fil du rail, l'histoire des chemins de fer au Congo* (Brussels, 1950) is useful, given that the Portuguese engineers working at the *São* Sebastião Maritime Station yard were using station typologies as in used in the former Belgian Congo.

For eye-witness accounts on the state of affairs on STP during the early 20th century, I consulted various works by engineer Ezequiel de Campos. De Campos was a prolific writer, who provided illuminating accounts of many issues linked to the public railway system on STP. Among the various works Campos wrote, *Viação de S.Tomé. Apontamentos* (Porto, 1904) deals succinctly with the business case for the railway, and provides a detailed outline as to how the railway system should be organized. Campos' *Melhoramentos publicos na Ilha de S. Thomé: apontamentos ligeiros* (Porto, 1910) covers his proposals for urban renewal of Sao Tome town, as well as a fleshed-out project plan for the S. Sebastião Maritime Station, including functional specifications per individual building at the site. Remarkably, this work is unfailingly and explicitly critical about Portuguese policies with the ambit of colonial expansion. As a survey of building works in progress at the S. Sebastião Maritime Station, with bracing critiques directed at the local Saotomean administation, Campos delivers refreshing assessments in *Obras Públicas de S. Thomé: plano de melhoramentos locaes, projectos de leis* (Lisboa, 1912).

The evolution of Campos' thinking on infrastructural works for STP is reviewed in Teresa Nunes' comprehensive work *O ideário republicano de Ezequiel de Campos: (1900-1919)* (Lisboa, 2011).

Last but not least, I am indebted to the *Arquivo Histórico Ultramarino* in Lisbon and the *Arquivo Histórico de São Tomé e Príncipe* in São Tomé town, where many official documents linked directly and indirectly to the construction of the S. Sebastião station yard at São Tomé town have been stored.

1. Historical context São Tomé and Príncipe

Fig. 1 - Map of São Tomé e Principe, circa 2000.

São Tomé and Príncipe, officially the Democratic Republic of São Tomé and Príncipe, is a Portuguese-speaking island nation in the Gulf of Guinea, off the western equatorial coast of Central Africa. It consists of two archipelagos around the two main islands, São Tomé and Príncipe, located about 140 kilometers apart. These islands are situated about 250 and 225 kilometers respectively, off the north-western coast of the country Gabon on the main African continent. The islands form an archipelago of slightly over 1000 square kilometers, with a population of around 193.000 (2013).[2] It is a multi-party democracy, and a peaceful and non-violent society. This is a poor country; in the United Nations' 2013 *Human Development Report* from 2013 the country was ranked 144, out of 187 countries.[3] The funding of the national budget is largely realized through foreign aid. The main cash crop for export is cocoa.

[2] According to Worldbank data - http://www.worldbank.org/en/country/saotome
[3] According to United Nations data - http://hdr.undp.org/sites/default/files/Country-Profiles/STP.pdf

Colonization by the Portuguese

São Tomé and Príncipe are part of an island chain with Ano Bom and Fernando Po (now Bioko), which were discovered by Portuguese navigators around 1470. Then they were, and to a large extent they still are now, lush tropical islands with high rainfall, waterfalls and exuberant vegetation. Many fast flowing streams on the islands keep the soils very rich and fertile. Mountains, plateaus, lowlands, forests, rivers and beaches dominate the land.

Settlement really started to shape up in the 1490's when hundreds of Jewish children were transported from Portugal to São Tomé. These children had been removed from their parents care during a period of renewed persecution of Jews in Portugal. They were settled on the site of the Bay of Ana Chaves (*Baía Ana Chaves*), where now the present town of São Tomé (*São Tomé Cidade*) stands. It was and still is a dramatic location. From the bay one could and still can see bold, green mountain outlines, often shrouded in mist, and the bay itself offering a vista of colours in various hues of blue.

In those pioneering days, around 600 of these children survived into the 16th century, thereby forming an important element of the island population.[4] In order to grow the population, these settlers from Portugal were given an imported female African slave, so that they would procreate. More settlers were imported in the beginning of the 16th century: convicts who were also given a slave for breeding purposes.

Sugar cane economy and aftermath

Between 1490 and the 1630s an economic model was pursued based on two pillars, i.e. being a port of call for slave trade, with as the 2nd pillar exploiting sugar cane plantations, sustained by slave labor. The sugar cane cycle reached its peak in mid to late 16 century, thereafter a slowly decline during the 17th century set in.[5] Economic prosperity gradually declined too, caused by a fall in sugar output and external disruption through attacks by the Dutch and the ensuing Dutch occupation of the island from 1637 to 1648. An economic slump persisted through the 17th century and 18th century. The effect was that the sugar plantations on the islands were reduced to subsistence agriculture. What prosperity there was came from the slave trade, whereby islanders were buying slaves along the coast of mainland Africa, with São Tomé acting as a slave trade entrepot, for slaves on their way to Brazil.[6] In 1750s the main seat of government moved from São Tomé town to Santo Antonio on the much smaller island of Principe. Santo Antonio was a town with a better harbour and a healthier climate, since this town was not surrounded by swamps.

[4] Hodges & Newitt 1988, p. 18.
[5] Disney 2009, pp. 113-114.
[6] Hodges & Newitt 1988, pp. 24-25.

Fig. 2. The town of São Tomé along the Bay of Ana Chaves, circa 1650. Note the settlement top right "Suijker moolen'', which is Dutch for sugar mill.

After the Napoleonic wars in the 1st quarter of the 19th century, a slow improvement of economic conditions set in. Following an influx of Portuguese colonist from Brazil, cocoa and coffee planting was introduced to both islands, and farmers gradually started to produce these crops, with growing success.[7] As of the middle of the nineteenth century the economy commenced to expand, triggered by the development of the coffee and cocoa crops, eventually leading to a cocoa-fueled economic boom.

Cacao production economy - 1880-1920

Around 1850, a steady rise in world demand for African tropical products had triggered a revival of plantation agriculture in many parts of tropical Africa. Specifically in São Tomé and Príncipe (STP), rising market prices for products like coffee, cocoa and palm oil lead creole merchants on the islands to commence plantation agriculture, initially by bringing the former sugar growing areas back into cultivation. At first coffee, introduced to the island of Principe around 1800, became the predominant crop. After the 1880s cocoa became substantially more important than coffee.

[7] Fernandes & De Lurdes Janeiro & De Andrade & Pape 2013, p. 11.

The reasons for cocoa to overtake coffee in production were straightforward: cocoa was easier to grow and had become significantly more lucrative than coffee, given the steadily increasing market prices for cocoa. Cocoa beans had become a significant raw material for the Western food industry, in particular after Roderich Lindt (1855-1909) in Switzerland invented a form of melted chocolate.[8] The British market gave the cocoa production another boost, when the Cadbury Company in the UK began producing solid chocolates in 1866 in the UK, with great success.[9]

Hence cocoa production saw a rapid growth that was to last until the end of the World War I in 1918. Already from 1900 onwards, STP emerged as one the world's largest cocoa producers, producing for years in a row approximately 15% of the world output of cocoa, with as main destination the United Kingdom and Germany. This market dominance would last until the end of the World War I. Official figures show that between 1908 and 1919 annual production of cocoa on STP averaged 31,000 tons.[10] In the 1920's cacao production declined dramatically, and by 1930 export was less than 10.000 tons.[11]

The profits from the colonial trade assisted the colonial 'motherland' Portugal, to balance its books. Portugal had been facing financial difficulties since the 1870s; it had been suffering from chronic budgetary deficits, combined with depressed industrial and agricultural markets. Between 1890 and 1914, half of the re-export of colonial products via Portugal was accounted for by STP cocoa.[12]

[8] Clarence-Smith 2000, p. 55.
[9] Welcome 2013, p.78.
[10] Hodges & Newitt 1988, p. 34.
[11] Hodges & Newitt 1988, pp. 32-33
[12] Hodges & Newitt 1988, pp. 35-36.

2. Ambitious architectural projects 1880-1920

The emergence of grand cocoa plantation complexes: roça's

In the years after the introduction of coffee and cocoa in STP, many farmers established small farms on land scattered in a semicircle around the capital, in the northeast of São Tomé island. The 16th and 17th century sugar plantations, long abandoned since, formed the basis for these new plantations. Growth of production on the islands was initially slow, in particular since many (free) inhabitants of the islands appeared unwilling to undertake plantation work. The plantations were locally referred to as *roças***,** a term which during the heyday of the sugar plantations was used for fields cleared of forest and prepared for agriculture. From the 1880s a real plantation economy emerged, as cocoa exports from STP began to grow at tremendous rates. The Portuguese government was instrumental in facilitating a burgeoning plantation economy, through allowing the sale of state land to Portuguese immigrants with financial means to establish plantations. There were still abandoned, old sugar estates around, and virgin tropical forest was available in abundance. The burst of new planting was mostly realized on freshly cleared land in the north of São Tomé, but gradually moved into the southwest.

The newly arrived Portuguese planter immigrants began their plantations by copying effective smallholder farming methods, but then on a larger scale. They spent their money on the purchase of labour, more land, and on the erection of lavish estate houses. Much less money was spent on improving production methods. With newly acquired capital they built mansions on the plantations at a level of extravagance never seen before on the island. Between 1880 and 1900, huge agricultural roças, with large numbers of slave labourers (serviçais) emerged, coinciding with a rapid growth of cocoa production that lasted until 1919. By the end of the 19th century, there were 28 larger roças, and 200 smaller roça landholdings, nearly all of which produced cacao as the main crop.[13] In 1910 many smaller roças been incorporated by larger ones, and the number of roças had shrunk to 138, still a huge number for such a relatively small island.[14] These estates were mainly owned by Portuguese men who had come to the island as traders. Similar to what had happened in the Carribean, where the great Caribbean sugar and cocoa estates from the 18th and 19th century fueled the economies of many Caribbean islands, the Saotomean roças had become the engines of economic growth of their country. Between 1900 and 1919 STP would be responsible for the production of 10 to 15% of the world's coca output.[15]

[13] Grivetti 2009, p. 551.
[14] Vieira 2005, p. 20..
[15] Hodges & Newitt 1988, p. 33.

Fig. 3. Map of São Tomé, 1891. The north & southeast side of the island (brown color) had been cultivated through roças. The green-colored center & southwest of the island was still uncultivated.

The cocoa boom was indeed not unique to STP. In the fertile tropical settings of Central America, cacao cultivation had spread from Venezuela to the Caribbean in the 17th and 18 the Century.[16] In particular on Caribbean islands like Trinidad, Jamaica, Grenada, Dominica and St Lucia, cocoa plantations had been established already 100 to 150 years prior to those on STP. In these Caribbean locations sugar plantations were initially more dominant, but as market prices for sugar fell and cocoa prices rose, cocoa production boomed after the 1880s and surpassed sugar production, with the cocoa boom tailing off in the 1930s.[17] This was a marked contrast with STP, where a plantation economy was a new thing in the late 19th

[16] Grivetti 2009, p. 482.
[17] Grivetti 2009, pp. 483-486.

century, as commercial sugar planting had been abandoned since the 17th Century.[18] In terms of landscapes, the general appearance of São Tomé around 1900 must have been rather similar to the tropical West Caribbean Islands. British chocolate manufacturer William Cadbury (1867-1957), who visited STP in 1908, noted in his acclaimed book "*Labour in Portuguese West Africa"* written during his tour of STP: "*The general appearance of the island is very similar to that of the West Indian Islands, Grenada, St. Lucia, or Dominica; cultivation nearly to the water's edge, a strip of fairly level country varying in width, and then the deep valleys running up into the central mountain group; the highest peaks constantly veiled in cloud or hanging mist."*[19]

When during the 2nd half of the 19th century the global cocoa boom started, Caribbean plantation islands already had grand estate houses, mostly linked to sugar plantations. On STP at the other hand there was virtually nothing left of its once thriving sugar plantations. With new capital gained from the boost in cocoa production, wealthy planters in the Caribbean commenced building new, and lavish estate houses at a new level of extravagance.

The island of Trinidad, about four times larger than STP and a leading cocoa producer at the time of the boom, is a case in point. Here wealthy elite of cocoa planters built mansions as lavish estate houses (and town houses) at a level of opulence near seen before, between 1870 to 1920.[20] The building boom is strikingly similar to the building boom of Roça estate house on STP, which commenced a few decades later. Further similarities between the Caribbean and STP can be observed regarding the designs of plantations buildings, in particular the large residences belonging to planters or owners of an estate. These similarities will be elaborated on in further depth in the chapter below.

[18] Hodges & Newitt 1988, p. 22 & p. 28.
[19] Cadbury 1910, p. 20.
[20] Welcome 2013, p.79-81..

Fig. 4. Roça landownership on Sao Tomé circa 1918, with large roças like Rio do Ouro and Monte Café clearly demarcated. Note the railway line in black dots, top right from Sao Tomé town, accessing only smaller roças.

Roça architectural design

The generic architectural design of the roça complex reflected the servile Saotomean society order. The buildings were assembled around a gently sloping square, frequently close to the sea. On one side, on the highest part of the square was the main, intermittently grand plantation house, sea facing and overlooking the activities of the roça, thereby reflecting the hierarchic order. The other three sides of the square were made up of smart administrative buildings, cocoa drying sheds, warehouses and rudimentary barracks *(sanzalas),* the latter serving as workers quarters. The roça central courtyard had the effect of concentrating most of the activities of the plantation. At the same it emphasized the fact that the roça-community was a self-contained community. Most roça complexes were located close to the sea, as transporting produce by sea was the easiest thing to do, and roads initially barely existed.

A pattern of land holding enabled the roça owners to diversify production: coffee needs high land and cocoa, the most important crop after the 1880's, is better suited to intermediate altitudes. Palm products on the other hand were grown on the low-lying areas close to the coast. The layout of these plantations with their main buildings close to the sea, with different classes of buildings for the roça inhabitants depending on their ranking, and the stratified production of different crops was the distinctive aspect of the STP roça system.

The fundamental principles for the location of grand plantation buildings were to avoid intense sunlight, to provide shelter from heavy rains and to enable constant ventilation. Hence many of these constructions had wraparound balconies, decorated with ornate fretwork railings. Buildings were frequently covered by hipped roofs, extending out over one or two story verandas, another form of attentiveness to the demands of a tropical climate. Covered and uncovered exterior staircases were common too. Some plantation houses had grand public rooms facing out onto the roça terrain, like Roça Boa Entrada with its striking, now dilapidated, bow window glass-panel facade (fig. 5).

The roça plantation concept with its combination of grand, prestigious buildings for the owners and high-ranking officials, and rather basic buildings for the workers and the storage of agricultural produce was nothing new: it was a throwback variation of plantation structures that existed in regions like tropical South America, the Caribbean, Louisiana, set up by the main colonial powers: the English, French, Dutch, Spanish and Portuguese.

In keeping with this varied origin of the roça concept, the architecture of the main houses on the roças drew inspiration from randomly assorted European styles, complemented with tropical features as used in colonial architecture from earlier established plantation societies in Louisiana and the Caribbean - such as Antigua, Trinidad, Grenada, St Kitts & Nevis and Haiti. The addition of wide, open gallery's (verandas) around colonial houses probably originated in the Caribbean.[21] The frequent use of such open verandas all around plantations houses in Louisiana and many Caribbean islands, in combination with time-honoured French colonial traditions of using a hipped roof extending over these

[21] McAlester 2014, pp.179-186.

verandas and raising houses above grade to escape flooding, were architectural features frequently used on STP for the design of the grand plantation houses.

Fig. 5. Roça Boa Entrada. Note the crumbling, bow-fronted glass paneled facade, and fraying decorative wooden fretwork capping the main roof as well as the dormer windows (2013).

Fig. 6. Roça Boa Entrada overview, circa 1910. The main plantation house is in the centre, overlooking the administrative buildings, drying sheds, warehouses and staff barracks. The detached large building right of centre is the hospital.

Whilst no particular building style was to dominate, elements of the so-called *Swiss Chalet* styles, which were in vogue in the Caribbean as well as Northern Europe and the US during the late 19th century and early 20th century, can be found too on many roça dwellings.[22] Steeply pitched roofs with dormer gables and wooden balconies decorated with intricate fretwork can be seen frequently (figs. 7, 8). The fretwork is often intricate, formed from intricately carved wood. In this tropical context fretwork did not only serve as decoration, it was often also practical. It caused harsh sunlight to be filtered, thereby enabling the interior spaces to be cooled by fresh air.

A striking example of a grand plantation house was Roça Vista Alegra's main house (casa principal), with three-story deep wrap-around verandas and railings showcasing decorative fretwork. This house, built around 1900 and modified since then on a few occasions, may be referred to as a stately home. The building was raised a full story above grade, not only to escape seasonal flooding but also to seek the status of protagonist of the roça complex. The principal facade of the great plantation house faced the central roça square and looked out to the workers houses, farmland and forest beyond. From the north facing facade on would look to cocoa drying trays and the hospital, after the main house the largest building of the complex (figs. 9-16).

The main plantation house of Roça Uba Bubu serves as another suitably grand example of a palatial roça building. Like Roça Vista Alegra's main house, it was a raised building encased by wraparound verandas. It served too as the imposing centre to the eponymous roça complex. An elegant almost floating dual-pitched roof and a grand external stairway leading to the main entrance made for an elegant stately home appearance (fig.17).

Fig. 7. Roça Boa Entrada, detail 1st floor. Note the thin fluted cast-iron door posts, the stained glass motives, cast iron fencing, and the fretwork capping the roof, 2012.

[22] Fernandes 2005, pp.42-43.

Fig. 8. Roça Amparo, the main house with steeply pitched roofs, and decorative wooden fretwork capping the roofs, 2012.

Fig.9. Roça Vista Alegre, facade of the main house circa 2010.

Fig. 10. Roça Vista Alegre, facade of the main house circa 1910.


Fig. 11. Roça Vista Alegre, from left to right: hospital, administrator's house, warehouse (with roof largely gone), circa 2000.

Fig. 12. Roça Vista Alegre circa 1910, from far left to right: hospital, administrator's house, warehouse.

Fig. 13. Roça Vista Alegre circa 1910, cocoa drying trays.

Fig. 14. Roça Vista Alegre circa 1910, workers peeling cocoa.

Fig. 15. Roça Vista Alegre, a bird's eye view circa 2010. Center right is the main plantation house, the largest building of the complex. The large, whitish, space underneath the main house constituted the cocoa drying trays. The rectangular building at bottom picture is the hospital. Situated north of the hospital are the administrator's building, warehouses and then the 2nd administrator's building. The five square buildings grouped next to each other are workers cottages.

Fig. 16. Roça Vista Alegre, workers cottages, circa 2010.

Fig. 17. The main plantation house of Roça Uba Bubu, circa 2010.

Fig. 18 A & B. The main plantation house of Olivier House, New Orleans, Louisiana. This building, dating back to 1820, was demolished in 1950. Identifying architectural features including wraparound verandas, brick columns & dual-pitched hipped roof were used at various STP plantation houses, like Roça Uba Bubu.

Fig. 19. Magnolia Mound plantation house, Baton Ville, Louisiana (current appearance dating back to the 1830s). Identifying features like being raised above grade, a (partial) wraparound veranda, & dual-pitched hipped roof were used at various STP plantation houses, like Roça Uba Bubu.

The small island of Príncipe, about 1/6 the size of the main São Tomé island, is also associated with numerous roças, established in the second half of the nineteenth century and early twentieth century, particularly in the north and centre of the island. Here too these roças were largely agro-industrial, with the main houses designed in a variety of architectural styles.

The most successful planters built the most lavish estates and those emerged not on Principe but on São Tomé island. One of the leading cocoa entrepreneurs was Jose Constantine Dias (1855-1932), who had come to STP around 1870 to work as a shop assistant. By 1910 he was the Marquis of Val Flor, owning roças with an area of over 10.000 hectares, using 4700 contract workers (serviçais), and realizing a yearly production of 3.550 tons of cocoa.[23] The Marquis of Val Flor's main roça, Roça Rio do Ouro, was laid out on a grand, almost regal scale, with its axis from the hospital leading to the main house and the cottages (*chalets*) for the administrative staff (figs. 20-22). The layout may have been inspired by Luigi Van Vitelli's (1700-1773) Caserta palace near Naples in Italy (fig. 23.) The palatial proportions of this roça layout are still visible today. Similarly, the Marquis of Val Flor's Lisbon residence was palatial too, inspired by the grand architecture of the French 2nd Empire.[24]

The main plantation house at Roça Rio do Ouro, imperiously situated on the highest part of the square, was united to the numerous roça buildings like chalets for administrative staff, workers quarters, warehouses and cocoa processing facilities, by means of the principal axial vista. The vistas through the axis culminated with a breath-taking view of the grand hospital building. This main plantation house was demolished in the 1960s, but the view from its situation can still be enjoyed at this time.[25]

Currently the grandest building of Roça Rio do Ouro, renamed Roça Augustinho Neto in the 1970s, is the main hospital, constructed in the 1920s (figs. 20-22, 24, 25). The style of the building is Art Nouveau inflected, with the main facade tensely organised but with touches of frivolity. The rhythmical fenestration, with pairs of double windows crowned by a curving band of white plaster, provided a mannered geometry to the hospital. The architecture of the external principal staircase leading to the main entrance is indebted to the French 2nd Empire style. It is a startling but rather incongruous addition to the hospital.

[23] Clarence-Smith 1985, p.104; Hodges & Newitt 1988, p 34-35, Clarence-Smith 2000 p. 111.
[24] The building still exist, it has been converted into hotel Pestana Palace.
[25] Pape & Rebelo de Andrade 2013, p 126.

Fig. 20. Roça Augustinho Neto (Rio do Ouro), bird's eye view, circa 2013.

Fig. 21. Roça Augustinho Neto (Rio do Ouro), view from the location of the main plantation house towards the hospital building in the distance, circa 1965.

Fig. 22. Roça Augustinho Neto (Rio do Ouro), view from the location of the main plantation house towards the hospital building in the distance in 2015.

Fig. 23. Caserta royal palace, Italy circa 2010.

Fig. 24 & 25. Roça Augustinho Neto (Rio do Ouro) hospital building entrance & side facade, 2015.

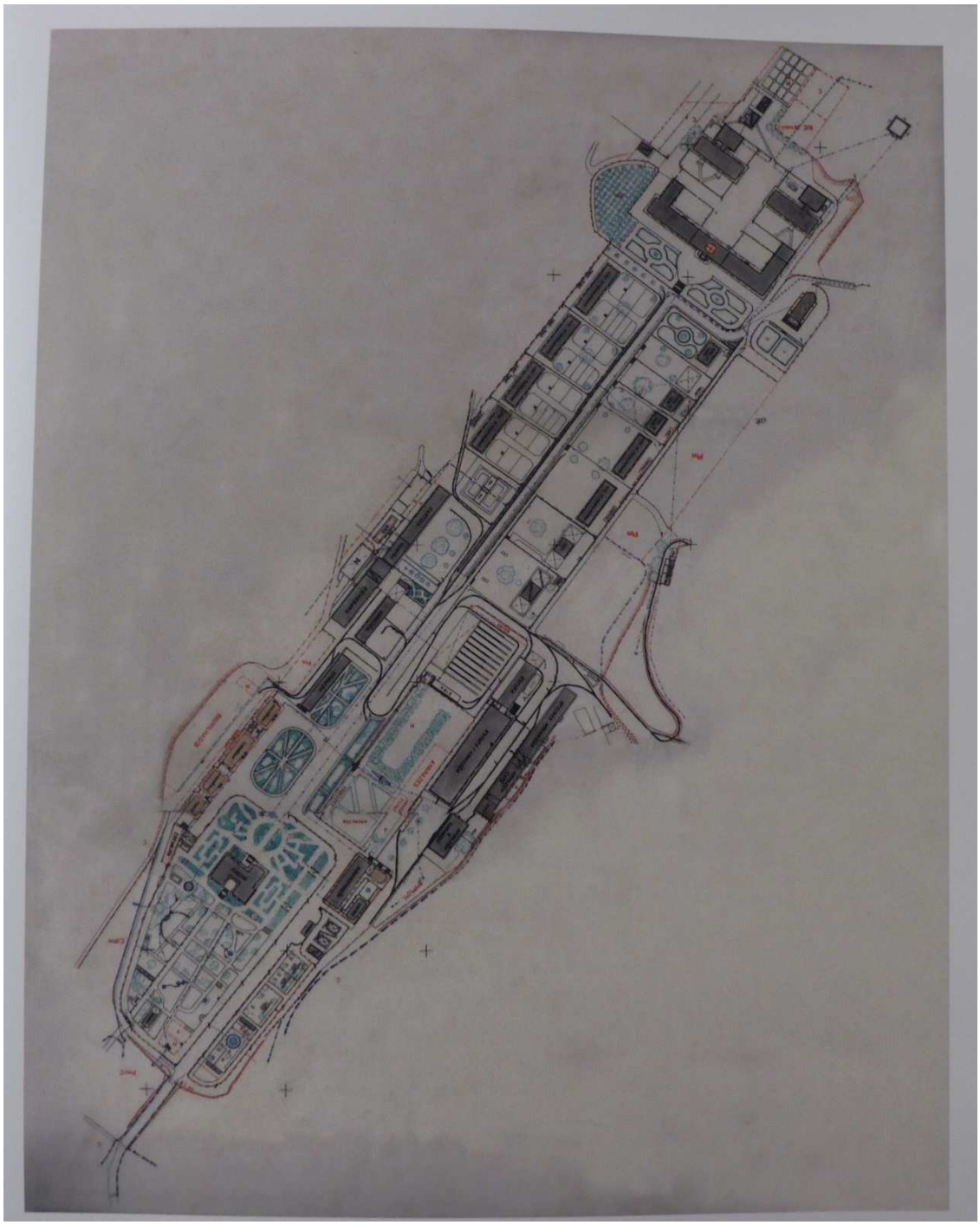

Fig. 26. Roça Augustinho Neto (Rio do Ouro), plan circa 2010. The winged large building atop the axis is the hospital.

Another planter with a comparable track record was Francisco Mantero (1853-1928) who had come to STP in the 1860s. In the 1890s he set up the Companhia da Ilha de Principe, on the south of the island. There Roça Infante D. Henrique was the main plantation. The new company was so successful, that he was able to buy the large Água Izé plantation on São Tomé in 1898. By the late 1900s Mantero employed as many serviçais as the Marquis of Val Flor and produced equal quantities of cocoa.[26]

[26] Clarence-Smith 1985, p.104; Hodges & Newitt 1988, pp. 34-35.

From the early 1900s onwards, as the unhealthy living conditions of the labourers on roças got increased publicity in the international press, some roça owners made serious attempts to confront this problem. Hospitals or clinics were added as a major component of a roça complex and some of them were established on a grand scale, like those on Roça Monte Café, Água Izé, Diogo Vaz and Rio do Ouro (figs. 21, 23, 24, 27, 28). These imposing structures were often on the highest ground of the estates, thereby overtaking the main estate house not in lavishness but certainly in size.

British chocolate manufacturer William Cadbury, who visited STP in 1908, wrote down some topical observations on the disease patterns on the roças in his book from 1910 "*Labour in Portuguese West Africa".* Cadbury duly noted that yearly mortality on the roças was running at a rate of 110 per 1000, whereby the largest roças had the worst death rates. He blamed their housing in overcrowded barracks (*sanzalas*) for the ease with which epidemics spread. Specifically on the building of the hospital at roça Monte Café, Cadbury provided some insights The industrialist recorded seeing: *"'in course of erection to contain 120 beds: materials were of the best, and there was no sparing of skilled labour; 65 white artisans were at work…..One can but think it might be more expedient to spend a larger sum on the discovery and removal of the cause of infection, and in providing modern sanitation. I believe it might pay the owner to more frequently burn down the wooden barracks long used by the serviçais''.*[27]

Fig. 27. Roça Monte Cafe, hospital building facade, 2015.

[27] Cadbury 1910, p. 57.

Fig. 28. Roça Água Izé, hospital building facade, 2015.

In the early 1900s production methods at most of the roças were improved. Foremost this materialized through increased improvement of the surrounding infrastructure. On many estates a private rail system was established, thereby using narrow gauge railroads. In particular the largest roças like Monte Cafe, Água Izé, and Rio do Ouro were laid out with extensively privately owned run railways, with varying track gauges. Even on Principe some roças established private rail systems. By the late 1900s Rio do Ouro had hundreds of kilometres of light railway on its main and secondary estates (*dependencias).*[28] Locomotives or mules with wagons covered the outlying parts of a property, the railtracks linking to the cacao drying stations. From there the wagons would go further downwards to a private pier on the shore where cacao was shipped on vessels. These vessels then transferred the merchandise on to ocean liners in the São Tomé town harbour.[29] Around 1500 km of railways was added, small ports and roads were built, improving transport conditions.[30] Electricity and telephones too were installed on the main roças. (This increased the pressure on the islands' forests, since wood was the both the main building material as well fuel for machines).

[28] Clarence-Smith 1985, p. 104.
[29] Cadbury 1910, pp.18-19.
[30] Clarence-Smith 2000, p.132.

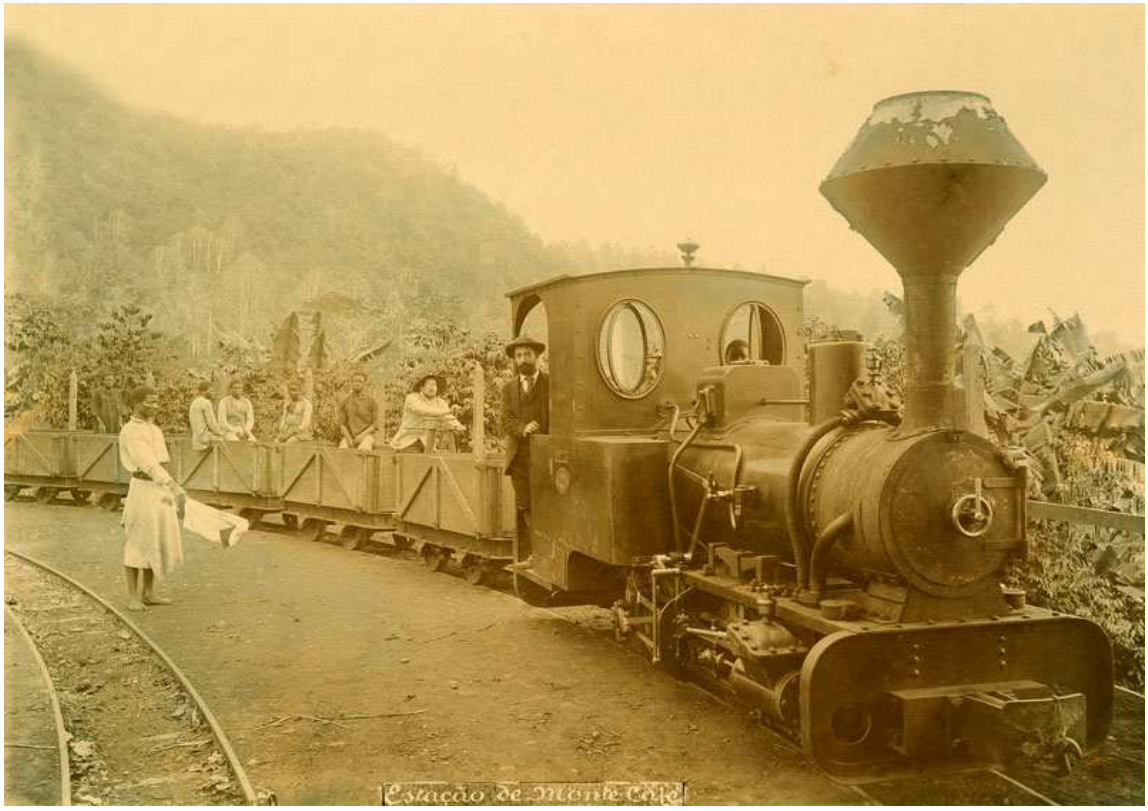

Fig. 29. A Roça Monte Café train, circa 1910.

Spending money on workers was not a priority; Rising fortunes for the landlords coincided with misery for the workers, who lived on the roças in appalling circumstances. These workers had been contracted in other African Portuguese colonies. High mortality rate on the roças ensured that authorities needed a continuous stream of workers. These were mostly imported from Angola, though using old slave networks.[31]

Roça slavery - International labour scandal

Following the final phasing out of slavery in Portugal and its colonies in 1875, STP landowners started to complain that the cost of importing free labour from West Africa was becoming prohibitive. The Portuguese authorities reacted by allowing a covert slave trading system to resume in the early 1880s. Labourers were obtained in the backlands of Portuguese colonies like Angola, Mozambique, and Cabo Verde through private contractors or emigration officers. These labourers *(serviçais*) were obliged to sign a labour contract before an administrator (*curador).* These contracts were valid for 5 years and could be renewed. Subsequently the serviçais were shipped to STP, where they were allocated to a plantation or other business by the local *Junta de Trabalho e Emigracao.* When contract came to an end, they were automatically renewed. Additionally, children of these serviçais on STP were obliged to sign contracts when they grew up. Some 70.00 serviçais were imported in this way between 1880 and 1908. The great majority of these labourers came from Angola.

[31] Clarence-Smith 1985, pp. 107-108.

Since the recruitment of these contract workers in mainland Africa had many similarities to the officially abolished slave trading, contract labour on the roça plantations was regarded by many enlightened Europeans and Americans as slave labour. Additionally, when information about the bad working and living conditions of the contract workers slowly became public, international humanitarian concern became more pressing. Specifically, when in 1902 the British Foreign Office began to receive regular reports that the slave trade was again being conducted in Angola, an international scandal with STP, Angola and Portugal at the centre, gradually erupted. Official figures suggest that between 1875 and 1918 about 150.000 contract workers were brought to STP, an average of around 3500 a year. This served to maintain a work force on the islands with a number between 30.000 and 40.000 heads. The growing of coffee and cocoa was a labour-intensive industry, and the success of the roças depended mainly on the supply of unskilled and cheap manual labour. A continuous supply of labour was necessary, as living in STP was unhealthy, with poor living conditions conducive to the spread of diseases including malaria, dysentery, diarrhoea and sleeping sickness. Various assessments made during the first decade of the 1900s, showed that mortality on the roças was running at a rate of around 100 per 1000 on a yearly basis.

In 1905 the Portuguese covert slavery system got worldwide attention, following the visit to Angola and STP of Joseph Burtt (1870 -1940) and Henry Nevison (1856-1941). Nevinson was a well-known British journalist who wrote for Harper's Magazine, Burtt was special envoy for William Cadbury, the Quaker chocolate magnate in the UK. Cadbury had personally raised his concern regarding the STP labour practices with the largest roça owners Marquis de Val Flor and Francisco Mantero. As a result of these discussions, Burtt had been invited by the STP planters association to visit the Portuguese colonies in western Africa to learn the truth about the labour conditions of the serviçais in STP. These visits became the catalyst for growing international humanitarian agitation. Initially critics had focused on the recruitment of labour in Angola as slave trading, culminating in their obligatory initial contracts (ironically entitled redemption from servitude), and automatic recontracting thereafter. Now, owing to Burtts' and Nevinson's potent reporting, working conditions were added to the mix: the extremely unhealthy labour condition on STP came to the fore, as well as the fact that no labourers were ever repatriated. It was this situation that lay behind the famous ditty that in São Tomé there was a door to go in, but none to come out.

An international scandal erupted with Portugal, STP and Angola at the centre. The international radical press forced also the hand of the leading British chocolate producers; by the end of 1909, a consortium of mainly British and German chocolate manufacturers led by Cadbury, agreed on a boycott of STP cocoa. This scandal strained Portuguese relations with various countries, in particular the UK. In the aftermath of the labour scandal, Portugal took care to end the export of slaves from Angola to STP, which was stopped in 1908. After the overthrow of the Portuguese monarchy in 1910, the new Portuguese republic enacted reforms to ensure that the repatriation of contract labour materialized. Forced labour recruitment gradually diminished, and was formally abolished in 1921. Repatriation eventually became an automatic process.

The current roças

Following the independence of Portugal in 1975, nearly all Roça's were nationalized in a move against she symbols of slavery and colonial domination. On most plantations productivity fell steeply, and workers living on the plantations were forced to meet their own food needs by cultivating plots of lands on the roça terrains. Most workers continued to live in their barracks initially, but gradually some of them and their descendants moved into the other roça dwellings, including the hospital, and the main estate house. Anno 2016 this is the current state of affairs at the majority of all surviving roças. The bad reputation of working on a plantation continues to affect the current running of the STP plantations. Many locals remain reluctant to this day to take up employment at a Roça.

Nearly all roça plantation buildings suffer neglect, with a few of the plantation buildings on São Tomé and Principe in picturesque decay. The majority of these structures is in a serious state of disrepair however, and remain at risk. A few examples of major buildings exhibiting fast increasing sings of neglect and decay include the main plantation house of Roça Boa Entrada, the hospitals at Roça Augustinho Neto and Roça Água Izé. Some are even beyond repair, like the main house of Roça Nova Moca (fig. 30).

From the late 1990s onwards, some foreign and domestic companies were allowed concessions to run some of the plantations to boost investment and improve management. These roças were not de-nationalized, but operated by aforementioned companies under management contracts. An example is the large Monte Café roça which is run by French company Malongo. At Monte Café there has been an attempt to salvage some of the most viable buildings, with some success. One on the larger cacao warehouses on the site was recovered and repurposed; it is now a museum dedicated to the history of the coffee on the plantation (*Museu Nacional do Café*). Sadly enough the adjacent main plantation house with its striking double exterior staircase has been allowed to fall into ruin. Even in this sad state the elegant symmetric proportions of the main facade still shine through (fig. 31).

The small Roça S. João is a shining example of plantation where most of the biggest buildings have been preserved and repurposed (fig. 32). The former hospital now functions as a production center for locally handcrafted goods and is coupled with an exhibition space. The main plantation house was well restored and converted into discreet hotel with restaurant. It is run by João Carlos Silva and his wife Isaura Carvalho. João Carlos Silva is a well-known chef and plastic artist, he and his wife have been major vocal proponents of advocating cultural heritage conservation on STP.

Fig. 30. Roça Nova Moca's main plantation house, close to collapsing, 2014.

Fig. 31. Roça Monte Cafe, main plantation house, in a ruined state, 2015.

Fig. 32. Roça S. João, main plantation house – restored and repurposed as a boutique hotel, 2016.

3. The plantation economy spurring infrastructure planning and urban renewal for São Tomé town - 1880-1920

Context

By the 1880s, with the rapidly growing trade in cocoa, it became more pressing that goods transportation and general communication between the roça's and São Tomé town was difficult. People and produce could only be moved to and from the capital along haphazard rough-strewn roads, frequently inaccessible due to tropical rains. There were no railways connecting the capital, nor phones lines. Furthermore, the continuous rise of the production of cocoa tonnage and the resulting increased prosperity of the roça owners caused the São Tomé town port to process ever growing business volumes – owing in particular to the increased export of cocoa, but also the import of various goods from Lisbon for the roças. But then the harbour and city itself were poorly equipped to deal with these business flows. The increased scale of the roça production necessitated a master plan for improved connections between roça's and São Tomé town.

It seemed inevitable indeed that the cocoa boom would inspire the construction of major engineering works, in particular a public railway system. From 1890 to 1905, the economic boom prompted numerous studies (*estudos*) to construct a public railway on São Tomé and even on the tiny island of Principe. Leading planter Francisco Mantero took the lead in 1890 by drafting a plan which was send to the Portuguese Ministry of Colonies (*Ministério das Colónias*), proposing much needed infrastructural work, including a railway line connecting certain roças to São Tomé town. Planter thinking was it would be in the Portuguese government interest too to fund a proper railway line, since Portugal was highly dependent on the profits of the São Tomé trade. After around 10 years after a lot of toing and froing between various Portuguese ministries, members of parliament, Royal court officials, local STP governors, advisory committees and roça planters, a major milestone was reached in in 1899.[32] That year the Minister of Marine and Overseas Affairs (*Ministro do Marinha e Ultramar),* Antonio Eduardo de Vilaca (1852-1914), authorized a high level plan for infrastructural developments called ''Transport on São Tomé and Principe" (*Viação em S.Tomé e Principe*) which was approved by a royal Decree (*Decreto*) in the same year 1899.[33]

in Lisbon there had been a certain reluctance to get involved in a new railway project. The Portuguese state had burned its fingers with lossmaking railways in its colonies during the 1880s, in particular the Luanda railway in Angola and the railway in the Goa enclave in India.[34] At the same time, Lisbon had to own up to the fact that the financial rewards of the STP archipelago had become extremely important for the Portuguese budget, and action had to be taken to safeguard this income going forward.

Between 1890 and 1914, foreign exchange earnings from the re-exportation of colonial

[32] Vieira 2005, pp. 27-31.
[33] Morais & Malheiro 2013, p. 171.
[34] Clarence-Smith 1985, pp. 98-100.

produce were critical for the Portuguese state to avoid defaulting on foreign payments.[35] With the principal colonial exports from all Portuguese colonies being cocoa, rubber and coffee, STP had become increasingly dominating. By the 1900s cocoa from STP was worth more than rubber and coffee put together.[36] But STP was small in terms of population size. It was estimated that the archipelago had a population of 42.130 inhabitants around 1900. Portuguese files even specified ethnicity, i.e. 1.187 whites, 280 mulattos and 40.663 blacks.[37] Most of the people lived on the roças; São Tomé town, representing the main urban settlement and the commercial center on the Island, had grown to a population of 1000 around 1900.

São Tomé railway planning leading to São Tomé town urban renewal

The main recommendation from the infrastructural plan *Viação em S.Tomé e Principe* was to commission a study for a general transport plan, whereby the main cocoa producing roças would be connected to São Tomé town, by roads or railways. The island of Principe was left out of the railway equitation; there creating regular roads (*estradas ordinarias)* was the proposed solution.[38] As a first major step, a team of engineers was selected and then sent to STP for a reconnaissance mission. It included Antonio Pinto de Miranda Guedes (1875-1937), Campelo de Andrade and Ezequiel de Campos (1874-1965). The three engineers arrived on STP in late 1899. From these three men Campos would over the years emanate as the instrumental figure in advocating structural infrastructural works on STP. Campos was a Portuguese from the region of Porto, who had joined the colonial administration of São Tomé in 1899. Between 1899 and 1912 he emerged as a prolific and outspoken writer about Saotomean urban planning, publishing various papers and books on how to resolve the ills of São Tomé town, and how to construct the public railway system on of São Tomé.

When Campos arrived on STP in late 1899, his remit was to explore in detail the possibilities of setting up a public railway line on STP. This actually did not come to much, as he and his collages fell ill with tropical diseases. Around six months after his arrival, the convalescing Campos was asked to become Director of Public Works of the Province of STP (*Director das Obras Públicas da Província de S.Tomé e Príncipe*), which function he took up. As Campos had discovered quickly, São Tomé town was a real unhealthy place to live in. In his view tackling the unhealthiness of São Tomé town had become more pressing than the railway project. As part of his new bureaucratic remit, Campos then wrote an extensive report on the sanitation of São Tomé town *(Saneamento da cidade de S.Tomé)*, which was published in 1900. His findings and solutions for remedial action were fleshed out in further detail for a wider audience, in his book from 1910 ''Improvements to Public Works on S.Tomé. Practical notes*" (Melhoramentos Públicos na Ilha de S.Tomé. Apontamentos Ligeiros)*.[39]

[35] Clarence-Smith 1985, p. 87; Hodges & Newitt 1988, pp. 35-46.
[36] Clarence-Smith 1985, p. 87.
[37] Nunes 2011, p. 44. No specification was provided as to what constituted white, black or mulatto
[38] Vieira 2005, p. 32.
[39] Nunes 2013, p.58.

Through diagnosing the sources of the unhealthiness of the town Campos laid bare the most pressing São Tomé town ills. At the same time he advocated taking remedial action as the first priority, and concrete suggestions were duly provided. The fact that the city had been laid out in a reticular matrix along the coastline, facing the Ana de Chaves Bay with several, often flooding small and dirty rivers floating though the town, made the location unhealthy. Then the unhealthiness of the place was compounded by being surrounded by various large and small swamps, attracting mosquitos carrying disease aplenty. To make things worse, there were no gutters, no sewage system and there was no clean drinking water - water consumed in the city was polluted.[40] Campos observed too that the city had a just a few buildings of quality; the main landmarks were the Government palace, the Cathedral and the east of the center, the Fortress of S. Sebastião. Most housing in the town was haphazardly constructed, not properly designed for a tropical climate, lacking adequate ventilation, with backyards used for dumping waste.[41]

This general insalubrity spread disease, including a high incidence of malaria and yellow fever transmitted by swamp mosquitos. Campos seemed exasperated by this sorry state of São Tomé town, and thought it about time for the Portuguese state to turn its back on its ignorance and negligence regarding its colonial expansion, as it endangered the prosperity of the Island: "*A prosperidade da Ilha de S.Tomé impõe que, sem demora, se trate do saneamento da cidade. É tempo de sobra para deixarmos a incúria e ignorância que sempre revelamos na nossa expansão colonial, para começarmos a fazer alguma coisa com ordem, duradoura e útil."*[42] Chocolate manufacturer William Cadbury confirmed Campos' observations regarding the sorry state of São Tomé town during his visit to STP in 1909, he thought the town rather badly built and unhealthy, and noticed sanitation was of a ''most elementary level"'.[43]

Campos came up with specific recommendations to be carried out to improve the quality of living in the town. The book of work included filling in all major swamps surrounding the city, tearing down foul houses in the town center and resettling local people to the outskirts of the town. He recommended too creating a new neighbourhood for Europeans, about 1 km away from the old town close to the Fortress of S. Sebastião. There, Campos specified in detail, new bungalows should be built, which would take the tropical climate into account in the design, with shutter boards and verandas, and palm trees providing shade, thereby deploring the fact that current housing stock was not suitable for a tropical climate.[44]

Campos quest for the clean-up and modernization of São Tomé town fits the urban regeneration efforts seen in Europe at the time. From the end of the 19th century urban infrastructure works proliferated in the main cites of Western Europe – they were outfitted with all the infrastructures the twentieth century would take for granted: trains, subways, streetcars, sewers, gas, electricity, water, telegraph and telephone. Irrespective of this European context, and the urgency of the local issues diagnosed by Campos, his report was

[40] Campos 1910, pp.17-19.
[41] Campos 1910, p.10.
[42] Campos 1910, p.22.
[43] Cadbury 1910, p.20
[44] Nunes 2013, p.68.

not well received by the government officials, and his recommendations were not followed up on.[45]

Only years later, during the 1st and 2nd decade of the 20th century some of Campos'' most pressing recommendations for urban renewal were implemented. The swamps around the city were all drained eventually. Various city housing stock was demolished on account of public health reasons. The result was that the poorest city dwellers were forced to move to the outskirts of the town.[46] The mostly rectangular grid of streets of the old town was newly built up with elegant colonial buildings, this time with frontages taking the wet and hot climate into account; some would be built with street level arcades, others just with verandas on the 1st floor, to provide continuous and sheltered circulation. These measurements eventually made the town a much healthier and more agreeable place to live in.

Some degree of architectural uniformity with city dwellings from other tropical locations was realized, still visible at this time. In particular many of the assorted architectural styles associated with Caribbean and Louisiana plantation cultures since the late 18th century are amply on display in São Tomé town. The abundant usage of large verandas, high ceilings, colonnade walks, intricate fretwork, hipped roofs and shutters/louvers are a case in point (figs. 31-37).

Finally, in the 1950s a neighborhood for Europeans business people and civil servants was created on top of those former swamps, the so-called *Bairro Salazar*.[47] What was realized was an architecture of affluence, with substantial bungalows that indulged in the tropical landscape.

Fig. 33. Large residence with shops at ground floor level in central São Tomé town, 2015. Of note are the large veranda, ornate balcony railing, louvered entrance doors & louver shutters.

[45] Nunes 2013, p. 84.
[46] Morais & Malheiro 2013, p. 53.
[47] Morais & Malheiro 2013, p. 192.

Figs. 34 and 35. Medium size residence in the center of São Tomé town dating back to ca.1910/20 (top, 2015) and the Gardette Lepretre house New Orleans (bottom), dating back to 1836).

Fig. 36. Cottage São Tomé town dating back to 1910/1920 in 2015. Note the wraparound veranda, ornate balcony railing, louvered entrance door and louver shutters.

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Fig. 37. Medium sized residence in the center of São Tomé town, 2014. Note the abundant usage of large verandas and fretwork, with ornate balcony railings.

The São Tomé state railway project – planning, construction and closure

Since Ezequiel de Campos report on sanitation for Sao Tomé town was not well received by government officials and his recommendations were not followed up on, Campos decided to leave the Saotomean archipelago for Portugal in 1900. By 1902, he resurfaced in the Asian tropics, in Timor, then another Portuguese colony. Campos had been appointed to the job of Public Works Chef for the Timor autonomous district (*Chefe do service de obras públicas do distrito autónomo de Timor*). It was to be a short Asian intermezzo; between 1903 and 1906 Campos was again on STP and this time working in the private sector. His job was to collect topographic data for two large roça owners, the Marquês de Val Flor who owned Roça Rio do Ouro and Salvador Levy (? – 1919). Salvador Levy was a banker and industrialist, whose business empire included cocoa plantations on STP, where he owned a number of roças, including Ribeira Palma, Plateau, Milagrosa and Praia Grande.

Working on STP allowed Campos to concentrate on the subject of railways, and this time extensively. In his study published in 1904 ‘’Transport on STP: Notes” (*Viação de S.Tomé. Apontamentos)* the assumptions for the public railway were spelled out, i.e. the railway to be built needed to provide the most important roças in the country with a speedy and efficient method for transporting their produce to São Tomé town. A proper railway would reduce the production cost of cacao so that STP’s place as one of the world’s largest producers would be safeguarded and strengthened. Campos clearly had understood already prior to the Cadbury blowup that using contact workers (*serviçais*) as de-facto slaves for transportation of goods would be not be a ’free of charge” solution in the near future.[48]

In his view, the railway should begin in STP town and then go inland to Água Ploco. A direct link with São Tomé town was of paramount importance, as there the main shipping harbor was located, from where cocoa was loaded onto ocean vessels. At Água Ploco the railroads were to be split into two branches. One branch should link the highest lying roças on the islands, with halts at roça S. Nicolau, Nova Moka, Saudade, Monte Café and Pentecostes. The other branch line should go to the Cruzeiro Trindade, and further extend to connect to the land of roças Milagrosa, Cangá, Java, Plateau-Café and Santa Adelaide. The railway would have a total length of circa 30 km. After completion of this 30 km line, Campos proposed a 2nd phase, whereby further railways were to be built to link up the southeastern roças, located close to Algés, Pedroma, and Angolares, taking in smaller roças like Pinheiro, Guegue, Pedroma, and Uba-Budo. This 2nd phase railway needed to support the forecasted growth of agricultural production.

The track gauge of the railway would be 75 cm. This was identical to the Belgian Congo Railway, with was regarded as a benchmark railway by the Portuguese.[49] Rolling stock, had to come from the countries more technologically advanced than Portugal, like the US.[50] Campos advocated building an electrical railway, as electrical traction offered several benefits over the then predominant steam traction. Given the need to go through the accidented Saotomean terrain, which would require steeply inclined as well sharply

[48] Campos 1904, p.7.
[49] Campos 1904, p. 82
[50] Nunes 2013, p. 150.

curved railway tracks, Campos thought steam traction would not be suitable. A the same time the argument was made that creating a railway line was more cost-effective than creating new roads; a railway line would require less maintenance than regular roads, and transport via train would be faster than over roads.[51] In particular critical was that the new railway would facilitate optimization of cocoa production. In effect, the main objective was to significantly reduce the manual labor in use from contract workers for transportation purposes, as at the time ”the majority of goods transportation was done on the heads of black people'' ”*Como se sabe, a maior parte dos transportes em S.Tomé, se não dos de exportação e importação, pelos menos os de culturas, é feito à cabeça dos negros”.*[52]

Campos' *Viação de S.Tomé. Apontamentos* was received by the main roça stakeholders with apathy. The Portuguese administration did not act, hampered as it was by political and financial fragility, and an apparently incompetent colonial bureaucracy.[53] Eventually a group of planters lead by Francisco Mantero took some concrete action through commissioning a study for a STP railway from the German railway and train manufacturers A. Koppell. This study was duly produced. It proposed just a single railway line, whereby the railway should begin in São Tomé town, would lead inland to the village of Trinidade, and then onwards to the Potó area with halts for the plantations along the route. Curiously, the small village of Trinidade, was deemed to require a proper train station. But then Trinidade had become much favored by the Portuguese business and government community on the island, as it was located high in the hills above São Tomé town, with a much cooler and heathier location than the capital. The town also had its attraction to wealthier civil servants. The governor of São Tomé had his country house built there too.

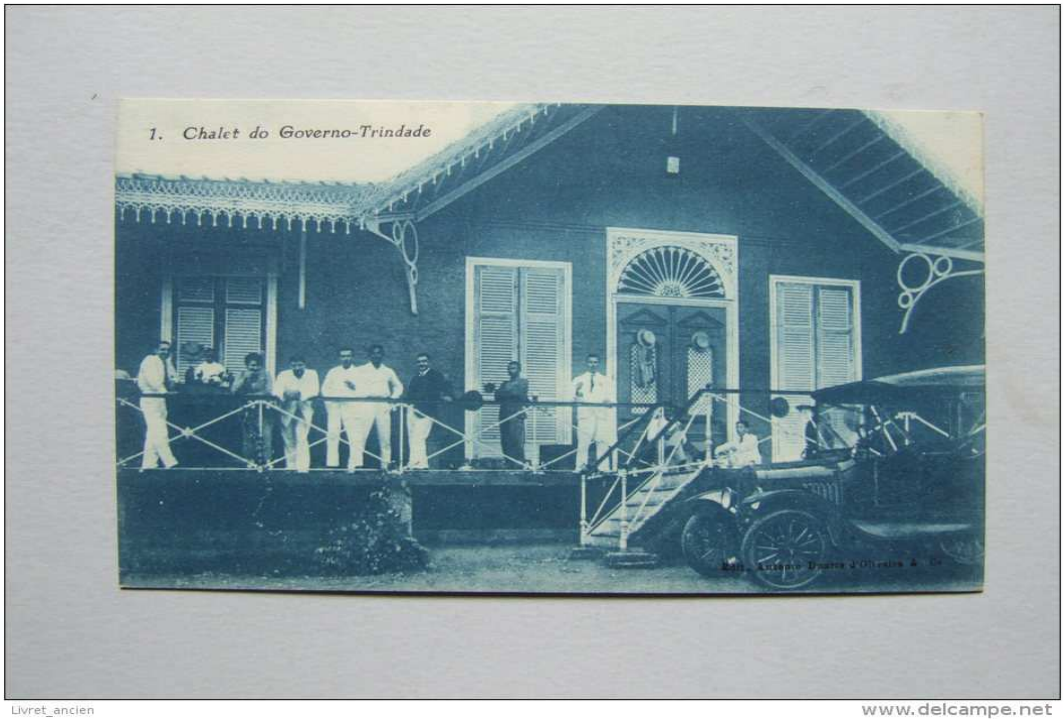


Fig. 38. The country house (chalet) of the São Tomé governor at Trinidade, circa 1910.

[51] Nunes 2013, p. 95.
[52] Campos 1904, p. 7.
[53] Nunes 2013, p. 156-159. The kingdom of Portugal in the years up to the establishment of a republic in 1910 was unstable, with frequents changes of government up to 1910.

Both the Koppell proposal as well as the Campos proposal were discussed in the Portuguese Parliament in 1904, leading to a law (*Decreto 17-B*), authorized by King Dom Carlos in March 1906. It ordered construction of a STP railway, which would be exploited by the state. It was clear that finally the Portuguese government had become aware of the necessity of getting the STP railway conundrum solved. The need for facilitating healthy living conditions for Europeans by means of railway access from the insalubrious capital Sao Tome town to the of pleasant village of Trinidade was now firmly on the agenda, as was the awareness that whilst labor in STP was very cheap, it was very unlikely to remain that way. The Portuguese covert slavery system and appalling working conditions of the serviçais on the STP roças had gotten increased international reporting, sometimes even lurid publicity, between August 1905 and February 1906. At this point, the Portuguese government was no longer in a position to ignore the international accusations of allowing de-facto slavery on the roças.[54] In effect the Portuguese had been confronted with a vengeance of the urgency to reduce serviçais labor usage at the STP plantations. The result was that building the STP public railway line was finally indeed speedily approved, just a few weeks after another bout of embarrassing international publicity about the working conditions of the serviçais on the STP roças.[55]

As the next major step in getting the STP railway constructed, a master plan for the railway was created by the Ministry of Overseas and Maritime Affairs in Lisbon (*Ministério dos Negocios da Marinha e Ultramar*), effectively Portugal's planning and transport agency for its colonies. This master plan was developed by the staff at said Ministry in Lisbon, in dialogue with the engineers working for the Directorate of Public Works on STP (*Direccao de Obras Publicas de São Tomé*). A designated STP Railway section team was established locally on STP (*Secção Especial do Caminho de Ferro de S.Tomé*). Ezequiel de Campos was appointed as the section head. Again Campos's tenure did not last long. He took office in September 1906 but returned to Portugal in March 1907. Health issues were the official reason for this hasty departure, but disagreements with his colleagues within Public Works played a major role.[56]

Campos's successor was another young engineer, Joaquim Jardim Amavel Granger (1880-1957). In terms of tangible implementation results, he was more successful than Campos; under Granger's leadership construction actually started in 1907, and the project for the first branch of the railway, a stretch of 6,6 km from São Tomé town to the interior, was developed in 1908. What was to be constructed was a railway with a track gauge of 75 cm, as Campos had advocated. However, it was the become a steam railway, not one supported by electric traction as Canpos had argued for. Although electric traction was better suited to heavy freight trains in mountainous terrains, the engineers at the Ministry of Overseas and Maritime Affairs in Lisbon were not open to such a recent and not commonly used innovation.[57] In Europe at the time only one major station was built for electric traction, the Gare d'Órsay in Paris, which had opened in 1900.

Campos meanwhile returned to STP in 1908, this time not as government official, but as an executive for the firm named Casa Salvador Levy & Ca. in Lisbon. This company had been

[54] Hodges & Newitt 1988, p. 38.
[55] Morais & Malheiro 2013, p. 176
[56] Nunes 2013, pp.161-162.
[57] Vieira 2005, pp. 46-47.

awarded the contract to construct the public railway. It was owned and run by Salvador Levy, the industrialist and multiple roças owner. Campos remained on STP until 1910, returning in 1911 as a government official again, this time to conduct an evaluation on work in progress at the STP railway project on behalf of the Ministry of Colonies (*Ministério das Colónias),* the former Ministry of Overseas and Maritime Affairs.[58]

In the interim Granger had resigned in 1910 and had left STP.[59] After Grangers departure, regular staff disenchantment remained a problem, resulting in frequent resignations or dismissals during the building phase. Eventually the railway was completed in 1913, under the leadership of engineer Raul de Machado Faria e Maia (1857-1920).

When construction of the railway ended in 1913, what was actually built was a single track railway line from the coastal São Tomé town to the hillside village of Trinidade, at 280 meters above sea-level. Curiously, the rail type chosen early 1911 was *'Vicinaux Belgas*', a narrow-gauge rail profile used for local train lines in Belgium at the time. This was remarkable as such rail profile was not used in Portugal or its colonies at all. How did this come about? The chosen railway track provider, Belgium firm S.A. Energie, suggested the engineers at the Ministry of Colonies in Lisbon to use this type of narrow-gauge rail type, as it would be the cheapest solution.[60] This was duly followed up on.

The new STP railway line had just a total length of 14 km. It opened to traffic in July. 1913. In July 1924 an extension between Trinidad and Milagrosa was opened, which brought the length of the line to 18 km. The line commenced at the S. Sebastião Maritime terminal station (*Gare Maritima de S. Sebastião)*, opposite the Fortress of S. Sebastian (*Fortaleza S. Sebastião*) in São Tomé town. This was the nerve center of the railway with its terminal station within a cluster of imposing buildings serving the railway tracks, rolling stock, railway staff and customers (see chapter 4 and 5). It was a very substantial station serving an island railway which hat not become so substantial. The line actually had three stations. In addition to the important S. Sebastião terminal station there was a small formal station at Lemos, and after that the terminus station of Trinidade. There were halts (*apaderos*) too along the way, to mark stops where roças could load produce onto wagons.

The railway was indeed used for freight traffic, in particular the shipment of cocoa from the roças to São Tomé town, basically its original raison d'étre. Transporting passengers was provided for too, which was well appreciated by those well-of passengers who wished to seek refuge from the insalubrious environment of São Tomé town. The timetable in 1913 showed two departing trains from the Fortress of S. Sebastian to Trinidade, and two in the reverse direction, on a daily basis. From 1916 onwards it was just one train per day, in both directions.[61] This railway's life was to prove a short one; it only remained in service for 13 years. In 1926 it was over, and the railway was shut down.

[58]The Republican regime which came to power in Portugal in 1910 after overthrowing the monarchy, renamed the Ministry of Overseas and Maritime Affairs as the Ministry of Colonies
[59] Morais & Malheiro 2013, p.178
[60] Caminho de ferro de São Tomé file at Arquivo Histórico Ultramarino (AHU), no. 2775.
[61] Vieira 2005, p. 161

What caused this early closure? The railway line was lossmaking, and thereby a drain on the Portuguese state's precarious coffers. Not enough money was made from transporting agricultural produce; from the 138 roças on the island, only 15 used the railway to transport their plantation freight to São Tomé town.[62] One can see here that the refusal to adopt Campos' earlier proposal to make the railway line a viable long term solution, through a network of lines and connecting the largest roças to the main port in São Tomé town, eventually backfired. Then there was the fact that the cocoa boom was tailing off dramatically and freight traffic became marginal. In 1925 STP cocoa export amounted to 10.000 ton whilst during 1909-1912 it stood at above 30.000 ton.[63] This downturn was by and large caused by a decline in natural fertility of the land, as well as increasingly inefficient management at the plantations.[64]

After the closure of the railway the main roças were gradually equipped with proper roads to the main port in São Tomé town. The availability of these roads confined the STP railway to history.

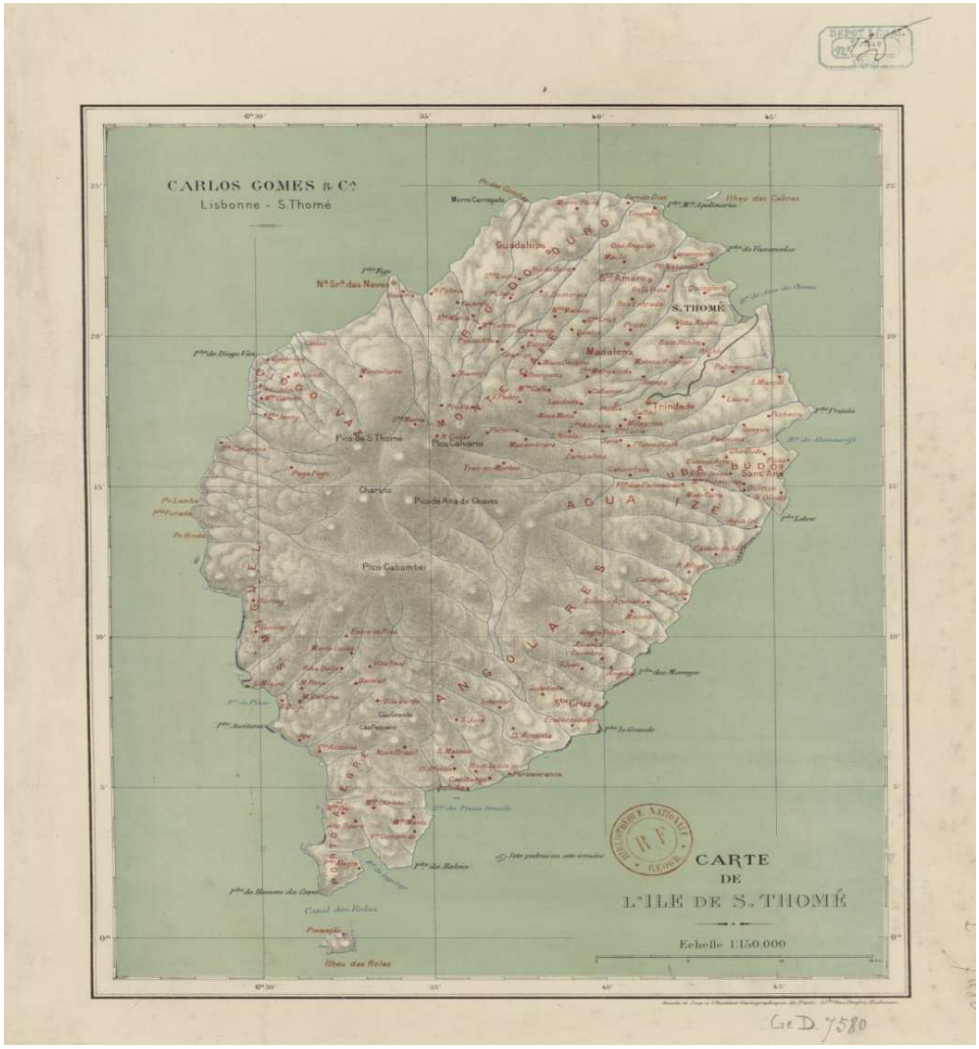


Fig. 39. Map of São Tomé, 1920, with the actual railway line between São Tomé town and Trinidade marked in black.

[62] Vieira 2005, p. 214.
[63] Campos 1955, p.9.
[64] Hodges & Newitt 1988, p. 33. & Campos 1958, pp. 264-266.

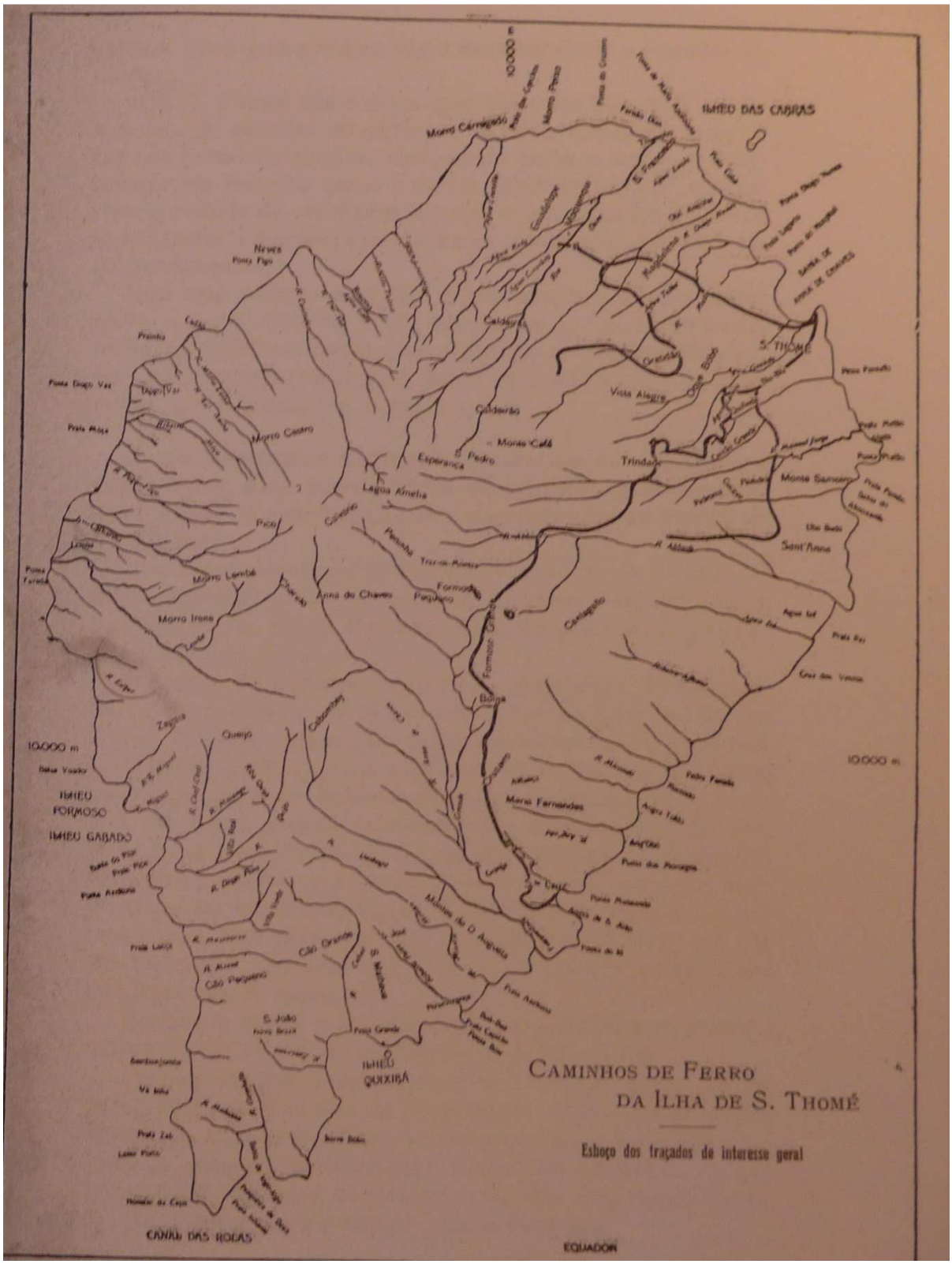


Fig. 40. Map of São Tomé circa 1910, with the railway lines, as proposed by Ezequil de Campos in black. The majority of these were never realized.

4. S. Sebastião Maritime Station at São Tomé town – 1908 - 1913

Conceiving and constructing the *S.* Sebastião Maritime Station

The S. Sebastião Maritime station *(Gare Maritima de S.* Sebastião) is a place which contains an extensive complex of buildings dating back to the beginning the 20th century. A considerable number of these buildings have substantial architectural merit.

After construction of the Saotomean railway lines had commenced in 1908, a specific plan for a Maritime terminal station yard was created by the Ministry of Overseas and Maritime Affairs in Lisbon. A master plan was developed by the staff at said Ministry in Lisbon, in dialogue with the team of engineers working for the Directorate of Public Works on STP. A diverse range of connected railway buildings in São Tomé town were conceived: a prestigious station building, a heavily decorated train shed and a lightly but elegantly decorated goods warehouse, a simple semi-roundhouse, and a grand railway workshop. Six prominent workers' cottages and small edifices like guard houses were also planned for.

It was decided to situate the train station yard on a greenfield site around 1 km away from the town center, on the edge of the coastline and adjacent to the 16th century Fortress of S. Sebastian *(Fortaleza S. Sebastião)*. Historically this site had not been built up, as it was encircled by various large and small swamps. The chosen site was spacious and empty, thereby allowing for expansion with new buildings and features, should that need arise.[65] The dimensions of the train yard to be built up were modest; it was among 500 meters long and 300 meters wide. The S. Sebastião and S. Miguel swamps adjacent to the site were drained, to provide additional land for the railway track leading from S. Sebastião to Cruzeiro Trinidade, in line with Ezequil de Campos' much earlier recommendations. Due to lack of state funds the remaining swamps around the city were not drained, however.[66]

The style and form of the buidings was chosen by the Ministry of Overseas and Maritime Affairs in Lisbon, with Arnaldo de Novais Guedes Rebelo (1847-1917) as engineer-director in charge of overseas train railways. Fleshing out the design guidelines from Lisbon had fallen to engineers in the service of the Directorate of Public Works on STP. Giving Portuguese customs at the time, it was fitting that the buildings for the station yard on STP were designed by engineers. The Ministry of (domestic) Public Works in Lisbon commonly assigned domestic infrastructure related building works, including train stations, to engineers not architects**.**[67]

[65] Caminho de ferro de São Tomé file at AHU, no. 2607.
[66] Morais & Malheiro 2013, p.180.
[67] Lisboa 2002, pp. 36-44.

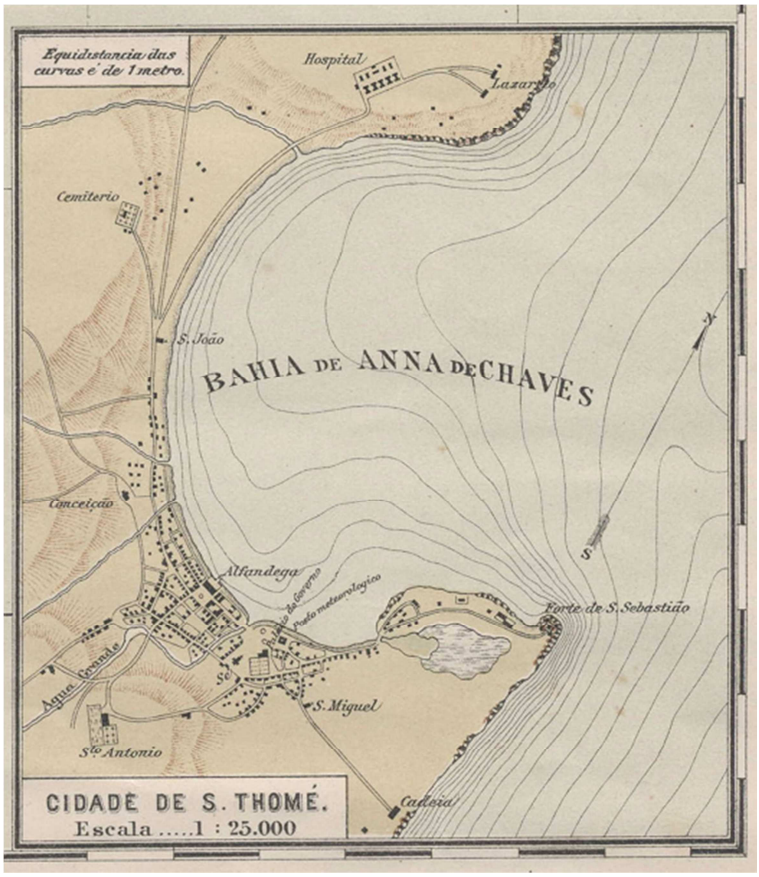


Fig. 41. Map of São Tomé town from 1891, when formal discussions about building a state railway had just commenced. Note the swampy area around the Fortress of S. Sebastian (*Fortaleza de* S. *Sebastião*) which had not been built up yet.

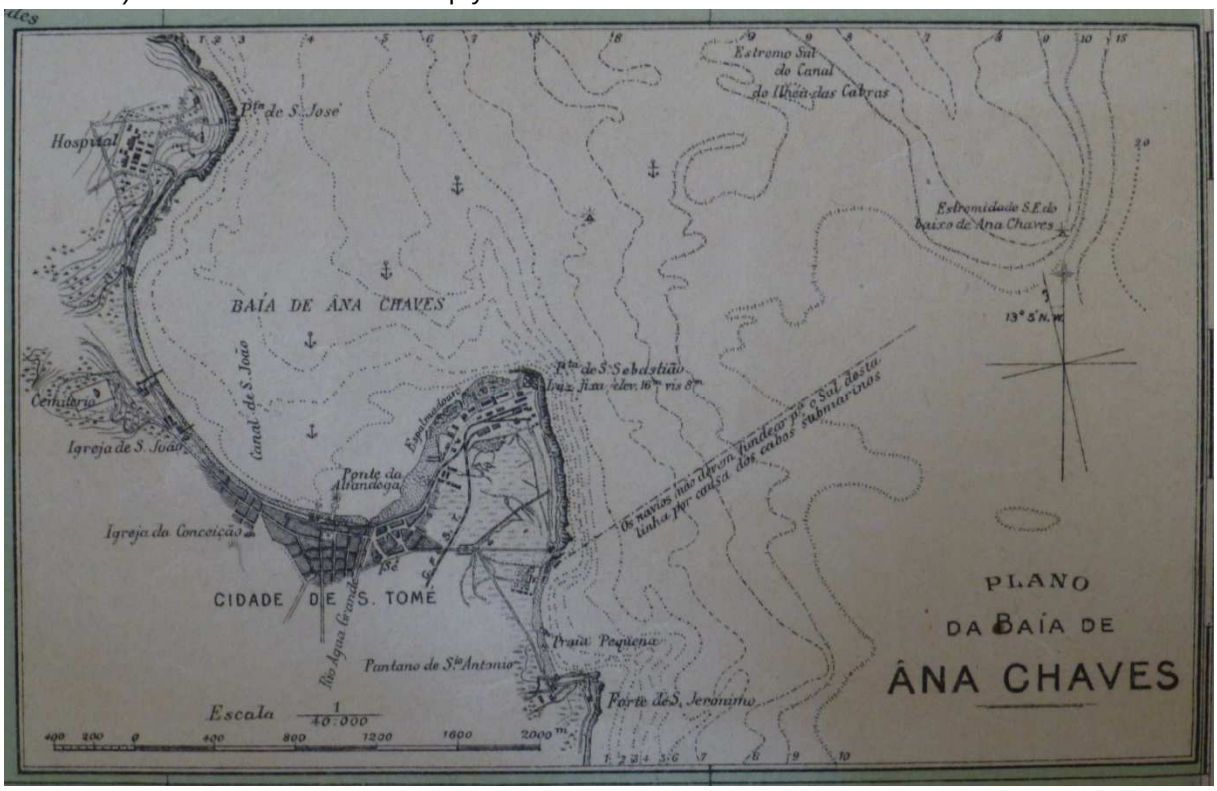


Fig. 42. Map of São Tomé town from 1922, with the S. Sebastião Maritime Station directly south of the Fortress clearly laid out. Note the remaining swamp adjacent to the station yard, drained later in the 1920's.

The first project leader locally on STP coordinating the actual building of the São Sebastião Maritime Station yard was Joaquim Jardim Amavel Granger, as chef and engineer-director of the STP Railway section team. Granger resigned in August 1910, after a conflict with the director-general at the Directorate of Public Works on STP, engineer Joaquim Quinhones Cabral.[68] It had become a rather familiar sight: similar to what had happened during the planning phases of the Saotomean railways, regular staff disenchantment and subsequent resignations or dismissals occurred during the building phases of the station yard. Following this pattern, by early 1910, Quinhones Cabral had been replaced by engineer-director Barahona e Costa. By December 1910, STP has a new governor too: Antonio Pinto de Miranda Guedes, another engineer.

Guedes was familiar with STP, he was one of the engineers sent to STP with Ezequiel Campos in 1899 for the reconnaissance mission aiming to prepare a general transport plan for STP, to explore how the main cacao producing roças should be connected to São Tomé town, by roads or railways. One of the first things Guedes did in his new role was suspending Barahona e Costa from his job, in late 1910.[69] Engineer José Celestino Regalla, as ad-interim engineer-director of the STP Railway section team, took over the station project temporarily. By mid-1911, a new engineer-director of the Directorate of Public Works on STP took charge, Raul de Machado Faria e Maia. Faria e Maia seemed quite a catch: he was an older and seasoned engineer, educated in Paris at the École des Ponts et Chaussées. He had extensive experience under his belt, having worked in senior roles on various infrastructure-related projects in Macau, Angola and Mozambique. But then his tenure too was a short one, he left the job in October 1912, but continued to lead the project in a consulting role until the opening of the railways in 1913.[70]

Not only the Directorate of Public Works on STP suffered from staff upheaval, the Governors' office had its fair share too. Antonio Pinto de Miranda Guedes left in June 1911, after only 6 months in the job, to be replaced by Jaime Daniel Leote do Rego (1867-1923) who left in November 1911 after just 5 months. Mariano Martins (1880-1943) took over and stayed until May 1913, when the STP railway finally opened for business. From the moment construction of the Saotomean railway lines commenced in 1907 until opening, the archipelago had seen the back of nine governors, an extreme number of attrition.

What would have been the causes for such an unstable environment? These were manifold. Portugal itself in the years up to the establishment of a republic in 1910 was unstable, with frequents changes of government up to 1910 and in the immediate years thereafter. This made the negotiation process among multiple parties i.e. the national, departmental, and provincial governments as well as the Roça owners even more cumbersome. Adding insult to injury, Ezequil de Campos observed that roça owners were occupied with self-interest not with the greater good, in an environment whereby intellectuals were wary of modernization and incompetent locals were backward, all fueled by favoritism and political tribalism.[71] In apparent exasperation during a conference in Lisbon in 1908, Campos expressed his frustration as follows: ''God gave us (*Portugal*) a

[68] Morais & Malheiro 2013, p.178
[69] Vieira 2005, p.124.
[70] http://www.buildingtheportugueseempire.org/maia-raul-machado-de-faria-e.html
[71] Nunes 2013, p.87, pp.182-183.; Campos 1904, p.3.

small island (Sao Tomé) as he knew we would not be able to provide good railways and roads to big (*colonial)* islands like Cuba, Java or Ceylon.[72]

Surely this upheaval had an impact on the final output for the São Sebastião Maritime station. The master plan for constructing the Maritime terminal station yard was subjected to regular changes, sometimes accepted sometimes not, leading to a protracted design process. Completion of most of individual buildings took a long time, with long pauses during the building process a common feature. It was obvious, among the negative effects of high staff turnover was a decreased performance in the workplace.

From the outset high-level architectural instructions related to the station yard were provided in the summer of 1909 through Arnaldo de Novais Guedes Rebelo in Lisbon. Specifically, Novais' letter dated 29 July 2009, to Amavel Granger as Director of the Railways of S. Tomé, ordered the design of the terminal station *(estação terminal*) at S. Sebastião to be in line with the typology used by foreign colonial nations in tropical climates.[73] Two architectural designs from train stations in Belgian Congo were sent with the same letter to STP, as reference material for the engineers working on STP.[74] The same letter also instructed the construction of two secondary stations for the railway line, the station at Lemos and the station at the end of the line in Trinidade, which needed to follow the typology of the S. Sebastião terminus station. Novais ended his missive by instructing the train sheds, engine and goods sheds to be ready by February 1910, so that the purchased rolling stock and other railway material could be stored in these buildings. No such deadline was given for the terminal station.

An extensive memorandum from October 1909 written by Quinhones Cabral as engineer-director of the Directorate of Public Works on STP was sent to Lisbon. This epistle added further substance to the design of the station yard. Quinhones Cabral stated explicitly all material for the 'Superior Stations" *"'Estações Superiores"* would need to be first quality, beyond expectation. Ambitions for the STP railway network were big and unequivocally expressed; the Saotomean railway aspired to be the first among equals, among the other colonial railroad structures.[75] Given these aspirations, it was specified all rail material and rolling stock (*material de traccao e circulante*) were to adhere to American quality standards – the engineer-director's thinking was that such standards were best of breed within the railway industry.[76] In line with these aspirations, it was proposed to make the S. Sebastião station a complete 'Gare Maritima" by adding a new significant component: the relocation of the customs house building to the new station area, to be positioned next to the terminus stations. The context was that the current Customs House (*Alfandega*) and connected warehouse buildings were located in a dense area of town, where one could not easily expand the facilities. Expansion was deemed necessary given that growth in

[72] ''deu-nos uma ilha pequena, suspeitando de certo que nós não eramos capazes de a cortar com bons caminhos-de-ferro e boas estradas, se ela tivesse o tamanho de Cuba, de Java ou Ceilão", Nunes 2013, p.182.
[73] It was stated as follows: "O edificio da estação deve, na sues linhas deraois, obedecer ao type usado das linhas ferreas das colonias estrangeiros da clima tropical.", Caminho de ferro de São Tomé file at AHU, no. 2607.
[74] Caminho de ferro de São Tomé file at AHU, no. 2607. The Congo station designs itself are presumably lost.
[75] Caminho de ferro de São Tomé file at AHU, no. 2607.
[76] Caminho de ferro de São Tomé file at AHU, no. 2607. .

cocoa export had trebled since 1900, from circa 10.000 tons to 30.000 tons in 1909. The latter number represented around 15% of world production.[77] That at one point there would be an end to the cocoa production growth cycle was seemingly not considered.

As a result of the spacious site choice, storage of produce in warehouses could easily be relocated from the cramped center of São Tomé town; the advantage of the new station site was not only that there was space available for a new customs house and warehouses, a new main jetty could be created too, so that agricultural produce like cocoa could be transferred from train wagons to warehouses to jetty to longboats and finally ocean liner, on one closely knitted site. To illustrate his argument, Quinhones Cabral had prepared a plan based on the master plan by engineer Granger, now with an addition for Alfandega buildings, locating these proposed customs house buildings opposite the terminus station, with a separate railway line (fig. 43). This seemingly eminently sensible proposal received warm support from Ezequiel Campos, who had strongly advocated such move over the years.[78] However, by late 1909, it became clear Lisbon did not approve, and the proposed modification was shelved.

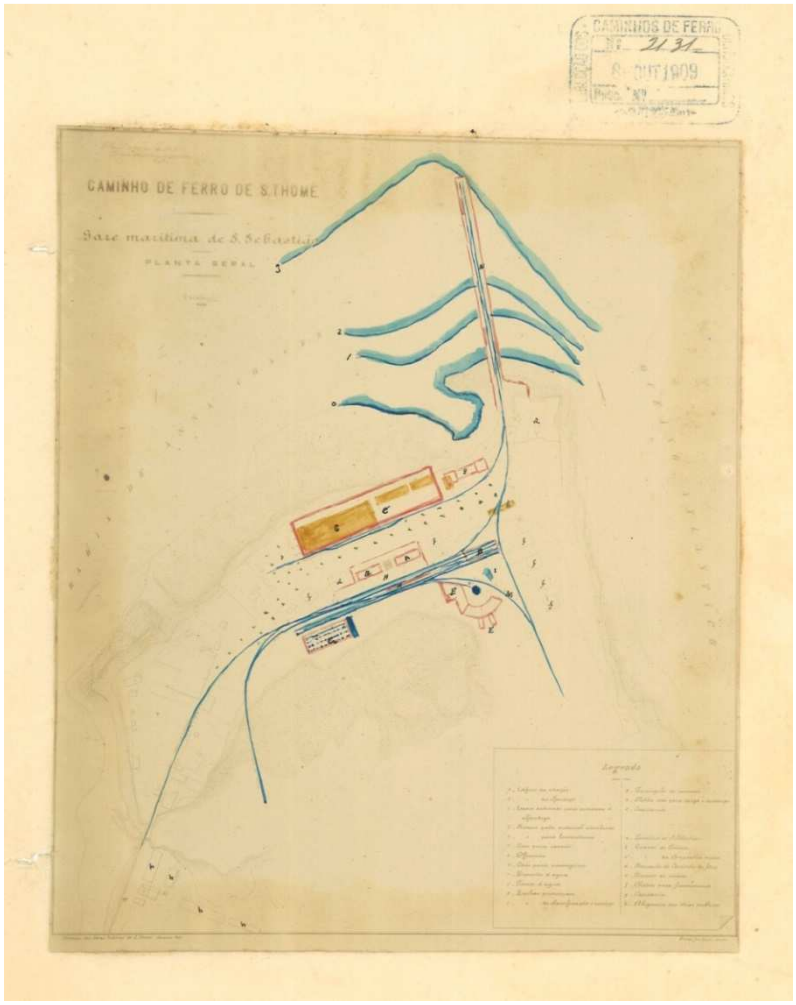


Fig. 43. Sketch-plan for the S. Sebastião Maritime Station from 1909, with the projected addition for a customs house & warehouses (alfandega e armazens) marked in brown.

[77] Hodges & Newitt 1988, pp.32-33.
[78] Nunes 2011, p. 287.

Building materials for the station yard like bricks, natural stone and lime (for fabrication of cement) had to be imported. There was and still is local basalt, but this was not deemed adequate.[79] Consequently, various building materials were ordered from Europe in the course of 1909 and 1910. Portland cement was obtained from the Rheinisch-Westfälisches Cementsyndikat in Bochum, Germany. Bricks were imported from Belgium with as main provider Kraus, Meurer & Weysser. Complex semi-manufactured product like the frameworks of trussed, pitched roofs for the train sheds were purchased in Belgium too, at Baume & Marpent Usines and Ateliers de Construction de Hal.

Building work started in the summer of 1910, according to an updated master plan conceived by engineer Barahona e Costa, the new chef /engineer-director of the STP Railway section team. This updated master plan had used the earlier Granger plan as its base, with Barahona adding new elements to the station outlay, including a building for the directors of the railways adjacent to the terminus station (*edifício da direcção*) and a passenger platform (*caes para passageiros*). Within the plan there was still space allocated to warehouses for the Customs House (*espaço reservado para Armazem d'alfandega*), the inclusion of which may have been a provocation (fig. 44). Unsurprisingly, this plan did not get the seal of approval from Lisbon.

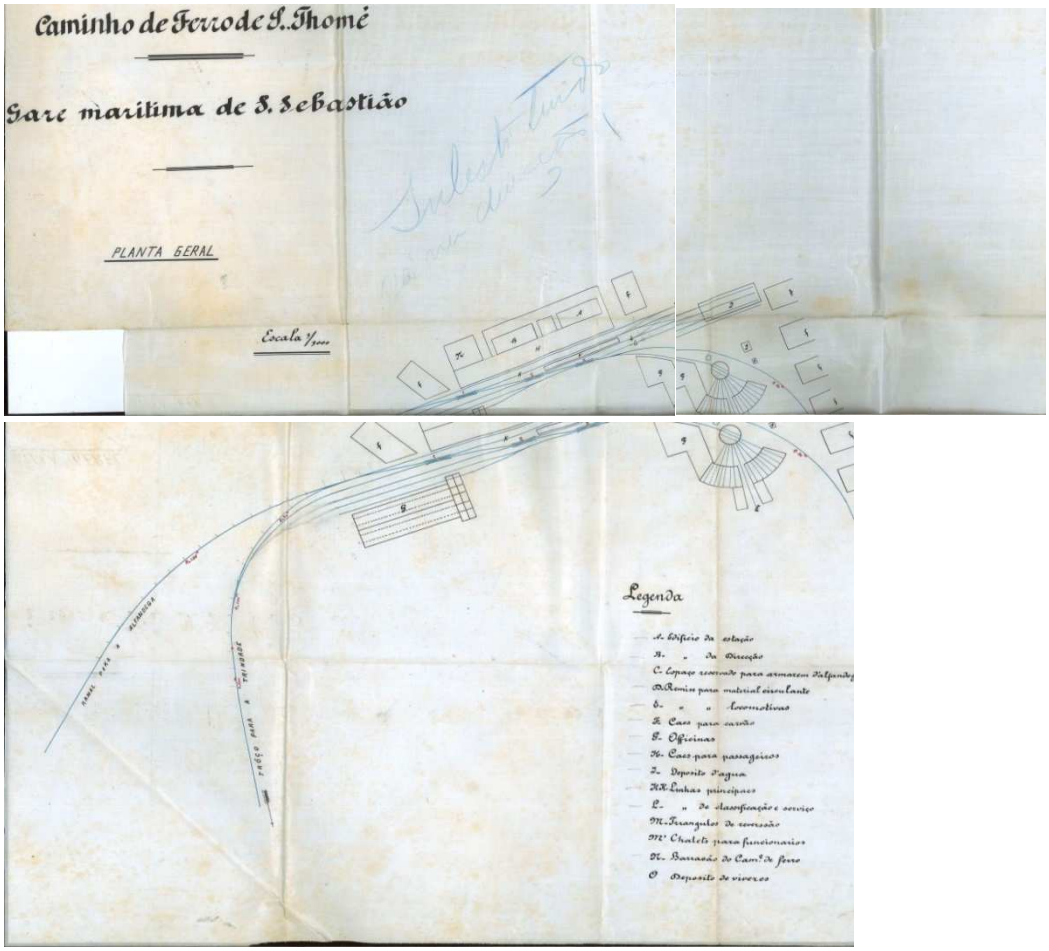


Fig. 44 A and B. The plan for the *S.* Sebastião Maritime Station from June 1910, as signed by engineer-director Barahona e Costa.

[79] Campos 1910, p. 127

Barahona also directed his energy to the actual constructing of buildings, ensuring the semi-roundhouse and the elaborately decorated train shed were erected in the 2nd half of 1910. A striking image of the of the train shed under construction was sent to Lisbon in November 1910 (fig. 60). Since Barahona was sacked at the end of 1910, he did not see the train shed being completed; it took two more years to finish the building, only in 1912 the roof and windows were added.

With Barahona no longer in function in 1911, the project plan was scaled down, and a definite building plan emerged in March 1911 (fig. 45). It was drafted by José Celestino Regalla, as the ad-interim chef /engineer-director of the STP Railway section team. It showed the terminus station (*estação),* the train shed (*remise para material circulante / cocheira de carruagens)*, the semi-roundhouse with a coaling stage (*cocheira de locomotivas, cais de carvão),* six workers bungalows (*chalets para funcionários*), a police officer's building (*quartel de policia*), and last but not least a temporary goods shed *(armazem provisorio)* and a full-fledged goods shed (*armazem geral).* The latter was the largest building situated next to an open storage space protected by barbed wire fences (*vedação de arame para armazems*).

Regalla dispatched his project plan to Arnaldo de Novais in Lisbon in March 1911. It was duly approved in April 1911.[80] Novais was now employed by the Ministry of Colonies (*Ministero das Colonias*), the new name for the Ministry of Overseas and Maritime Affairs, introduced after Portugal transitioned in 1910 from monarchy to republic. Unlike on STP, where so many staff changes happened, at the ''new'' Ministry in Lisbon it seemed business as usual, with Novais' staying on as the director in charge of colonial railways.[81]

Building work of the station, semi-roundhouse, train shed, good shed and workers houses had already commenced in 1910, with the station yard ready for business in 1913.
On the 3rd of June 1913, the railway was inaugurated with is first official train departure to Trinidade.[82] From a hydrographical map of the Maritime station yard from 1916, one can distill the buildings drawn by Regalla in 1911 were indeed executed (fig. 46). However, there are some differences between the plan of 1911 and the map from 1916, like the addition of one large building, the railway workshop (*Officinas do Caminho de Ferro*), which appears to have been was added to the project in late 1911.[83] Then, the map rom 1916 shows a few other smaller buildings not provided for in the Regalla plan: quarters for staff of the Port Authority (*Capitania*), a signal box and two guard's houses.

It had taken six years to get to the 1913 inauguration stage. As mentioned, frequent staff changes among the Portuguese managers certainly had caused delays. Then the dearth of builders on STP available for doing the basic construction work also had hampered progress. The lack of builders was eventually resolved through importing 200 laborers from mainland Africa, including 170 men from the Quelimane area in Mozambique, another Portuguese colony at the time.[84]

[80] Caminho de ferro de São Tomé file at AHU, no. 2775.
[81] Vieira 2005, p. 91.
[82] Vieira 2005, p. 141.
[83] Caminho de ferro de São Tomé file at AHU, no. 2775.
[84] Campos 1912, p. 30.

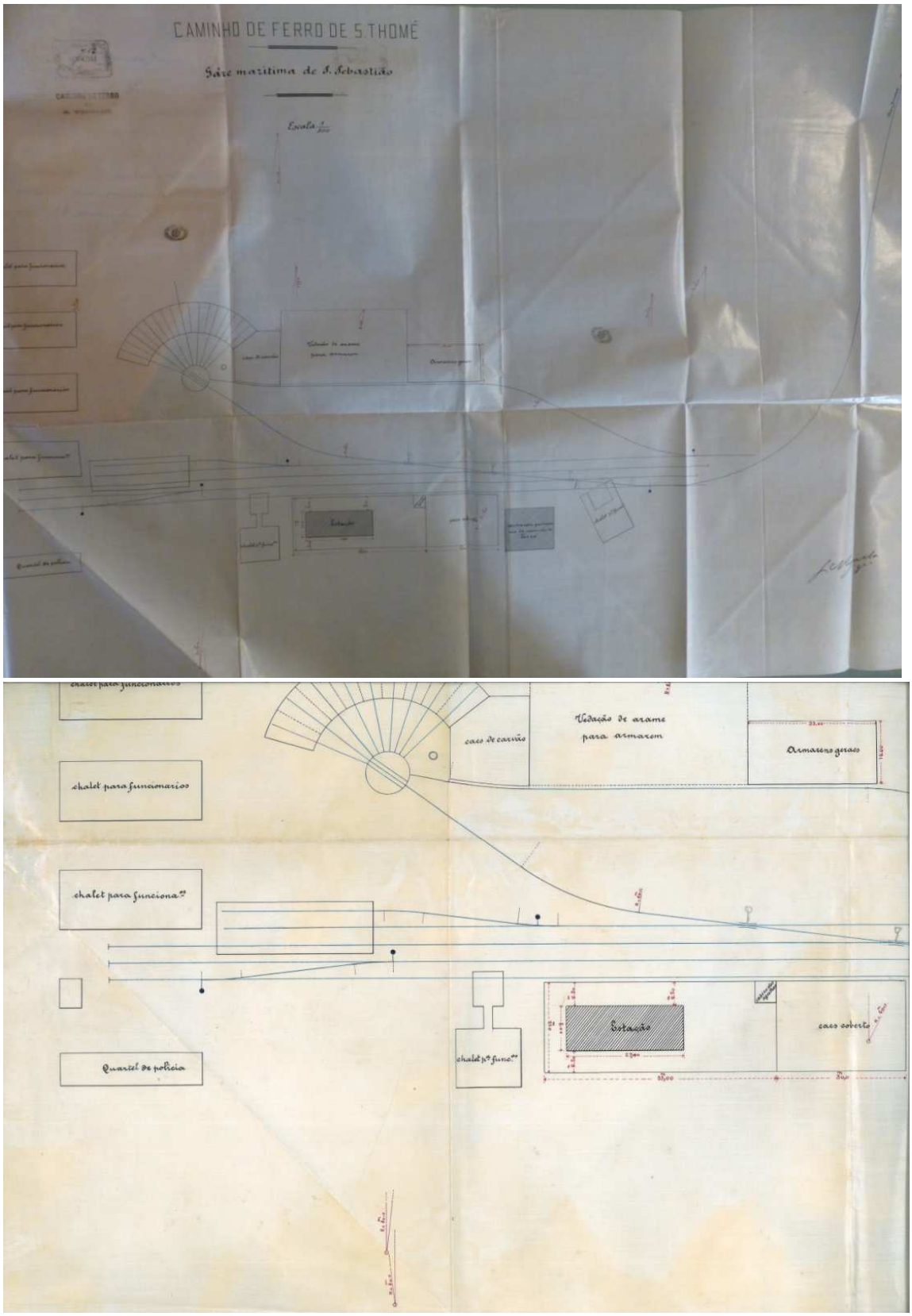


Fig. 45 A and B. The definite plan for the S. Sebastião Maritime Station from March 1911, full plan and inset, as signed by engineer-director José Celestino Regalla.

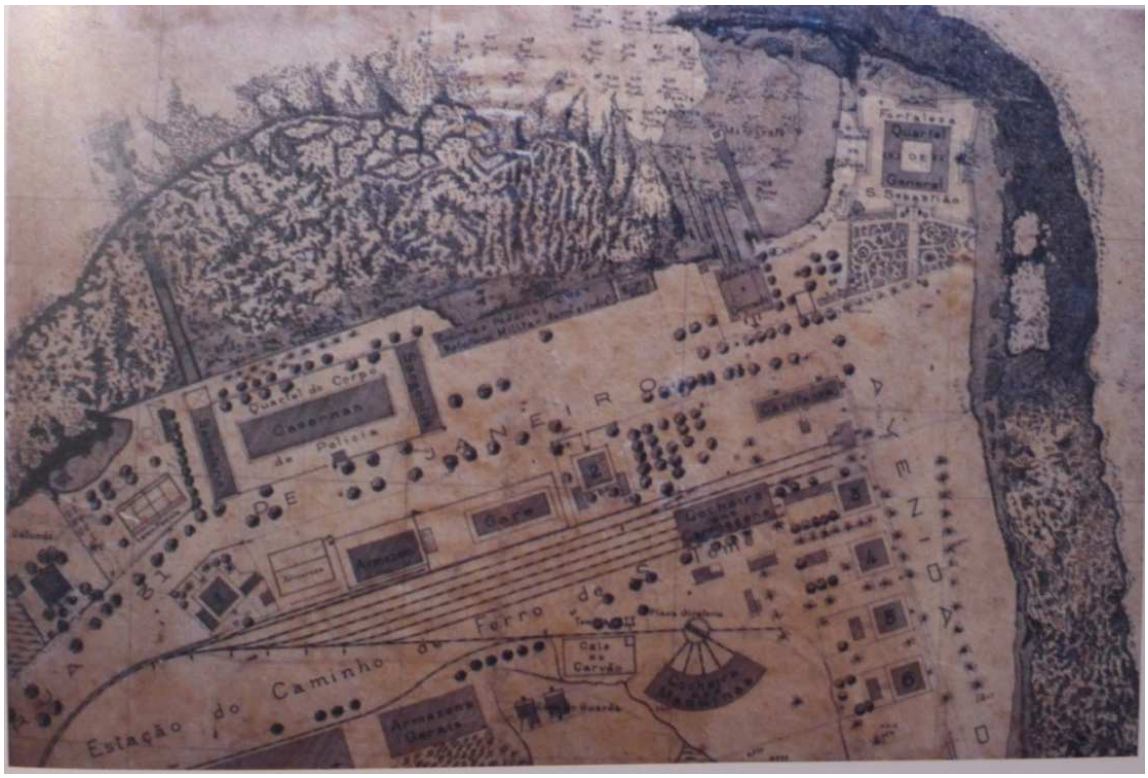


Fig. 46. Hydrographical map S. Sebastião Maritime Station 1916, Historical Archive STP. Clockwise from bottom note these buildings at the site: railway workshop (partly visible), station masters' cottage (1), warehouse (Armazem), station building (Gare), workers cottage (2), Port Authority office (Capitania), signal box (small triangular building), train shed (Cocheira de Carruagens), workers cottages (3,4,5,6,) semi-circular roundhouse (Cocheira das maquinas), wood shed (Cais de Carvão), guards houses (Casas Guarda), goods warehouse (Armazem Geral).

Fig. 47. S. Sebastião fortress, and directly behind it, the S. Sebastião Maritime Station. The Port Authority offices, signal box, staff cottages, the semi-roundhouse, and the glass facade & roof of the railway workshop are visible. Circa 1960.

Terminus station S. Sebastião.

Fig. 48. Terminus station *S.* Sebastião*,* back and side facade, circa 1920. On the far right side one sees the facade of the train shed.

One of the most picturesque and distinguished buildings of the station area yard was the terminus station (*estação terminal)* S. Sebastião. It had a prestigious location, close to the sea and just around 100 meters southwest of the famed 16th century S. Sebastião fortress. This was fitting for the terminus station of a railway line, which was created to enable STP to maintain its leadership position as one of the world's primary cocoa producers.

From the terminus station, an 18km railway line would reach first the halts created as roça loading points, Almeirim, Amparo, and Quifinda. Thereafter the train would get to the small station at the village of Lemos. From Lemos it would reach the halt of Obo Longo and then go to the desirable hilltop town of Trinidade, which had a proper station too. From Trinidade the line extended to the halts of Benicia and Aqua Cavalo prior to reaching the terminus station of the village of Milagros, at an altitude of nearly 500 meters. There was a second 1km railway from S. Sebastião going into the center of town to stop at Alfandega this was where the Customs House and warehouses were located.

Getting cocoa in a cost-efficient way from the roças to STP town had been the main driver for establishing a railway line, not transporting passengers. Since in 1910 the decision had been made not to make S. Sebastião Maritime station a freight station too, the merchandise from the plantations like cocoa had to be unloaded in the center of town at the cramped Customs House (*Alfandega*) site, to be transferred to adjacent warehouses

(see chapter 5.1). This was decidedly odd, since the railway was meant to make the route for merchandise from roças to São Tomé town more efficient and quick, not more tortuous.

It made naming the station yard a maritime station rather fanciful. The purpose of the S. Sebastião terminus station was in effect assembling or dispersing a small number of passengers only. Around 10.000 to 12.000 passengers a year arrived and departed from the station, between 1913 and 1925. On average there was a service of 3 train departures from the terminus station per week.[85]

Construction began most likely in 1910 and ended in 1912. This terminus station was built with a timber frame, filled in with lime-cement, rubble and bricks. It was a two story structure, 14 meters high, and with its surrounding veranda nearly 34 meters long and 15 meters wide. At ground level the front and back facade had six identical semicircular arched entrance doors and two matching entrance doors on each side facade. All entrances had louvered shutter doors, with fixed louvers in the arches, to admit light and allow for cross-ventilation when shutters would be closed and the interior doors open. On the 1st floor the architectural out lay was similar but less ornate, the main difference being the fact that the entrances were not semi-arched but laid out with three-centered arches.

The facade featured an ample veranda made of steel, three meters wide. It was a wrap-around double veranda, with galleries on each floor stretching the full exterior of the building, to provide shelter from the elements. The veranda was supported by slender columns made of cast iron, delicate in appearance. It was an example of a new building well adapted to the local climate.

The station's exterior on the ground floor was finished off with rusticated stones made of molded concrete. On front, rear and side facades, plasterwork was textured in various patterns, to resemble natural carve-like stone textures. One can safely assume that through imitating an exclusive, expensive material, the status of the building was to be enhanced. A continuous white band of plaster along the walls and the semi-arches of the entrance doors provided a sense of animation. The 1st floor was less ornate. Here the exterior walls were treated with plain plasterwork only. The plan for the exterior of the building from 1910 drawn up under Barahona's leadership called for extensive masonry on the 1st floor too, but that was not followed through (figs. 51 & 52).

The building was covered by a low-pitched hipped roof with asbestos-cement roofing tiles. It was a deeply overhanging hipped roof, covering both the core building as well as the first floor veranda. Protruding eaves were visually supported by lightly decorated wooden brackets. Then. the layout of the station was lucid. The four double doors left at the ground floor level in the facade front lead to the vestibule and corridor, the fifth door providing access to the station masters' room (fig. 53). The remaining sixth door served to approach the staircase. Across the facade ran a broad vestibule with a narrow corridor which provided access to the 1st and 2nd class waiting rooms. Third class passengers were expected to wait outside.

[85] Vieira 2005, pp 157-158.

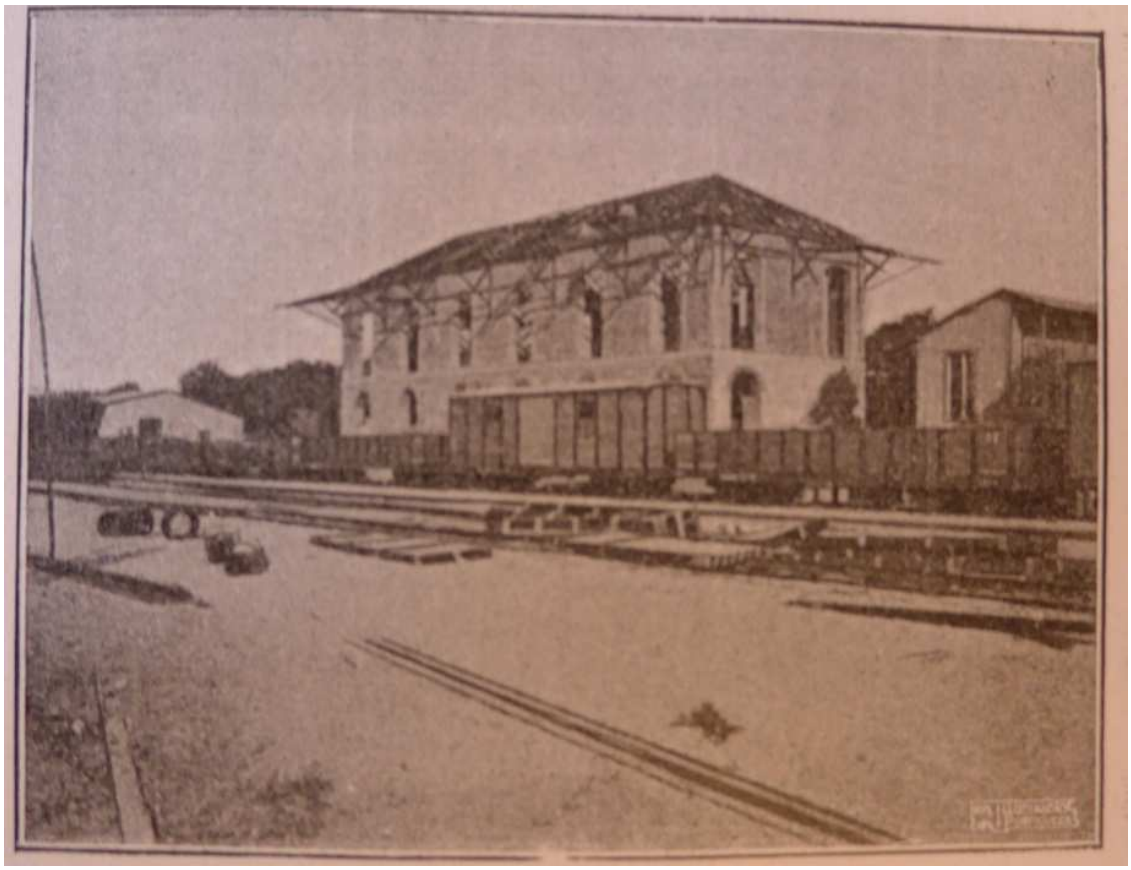


Fig. 49. Terminus station S. Sebastião, under construction, circa 1911.

Fig. 50. Terminus station S. Sebastião, north facing facade, 2014..

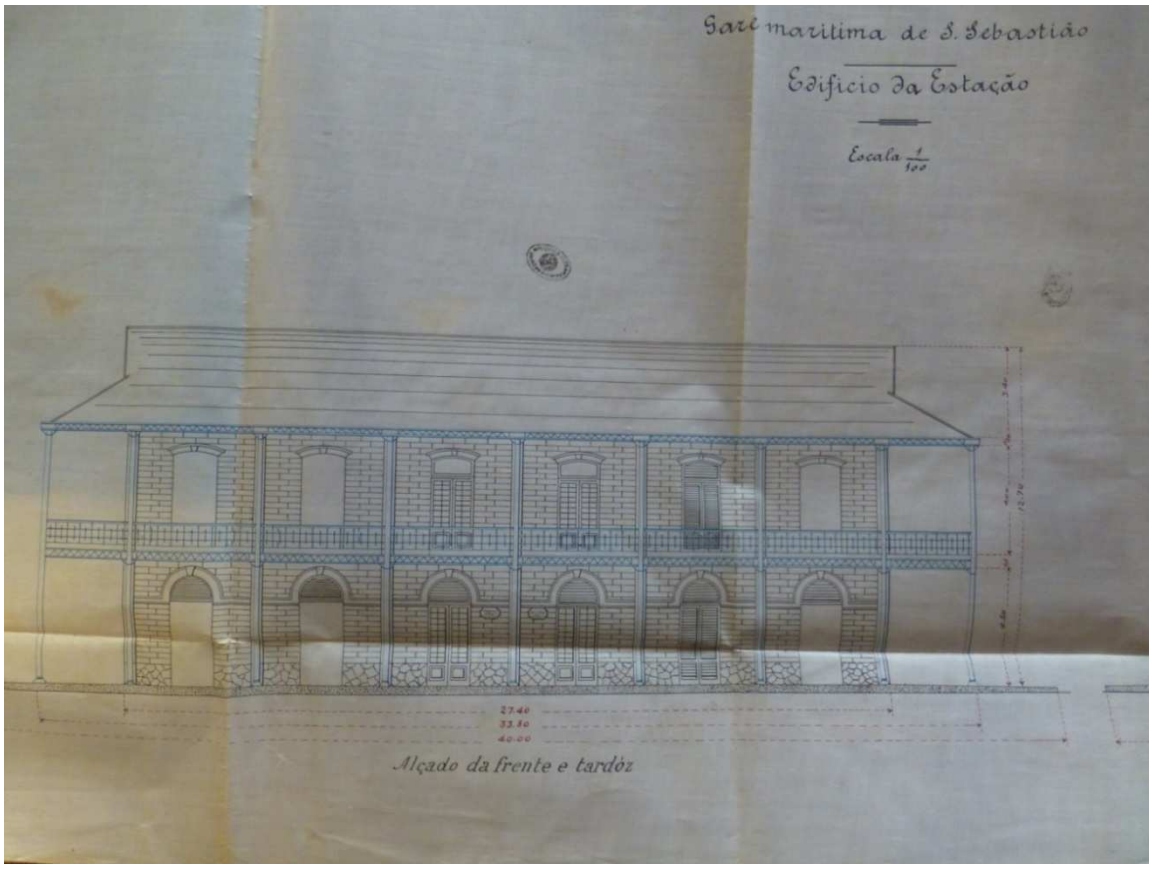
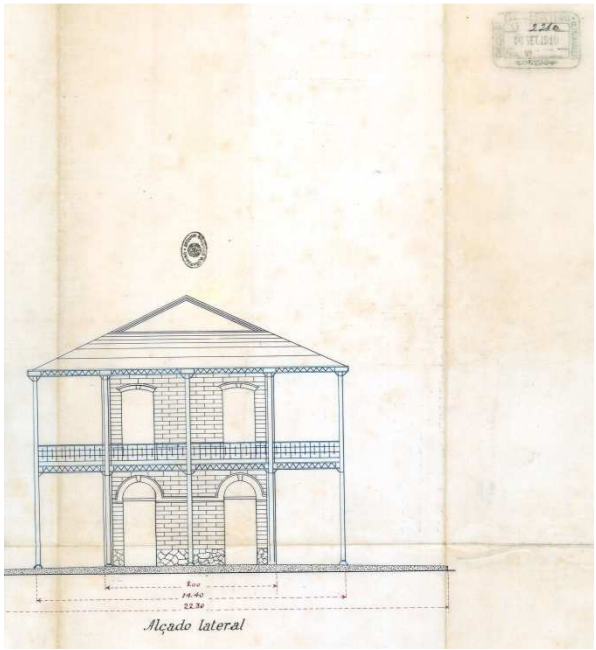


Fig. 51. Design for the front & rear facade of the S. Sebastião terminus station building, 1910.



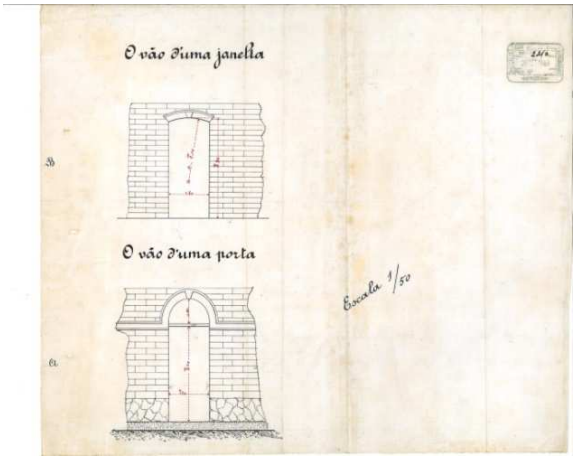


Fig. 52 A & B. Design for side facade & doorposts at ground floor & 1st floor level of the *S.* Sebastião terminus station building, 1910.

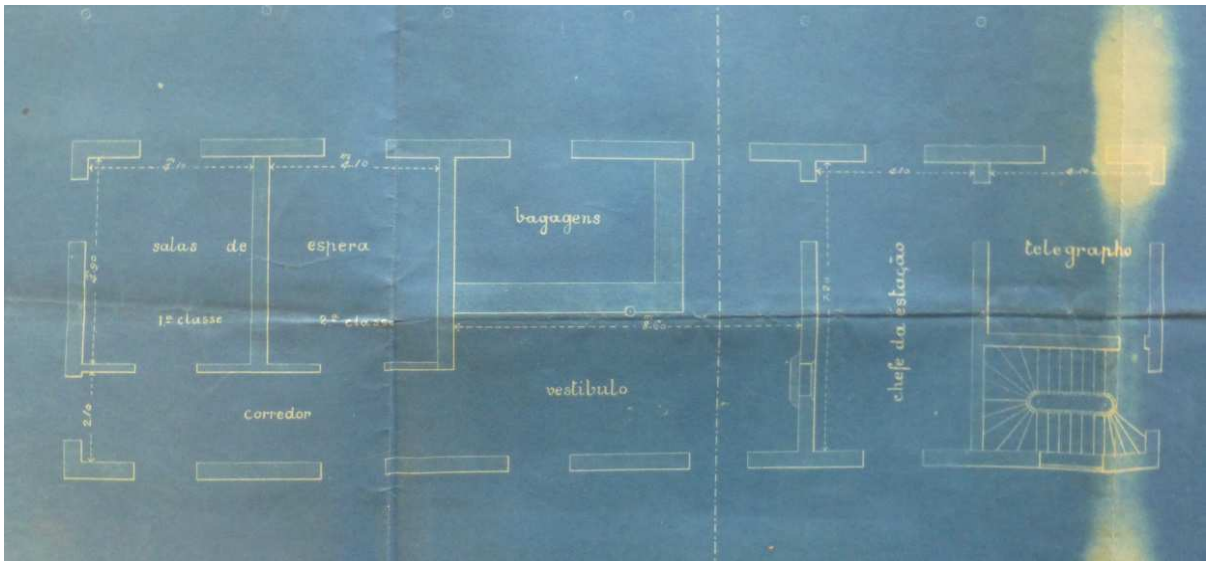


Fig. 53. Plan of the ground floor of the S. Sebastião terminus station building, 1910.

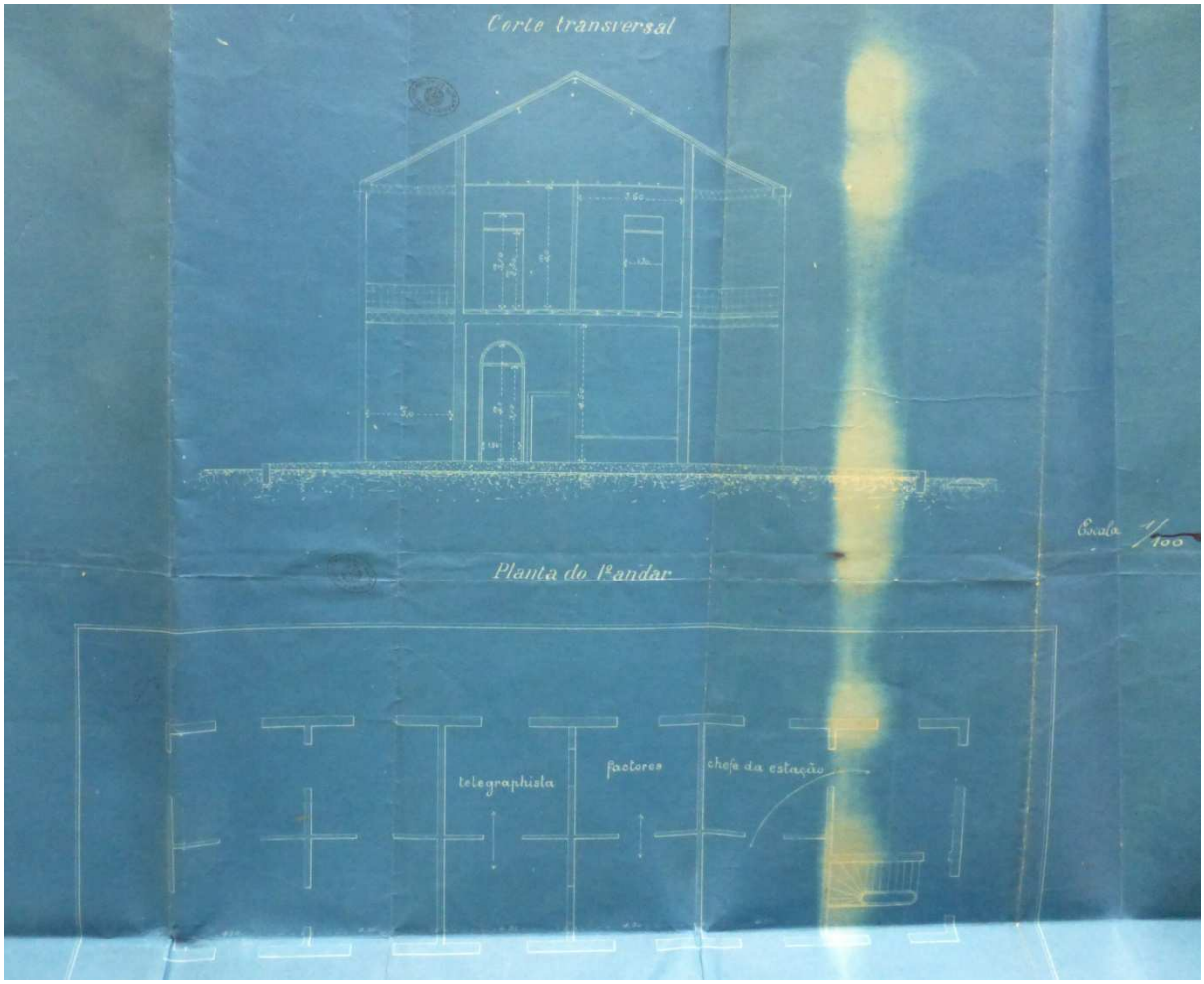


Fig. 54. Plan of the first floor of the S. Sebastião terminus station building coupled with a cross section, 1910.

From the waiting rooms one would walk out to the veranda, its paving functioning as a de-facto platform. The railway line flanked the rear facade of the station; the train would just pull up in front of the station, allowing passengers to get onto the train wagons easily. There was indeed no formal platform.

Office space was provided on the first floor, with an office for the station master, meeting rooms and a telegraph room (fig. 53). The upper veranda on this floor was treated like a terrace. On both floors inside the building, the partition walls were alternatively wood paneled or plastered. The ceilings of the floors were covered with asbestos-cement.

The outcome was an orderly and handsome architecture fit for a tropical climate. The symmetric arrangement of identical series of double doors, well-articulated rustication, wrap-around verandas and hipped roof formed a confident and harmonious structure. At the same time, the architectural impact of the terminus station was enhanced by a visual connectivity from the front verandas to the sea and the imposing fortress S. Sebastião, perhaps STP's most iconic historic building. The view from the rear facade was imposing as well; from here one would see the other buildings of the station yard, the elegant semi-roundhouse, the imposing train shed, the grand good shed and monumental railway workshop. While sheds were typically plain walled structures, on STP these buildings were adorned with decorative motives like rusticated stonework and bold arches, made of plaster but looking like expensive quarry-faced stone. A visual correlation to the rusticated station exterior was thereby provided.

There may have been some need to make some architectural statements. This is not surprising, as from the outset initially this maritime station yard was regarded as the key enabler for STP to maintain its leadership position as one of the world's leading cocoa producers. The station would symbolize too the enormous importance of STP as ***the*** leading center of colonial trade within the Portuguese empire.

Inspiration for the terminus station S. Sebastião must have come from multiple sources. It appears American architect H.H. Richardson's (1838-86) work had its influence on the terminus station S. Sebastião. His famous picturesque North Easton train station from 1886, a suburban train station designed for the Boston and Albany railroad in the US, with its quarry-faced stones used for texture contrast, may have been a source of inspiration (fig 56). In particular the rustication of the exterior walls enlivened by dark colored bands, its widely overhanging roof, visually supported by pronounced, lightly decorated wooden brackets may have influenced the design of the terminus station S. Sebastião, where we see a creative adaptation of these Richardsonian design features.

It is not surprising that there would be Richardsonian details, Richardson influenced many station architects during the late 19th century, in cities as diverse as Montreal, St Louis and Toronto.[86] Whilst in the late 90s of the 19th century Richardson's influence within America gradually declined, Europeans continued to be interested in his American examples, down to the beginning of the 20th century. His work had found its way to Europe through numerous monographs, and European railroad specialist visited the US to

[86] Meeks 1964, p. 107.

study their technical practices.[87] Last but not least, lead engineer Quinhones Cabral's recommendation to Lisbon in 1909 that the STP railway should follow quality standards as used within American railway industry, shows the acute awareness of America's high standing within the STP railway environment.[88]

It is safe to assume too that some architectural borrowing from already existing train stations in Belgian Congo occurred, given Lisbon's' instructions to design the S. Sebastião terminus station in line with the typology used by foreign colonial nations in tropical climates. The fact that two architectural designs from train stations in Belgian Congo were sent as reference material for the engineers working on STP points in the same direction.[89] Unfortunately those two architectural designs presumably did not survive. The train station in Thysville (Mbanza-Ngungu) in Belgian Congo, shows some striking similarities with the terminus station S. Sebastião however (fig. 58). Thysville was an import stop on The Matadi–Leopoldville (Kinshasa) Railway, constructed from 1890 to 1898.[90] Like the terminus station S. Sebastião, the Thysville station is a long rectangular building with a wrap-around veranda, with galleries stretching along the full exterior of the building. In Thysville too, the veranda was supported by slender columns, and the building was covered by a hipped roof.

It is fitting though that on STP the Portuguese engineers would adapt a proven station model used in Congo and the US; in their homeland Portugal at the time railway stations were generally built according to a standardized model (not typology) and then adapted to local circumstances.[91]

Fig. 55. Terminus station *S.* Sebastião, Detail of brackets supporting the hipped roof, 2014.

[87] Meeks 1964, p. 136.
[88] Caminho de ferro de São Tomé file at AHU, no. 2775.
[89] It was stated like this: ""O edificio da estacao deve, na sues linhas deraois, obedcer ao type usado das linhas forreas das colonias estrangeiros da clima tropical."", Caminho de ferro de São Tomé file at AHU, no. 2775
[90] Lebbe 1950, p.9.
[91] Martins, 1996, p.138.

Fig. 56. H.H. Richardson's North Easton train station from 1886, USA, back and side facade, 2013.

Fig 57. Terminus station S. Sebastião, back and side facade, circa 1920.

Fig.58. Thysville station, Belgian Congo, back and side facade, between 1898 and 1909.

Engineering and maintenance quarters: train shed, semi-roundhouse, goods warehouse and railway shop.

Fig. 59. The S. Sebastião Maritime Station circa 1920. View to some of the key buildings of the yard. From left to right, cottage station master, wood shed, station, train shed, railway workshop.

The engineering and maintenance headquarters for the rolling stock of the STP trains were erected on the plot just behind the rear facade of the terminus station (figs. 44, 45). It concerned a train shed, a locomotive semi-roundhouse, a goods warehouse and a railway workshop. Compared to the main station building, these structures were really not the poor relations in terms of the attention devoted to them. Although it concerned essentially utilitarian structures, these were handsome, frequently striking buildings. Executed with glistening arcades, soaring glass panels and eye-catching matching architectural detailing like the cladding of the external walls with massive plasterwork that imitated stone – the de-facto house style of the São Sebastião Maritime Station – they combined to create a memorable image of a prestigious transport hub in the tropics.

Train shed

One of the most picturesque buildings of the station area yard was the train shed (*Remise para Material Circulante* or *Cocheira de Carruagens)***.** A few steps north west of station S. Sebastião, this one-storey, rectangular shed had been erected. The building was some 36 meters long, 12 meters wide and 9 meters high. Its main function was to protect the train carriages and wagons from the elements. The train shed was constructed with brick, and lime-cement, its exterior was finished off with plaster and with molded concrete to create rustication.

Fig. 60. Exterior train shed of the S. Sebastião Maritime Station during construction in 1910, providing a rare view of how these buildings were put together.

The two long side facades were treated with nine identical and uninterrupted semicircular recessed blind arcades. Sunlight could streak though glazed openings at the top of each arcade. In alignment with the rustic textured finish of the S. Sebastião station, the rusticated blocks for the train shed resembled natural carved-like stone textures (figs. 60, 62). Rustication at the shed was heavier and bolder, with the rough faux-stone bands providing an even more pronounced visual texture than at the station building.

On the side facades facing east, three identical train entrance gates entrances were created to prove access for the rolling stock. These entrances had elliptical arches across the top, decorated in brick. Each entrance was embellished with one horizontal and two vertical rusticated bands, in continuity with the long side facades. Above the middle entrance within the gable end an elliptical louvre opening was inserted, to aid ventilation inside (fig. 60).

A train shed should not to be susceptible to fire from embers blown by train smokestacks, hence the building was covered by a trussed pitched roof with trusses solely made of wrought iron bars and rods, supported by the loadbearing walls of the shed. The roof was given a flat asbestos covering, whereby the exterior of the roof was made distinguished by a roof vent running along the ridge of the roof, to allow more light into the shed but also to create a flow of air to remove steam and smoke from inside. The steel framework for the roof was ordered pre-assembled in Belgium, as were the roof vent and the roof covering.

Baume & Marpent Usines & Fonderies in Haine St. Pierre received the order from Lisbon. in December 1909, and roof materials were shipped from Antwerp to STP in April 1910.[92]

The interior of the shed was less striking but still congenial. The two long side facades each mirroring the exterior offered identical, uninterrupted semicircular arcades, thereby mirroring the exterior, but without rustication (fig.58). Furthermore, the visible interplay of steel rafters and tension rods providing the framework for the roof represented a playful architectural feature. The building plan from September 1909, designed under auspices of engineers Granger and Quinhones Cabral appeared to have been executed with some modifications (fig. 61). The key difference between the plan and what actually constructed concerned the side facades: the 1909 plan shows these sides having square recessed panels, unadorned.

Construction of the shed began most likely late 1909/early 1910 and ended late 1910. A note from the secretary of the STP railways to Arnaldo Novais in Lisbon states the building was indeed finished at the end of 1910.[93]

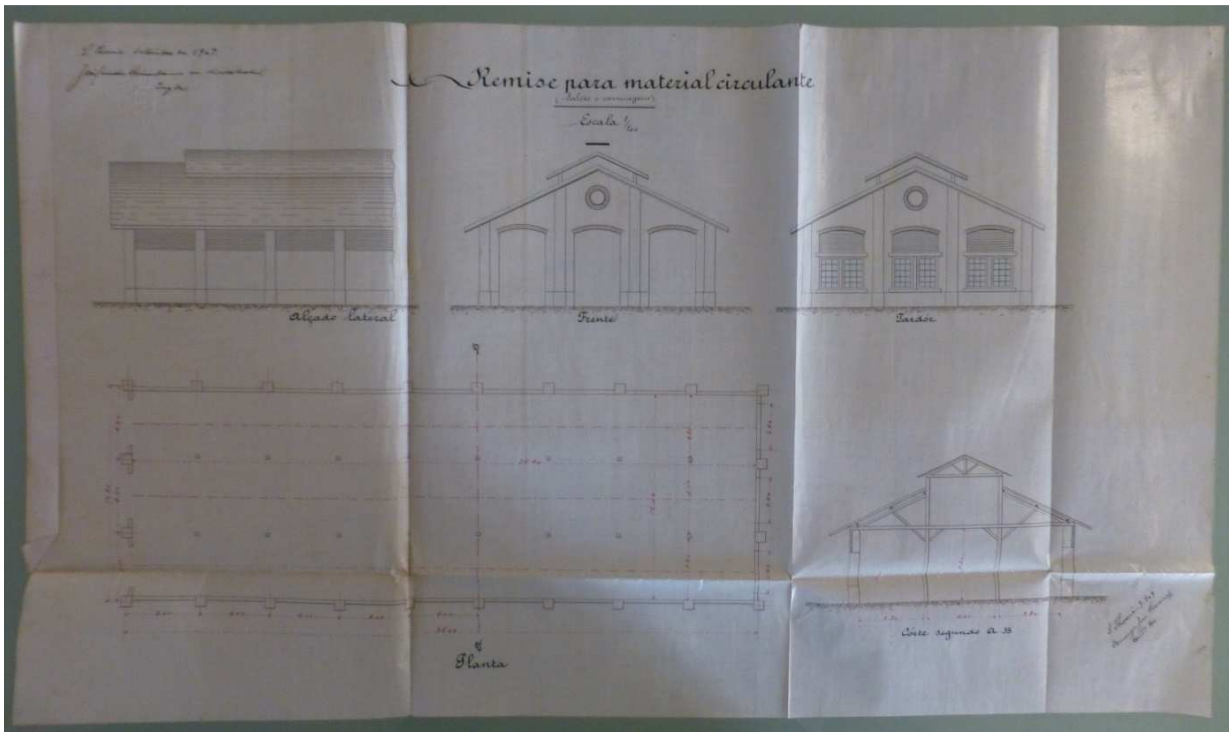


Fig. 61. Plan for the train shed of the S. Sebastião Maritime Station, March 1909.

[92] Caminho de ferro de São Tomé file at AHU, no. 2775.
[93] Caminho de ferro de São Tomé file at AHU, no. 2775.

Fig. 62. A & B. Facade and interior train shed of the S. Sebastião Maritime Station, 2014.

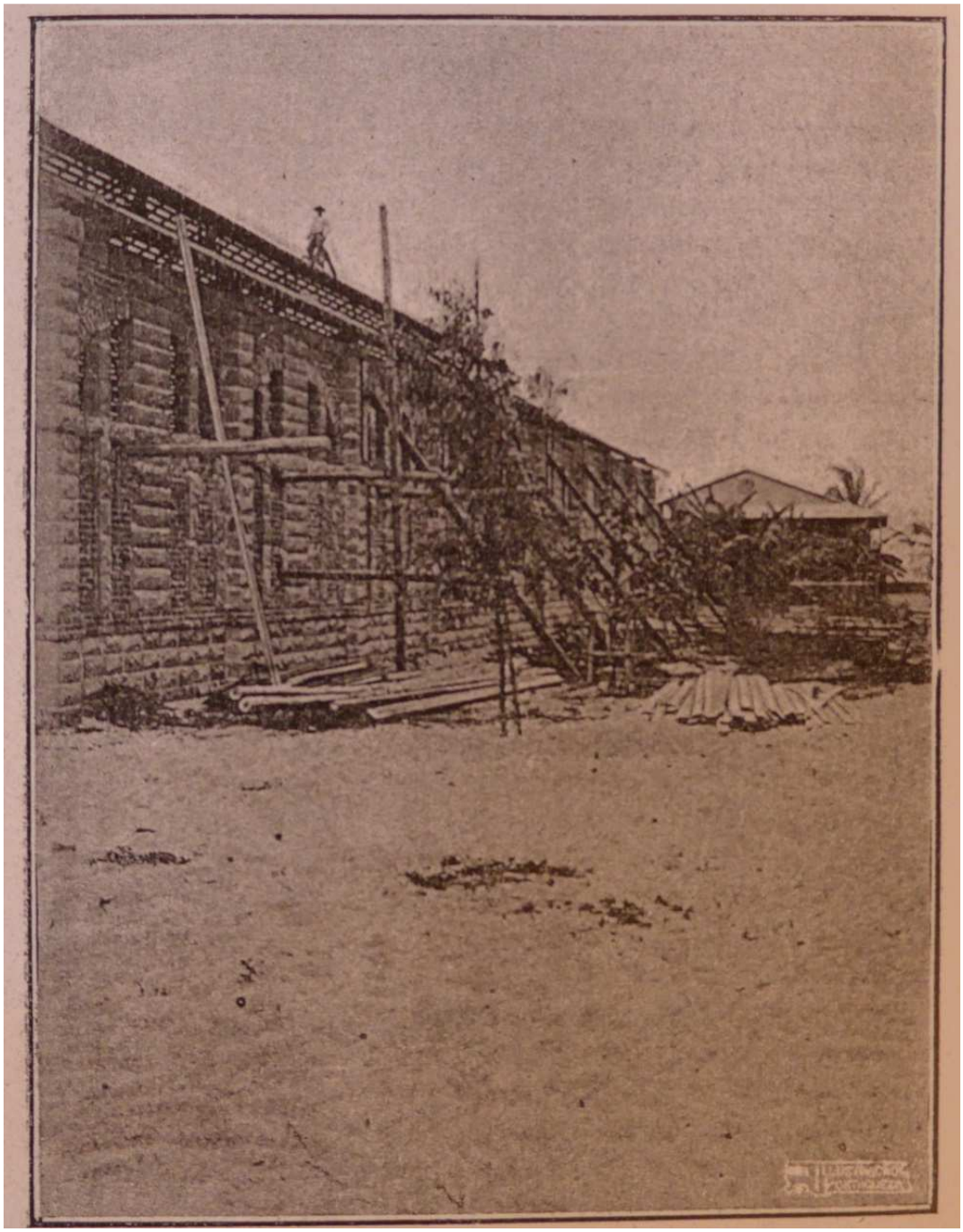


Fig. 63. Train shed at the *S.* Sebastião Maritime Station under construction, with a workers cottage on the right hand side, circa 1910.

When finished in late1910, the train shed must have cut a dashing figure, as can be sensed in the above photograph of 1910 (fig. 60). This was a striking building whereby great care had been given to its external appearance, in particular to the two main lateral arcaded walls. Though utilitarian in functioning - it was essentially really only a garage for rolling stock - the building was certainly designed with an eye to its appearance. The rhythmical manipulation of its exterior with fleeting rusticated curved and straight bands provided a harmonious, unified and even sumptuous architectural effect, thereby imbuing the building with a monumental character. It was an architectural device that spoke of solidity, status and security.

As applies to the terminus station S. Sebastião, the exterior of the train shed also seems indebted to the illustrious American architect H.H. Richardson. The repetition of symmetric masonry arcades Richardson applied to one of his most famous utilitarian buildings, the *Marshall Field Wholesale Store* in Chicago (1885–1887) is curiously close to the architectural style devised by the STP engineers for this train shed (fig 64). The Marshall Field building is known to have had a major impact on the development of modern building facades, apparently even with a reach extending to STP in tropical Africa.

Fig 64. H.H. Richardson's Marshall Field Wholesale Store in Chicago (1885–1887), demolished 1930.

Fig. 65. Train shed at the S. Sebastião Maritime Station, detail of a semicircular arcade, 2014.

Locomotive shed / semi-circular roundhouse

Fig. 66. The S. Sebastião Maritime Station: the facade of the semi-roundhouse, 2014. Full view is partially blocked owing to a recently (2012) built parking lot.

A dedicated, purpose built structure where the STP Locomotives and traction engines could receive regular cleaning and maintenance was constructed between 1910 and 1912. It was a semi-circular roundhouse *(Cocheira de Machinas / Cocheira de Locomotivas),* which held train locomotives and traction engines radiating from a turntable.

The building was constructed with bricks and lime cement. It concerned a one-story structure, with its exterior finished off with plain plasterwork. The semi-roundhouse had nine stalls with nine round arched openings serving as the entrance and exit doors for vehicles. These arched opening were framed with unadorned plastered pilasters. Each side of the building had a large window, functioning like a vent. The circular rear wall matched the facade with nine bays: a sequence of four windows, then one exit door in the center of the wall, then the second set of four windows. The eight windows on the rear and the side wings were treated with fixed horizontal blinds, to aid ventilation (figs. 68, 69). Unlike the station, train shed, good shed and railway workshop, the semi-roundhouse was not decorated at all with rustication. The interior was unremarkable with some architectural interest provided by a semi–circle of ten square brick columns supporting the roof, placed centrally in the building.

The framework for the roof and the roof covering had been ordered pre-assembled in Belgium. Raul de Machado Faria e Maia, freshly appointed as the new enigineer-in-chief in charge of public works on STP, expressed in February 1911 in a note to Novais in Lisbon he felt *Société Anonyme des Ateliers de Construction de Hal* in Belgium would offer the best product in terms of price/quality. Lisbon speedily followed up on Faria e Maia's recommendation: in late February 1911 said Belgian construction company had already been given the order to construct the roof. It concerned a curving, semi-circular

sloping roof structure supported upon wrought iron trusses, with a roof vent to help removing steam and smoke from inside. The roof cover was made of wave-corrugated roofing sheets in zinc.[94] The roof construction was produced with a couple of months. Already in July 1911 the assemblage was shipped from Antwerp, and received on STP a month later, as acknowledged by Faria e Maia in a note to Lisbon.[95] But then on STP the semi-roundhouse was not subsequently endowed with the roof, as one would have expected. STP governor Leote do Rego, who had just relinquished his post, wrote in the Portuguese daily *O Seculo* in December 1911, the semi-roundhouse and the train repair/maintenance shed were still without a roof, expressing thereby his concern that rolling stock and other material was not being protected from a cocktail of intense sun and torrential rains.[96] It seems likely that only in the course of 1912 the building was completed.

The semi-roundhouse may have had less architectural pretensions than the large main buildings of the station yard, since it was rather sparsely embellished. At the same time the engineers had realized a calm, harmonious building through the repetition of 9 pilaster-framed entrances on the facade and on the rear with 8 pilaster-framed windows, with an unusual, even rare semi-circular shape. Again, the outcome was a coherent and handsome architecture.

Its design may have been inspired by manifold roundhouse built in the 19th century by US railway companies, since the US railways were such an essential reference point for the Portuguese engineers working on the STP railway. With roundhouse design harking back to the early years of the railroad industry in the UK, many such prominent buildings were constructed in countries which were at the forefront of railways developments during the 19th century, which were in particular the UK and the US.

[94] Caminho de ferro de São Tomé file at AHU, no. 2682.
[95] Caminho de ferro de São Tomé file at AHU, no. 2682.
[96] Vieira 2005, p.137.

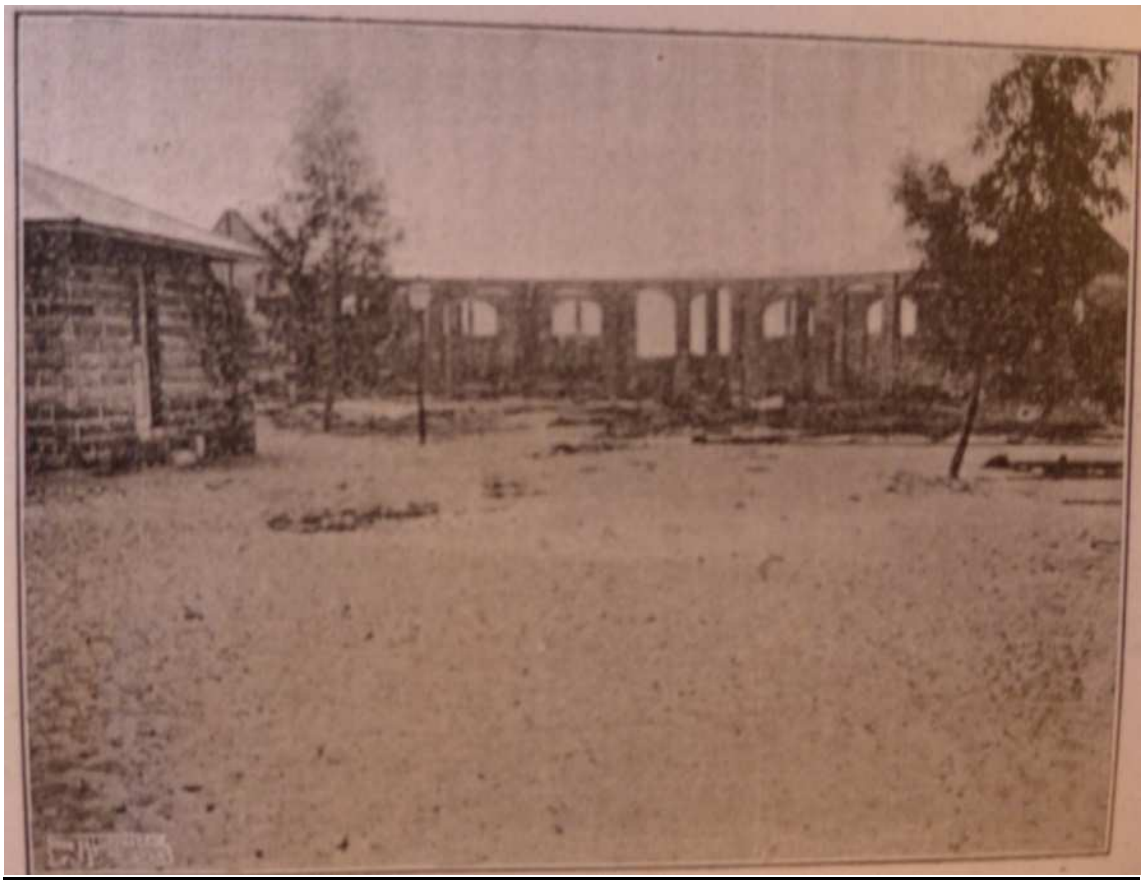


Fig. 67. The S. Sebastião Maritime Station: the semi-roundhouse under construction, circa 1910.

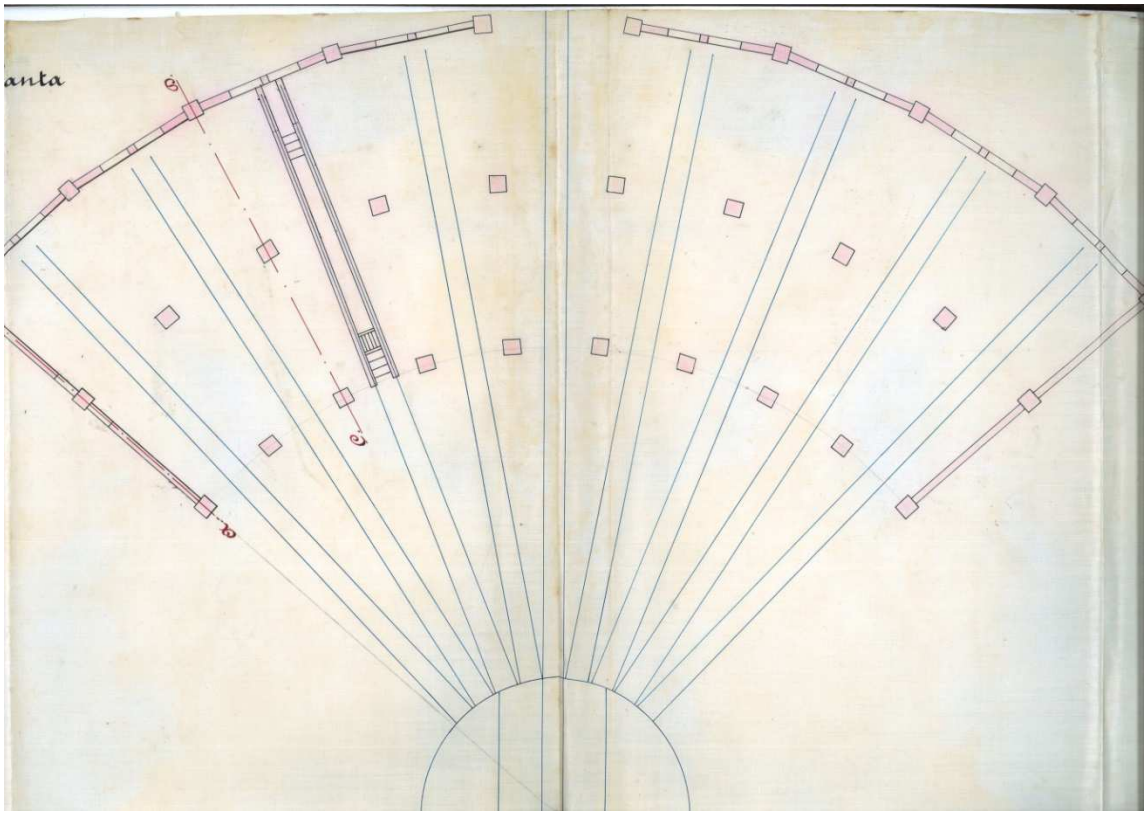


Fig. 68. Plan S. Sebastião Maritime Station: the semi-roundhouse. Railroad tracks lead out of the individual doorways to a turntable, circa 1910.

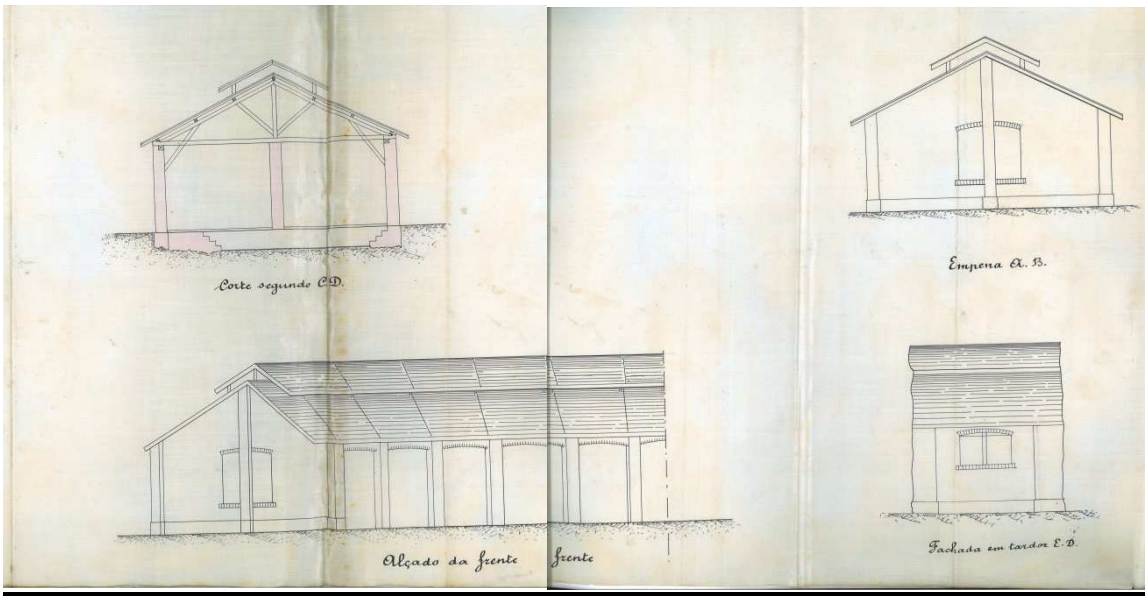


Fig. 69. Design S. Sebastião Maritime Station: semi-roundhouse detailing, circa 1910. Clockwise from left to right: principal facade, interior with roof, side wing and window rear.

Goods warehouse


Fig. 70. Goods warehouse of the *S.* Sebastião Maritime Station under construction, circa 1910.

Around 100 meters northwest of the terminal station, a goods warehouse *(Armazem Geral*) was erected. Its main purpose was to provide a central space as shelter and storage for diverse railway related material.

The plan drawn up by interim engineer Regalla in March 2011, outlined a hefty rectangular building (figs. 71, 72). It was a one-story rectangular shed some 37 meters long and 16 wide, rising to a maximum height of 9 meters. Already in April 2011 Regalla mentioned in a note to Lisbon that the walls were standing whilst work was underway to add masonry to the exterior.[97] This warehouse was constructed with brick and lime-cement. In keeping with the house style of the main station buildings, its exterior was finished off with plain plaster and rusticated vertical bands of carefully articulated molded concrete.

A framework of wrought iron roof trusses, supported by longitudinal wrought intron girders and timber rafters spanning between the roof trusses, was designed in Belgium by *Société Anonyme des Ateliers de Construction de Hal* in Belgium. This was the same company which had earlier provided the roof for the semi-roundhouse. Hal received the ordered for the their pre-assembled roof construction in May 1911 from Lisbon. It was duly executed and the roof construction arrived on STP in October 2011, as acknowledged by lead engineer Faria e Maia in a note to his colleagues in Lisbon.[98] The framework of the Belgium designed roof was supported by the loadbearing lateral walls. The roof covering, also provided by Hal, was made of large slate slabs type ‘ardoisite”.

The building was treated with four entrance doors and thirteen hung awning windows. It concerned windows which were harmonically designed to attain aesthetic function and optimum ventilation function inside the building. A note of fancy was struck with an elaborately designed main entrance door, crowned with a fanlight (fig. 72). These doors and windows were ordered prefabricated from Europe in June 1911. Interestingly, this time the supplier was not a Belgian or German company but Portuguese. It was *Empresa Industrial Portuguesa* from Lisbon.

Whilst warehouses were frequently common, typically plain walled utilitarian structures, the STP goods warehouse was of architectural note. Here the fact that the central gable would be clearly visible to passengers waiting for a train at the station may explain the fact that the exterior was not left undecorated. It is indeed these walls with their harmonically designed windows combined with an ornamentation through vertical bands of rusticated stone of molded concrete which made the goods warehouse distinguished architecturally (fig. 72).

The generic design of the building harked back to late Victorian style of shed building, ubiquitous in the UK in the late 19th century, through the use of solid, heavy looking walls with lightweight roofs, formed by a skeleton of triangulated trusses. As for the exterior, there was a touch of Italian Renaissance architecture too, in particular through the use of banded, rusticated pilasters. The elaborately designed main entrance door with an elliptic fanlight may have been inspired by late 19th century Portuguese’s residential architecture, where grand family homes in Lisbon and Porto were treated with such ornamentation.

[97] Caminho de ferro de São Tomé file at AHU, 2773, 1B.
[98] Caminho de ferro de São Tomé file at AHU, 2773, 1B.

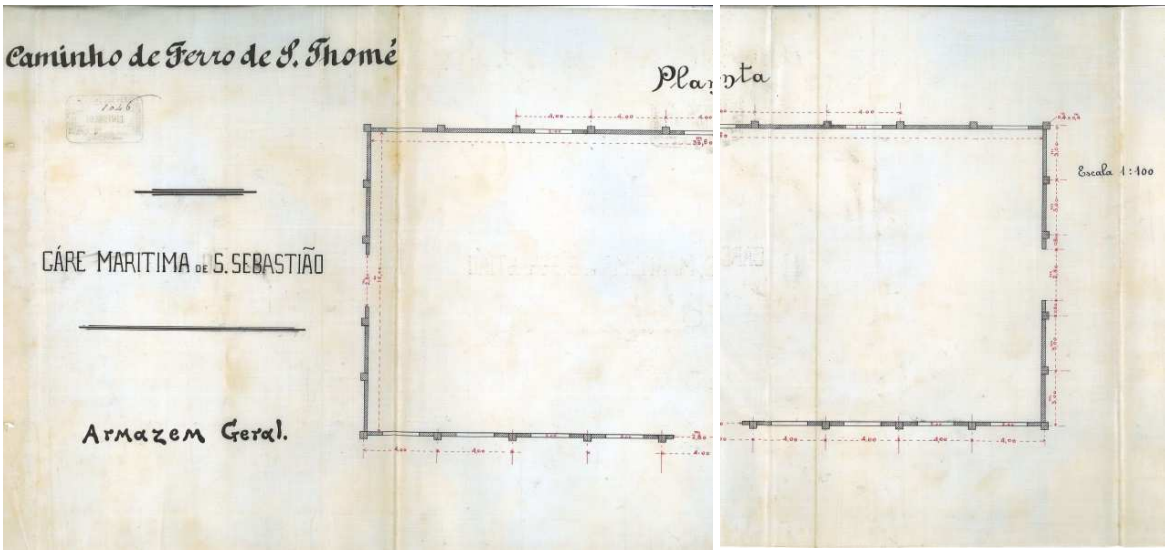


Fig 71. The S. Sebastião Maritime Station: plan for the goods warehouse, 1911.

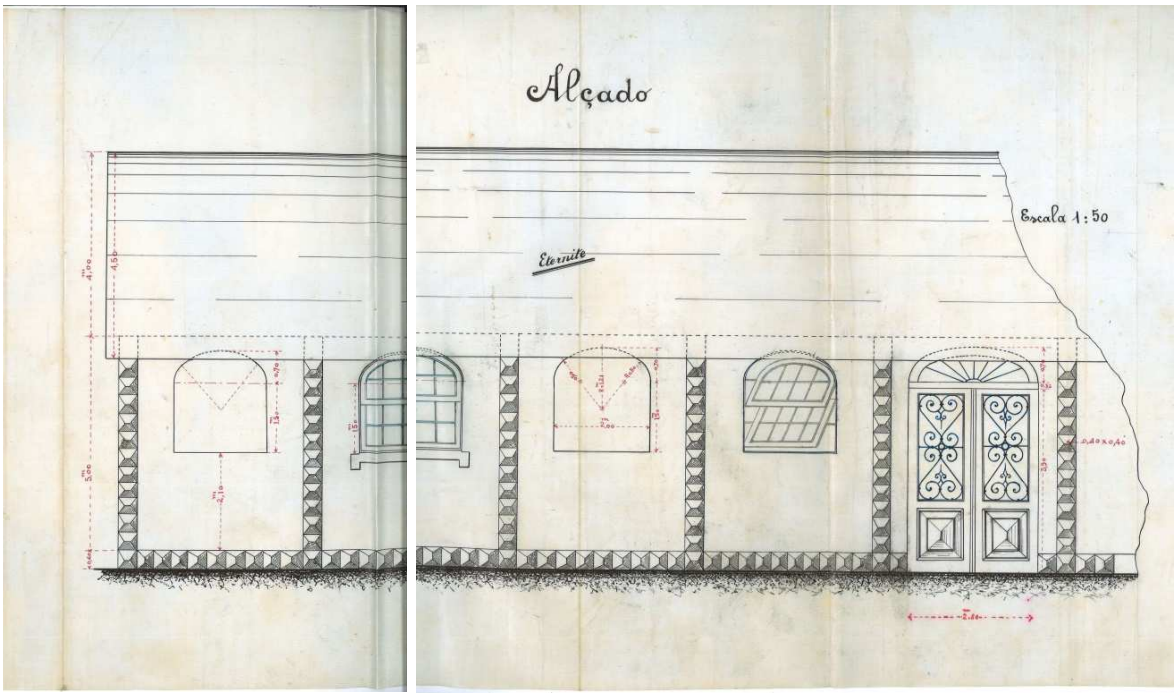


Fig. 72. The S. Sebastião Maritime Station: design for the north facade (elevation) of the goods warehouse, 1911.

Railway workshop

Fig. 73. The S. Sebastião Maritime Station: east and north facade of the railway workshop, 2014.

The largest building of the station yard arose adjacent to the goods warehouse. It was the railway workshop *(Officinas do Caminho de Ferro / Officinas de Reparacao de Material Circulante*), whose main purpose was to provide a central space catering for the repair and maintenance of rolling stock. The interior would hold diverse large and small machinery like drilling machines, a draisine, and portable joint shearing machines, ordered from diverse suppliers in Germany, UK and Belgium. This edifice had inspection pits, and there was space for warehousing train related goods. Curiously, the railway workshop had not been included in the plan drawn up by engineer Regalla in March 2011, but from 1911 onwards, references were made to it in correspondence from and to Lisbon on a regular basis, in memoranda related to the purchase of various machinery for the STP railway.[99]

What was actually realized was a most striking building with various stylistic features, their effect heightened by the scale of the building: It was around 72 meters long, 42 meters wide and 12 meters high at the highest point. The railway workshop, constructed with brick and lime-cement, was a one-story rectangular structure, with its exterior finished off with plain plaster and varied bands of articulated molded concrete to create rustication. Functional clarity was added to the facades with harmonically designed thick rows of awning windows set above fixed louver panels to allow continuous ventilation.

[99] Caminho de ferro de São Tomé file at AHU, no. 2459.

Additionally, an element of grandeur was lent to both principal facades facing west and east, through soaring glazing panels arranged in bold patterns. Both principal facades, east and west facing, were treated with three tall narrow doors harmoniously but not symmetrically placed in the gable, flanking two double or single hung awning windows, with concrete louver panels underneath. These side facade were embellished with five horizontal bands, alternating rusticated with smooth surfaces. As at the other station buildings of the yard, rustication was created through concrete mold-formed blocks with the surface texture of rough stone. At the corner of each facade, rusticated stone quoins appeared, making the building feel more solid. Above windows and doors, the principal facades had glazed panes running the height and most of the width of the building. These were steel-framed glass panes, soaring up to the roof in a jagged profile, with the glazing adding further visual interest to the facade as well as providing ample daylight to the interior of the building. Here the drama occurred, where the glass panes in various sizes, the horizontal bands and the vertical banded pilasters came together in a surprising asymmetrical design climax (figs. 73, 74, 75).

As regards the two long side north and south side facades, these had a strong visual rhythm created though a repetitive external appearance of twelve identical double hung awning windows combined with concrete louver panels, skillfully framed by pronounced vertical bands. The surface of these bands was alternatingly rusticated or smooth. This visual rhythm was only modulated once, by the insertion of the main entrance, a square doorway (fig. 77).

The railway workshop was not deemed to be directly susceptible to fire from embers blown by machine or train smokestacks; hence it was decided that an all iron roof truss construction for its pitched roof was not necessary, cheaper timber could be used too. An intricate framework of wrought-iron roof trusses was created, supported by longitudinal wrought iron girders and timber rafters spanning between the roof trusses. Such framework was supported by the loadbearing lateral walls and three rows of slender wrought-iron columns, set on concrete pedestals inside the building. The roof covering, was made of wave-corrugated roofing sheets in zinc, like at the semi-roundhouse. Two large, raised vents ran along the ridge of the roof. Their purpose was to create a flow of air, but also to provide natural light through skylights; these ridges were for a large part covered by glass panes, not roofing sheets.

Construction of the railway workshop is likely to have commenced in 2011. The completion date is not clear but one can reasonable expect the structure to have been operational by 1916.[100]

[100] Given its presence on the hydrographical map of the S. Sebastião station yard (fig. 46).

Figs. 74 and 75. The S. Sebastião Maritime Station: zooming in on the principal facades of the railway workshop, 2014.

Fig.76. The S. Sebastião Maritime Station: interior with a view to the western principal facade of railway workshop, 2014. Note the striking rhythm of the glass panes.

Fig. 77. The S. Sebastião Maritime Station: detail south facade of the railway workshop with square doorway, 2013.

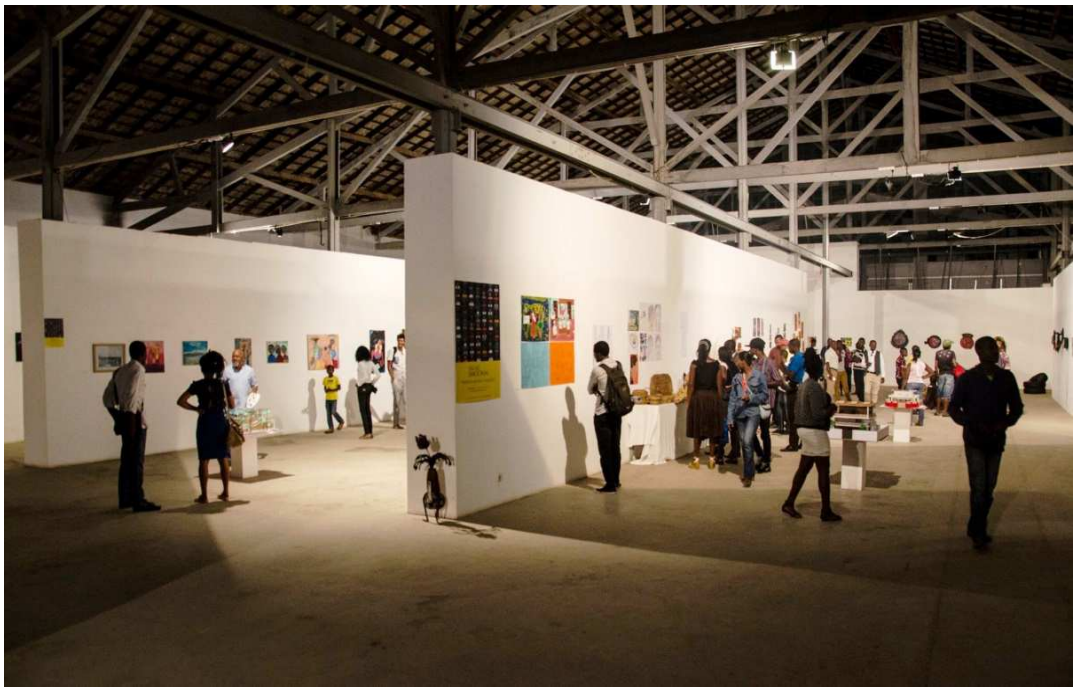


Fig. 78, 79. The S. Sebastião Maritime Station: interior of the railway workshop with the intricate framework of girders, timber and rafters prominent in these images, 2015.

The outcome was an extremely impressive industrial structure of the period, a mighty display of architecture. The railway workshop was looking strong and solid, as well grand owing to its size, height and architectural detailing. The sophistication of the facade manipulation through the intricate glass paneling on the principal facades combined with the strong visual rhythm created by the repetitive external appearance of identical double hung awning windows with concrete louver panels on the elongated side facades, made this a powerful building. As for the interior, this added further monumentality and prestige to the railway workshop. It was spacious and grand owing to the height and breath of the roof and the vastness of its interior. A striking visible interplay of steel rafters and timber tension rods providing the framework for the roof, supported by exposed 'tree lanes'' of cast-iron columns from the floor up, represented a dazzling architectural feature (figs. 78, 79).

Since the sponsors of the station yard aimed high initially, with the railway workshop building one could really feel the engineers behind that the building did partake in such aim, by creating a railway building with serious monumentality.

The architecture of the railway workshop was drawn from various architectural styles. The generic architecture in the form of solid, heavy looking walls with lightweight roofs, formed by a skeleton of triangulated trusses covering large spans and supported by internal cast-iron columns represents a building design harking back to the late Victorian style of shed building, ubiquitous in the UK in the late 19th century. The way the glass panels were articulated is vaguely reminiscent of Art Nouveau. Then there was a touch of Italian Renaissance architecture too, through the use of banded pilasters and rusticated stone quoins. Contrasting rustications typify certainly the American architect H. H. Richardson, and the Portuguese engineers must have been well aware of his work, as noted earlier on.

As for the interior, the Portuguese engineers were indebted to the influential French architect Viollet-le-Duc (1814-1879), who influenced many Western architects to celebrate revealed constriction in exposed iron- and woodwork, as happed with the railway workshop, where the exposed roof framework reached the ambit of monumental architecture.[101]

[101] Bergdoll 2000, p 279.

Workers’ housing

Fig. 80. The S. Sebastião Maritime Maritime Station: facade of one of the four sea fronting workers cottages, 2014.

Away from the passenger and rolling stock side of the station, a number of structures were conceived to house the Portuguese staff working at the station yard, as evidenced on the construction plans (figs. 43, 44, 45). In fact, eight cottages (*chalets*) were constructed as staff housing. The largest structure was built for the station master’s house, a singular detached cottage alongside the station building. Then there were five similar cottages, whose function it was to provide accommodation to high to middle ranking Portuguese employees of the STP railway and their families. Last but not least, there were two more humble small cottages for the guards which had to protect the station yard. Construction of these cottages began most likely in 1909 and ended in 1912.

Station master’s cottage

The station master’s house was a picturesque tropical cottage. It concerned a slightly elevated single-story house, raised on piers made of concrete. The reason for the elevation was to allow the main level of the house to escape seasonal flooding. Offering some defense against tropical heat and humidity, the main facade of the houses had a wooden decked veranda, with a closed balustrade. Support for the veranda was provided by four slender square timber columns and two heavy rectangular columns of plastered concrete, with the latter prominently flanking the entrance. The columns connected to the protruding eaves from a hipped roof covered with terracotta roof tiles. The roof eaves were long, to prevent sunlight to shine on the walls.

A small concrete staircase lead to the veranda and the central facade facing the street and the sea. This house front, on the west and long side of the building, contained one central entrance door, louvered for ventilation and with transoms above them. One would find louvered windows on the long side of the cottage, south and north facing, each side having three matching sets. The plan for the basic cottage was square and unified, but an addition of kitchen/pantry on the east side and a service wing on the west side of the cottage, made the cottage appear less unified (fig. 81). The service wing had some striking features nevertheless. Its small porte-cochere featuring a Tuscan column and a voluted armrest was distinguished (fig. 82). Noteworthy too was the louvered windows ensemble, set between Tuscan columns (fig. 83). The interior was compact, and included a central corridor that opened to a dining room, and two bedrooms. The corridor provided access to the kitchen/pantry and the service wing.

The station masters' house was an elegant tropical cottage. In fact we could call it a ''cottage orné'' as it was remarkably embellished, containing amongst others a cornucopia of various classically inspired columns, a porte-cochere with a voluted armrest, and a triangular shaped window. The design is vaguely redolent of grander bungalows designed by Henry Alfred Neubronner (1879-1919) in the Penang area of Malaysia around 1900.[102]

Fig. 81. Principal facade of station master's house at the S. Sebastião Maritime Station, 2015.

[102] Lim 2015, pp. 66-79.


Figs. 82 and 83. Service wing at the station master's house at the S. Sebastião Maritime Station. Porte-cochere on the right, louvred window flanked by Tuscan columns on the left, 2015.

Fig. 84. Principal facades of two workers cottages at the S. Sebastião Maritime Station, 2015.

Five staff cottages

There was more staff housing a few hundreds of meters to the east of the main station building. Here an enchanting ensemble of five cottages were erected. Four detached, nearly identical cottages (*chalets*) were constructed next to each other, a few hundreds of meters to the east of the station, facing the sea (see figs. 44 A and B for the construction plan, and fig. 84 for an image of the surviving row of cottages). A fifth, slightly smaller cottage was placed directly adjacent to the east side of the station building (figs. 89 to 93). With these cottages, the engineers working on the station project grasped the opportunity to come up with living space for the Portuguese expat families suitable or a tropical climate, a type of housing which São Tomé town at the time sorely lacked.[103]

[103] Campos 1910, p.10.

What was constructed were single story cottages, rectangular, with a slightly raised platform on piers made of concrete to protect them from flooding. As defense against tropical heat and humidity, all houses had a fully wrap-around timber decked veranda, with wooden decorative balustrades. Support for the veranda was provided by slender square timber columns and brackets, connected to the protruding eaves from a dual-pitched hipped roof. The roof eaves were quite long, ideal for filtering out harsh sunlight. All roofs had a timber frame and were covered by curved sheets made of corrugated iron, galvanized with zinc to protect from the elements. The external walls too were covered with prefabricated, curved sheets made of corrugated iron. These sheets protected the internal wooden frame lined filled in with lime-cement. This represented an effective building solution: wood had exceptional insulating properties and the covering corrugated iron sheets were strong, light, durable and waterproof, in particular when galvanized with zinc, as happened in here on STP. These iron sheets were (likely) imported from the UK, a leading exporter of portable colonial cottages to its overseas territories and other markets at that time. On STP these cottages since day and age are universally referred as the “”English cottages” (*Chalets Engleses*), the Saotomean architect *Paulo Daio* told me this.[104]

All cottages were accessed via a set of narrow concrete steps, leading to the veranda and the central gable facing the street and the sea. The facade, on the west and short side of the building, contained three identical central entrance doors, louvered for ventilation and with transoms above them. One would find louvered windows on the long side of the cottages, south and north facing, each side having four matching sets. On all four facades of each individual dwelling there were discreet venting screens above the windows and doors to allow continuous cross ventilation. The west facing street facade and the identical east facade was clad with a round louvre opening within the gable end, to further aid ventilation at the top of the building. There was a detached shed functioning as kitchen / pantry, thereby completing the domestic ensemble at the time. The internal core spaces were subsequently reached from said continuous veranda which encased the building. There was an internal hallway running the length of the house and 3 rooms.

These cottages were very light and airy houses, with their overall impact magnified of through their symmetric arrangement of four identical cottages being placed next to each other in one single sequence. At the same time, and this applied to all five cottages, their architectural impact was enhanced by a visual connectivity from the front verandas to the sea. These cottages may have been architecturally modest, but the abstract qualities of the houses made them impressive: the uniformity and the precision of handsome architecture designed for a tropical climate. In particular the elevated, eye-catching wrap-around verandas and hipped roofs made these cottages stand out as confident and harmonious structures.

What precedents did the STP engineers call upon in the design of these workers houses? The STP railway cottages bear a strong resemblance to modular Caribbean dwelling types constructed from 1840s to the early 20th century. Such modular structures were often partially prefabricated in the US or in the UK, framed with a light metal or wooden skeleton, easily transported, and quickly set up in various West Indian islands like Barbados, Jamaica and Trinidad, but also in tropical regions like Queensland Australia.

[104] Interview with Paulo Daio, Sao Tome & Principe, November 2015.

These buildings became so much in demand that they were shipped as well to regions with a cooler climate like Britch Columbia.[105] It is not surprising then one can find many examples of modular buildings with strong similarities to the STP cottages. For example the *Carnegie Library* in Dominica constructed in 1906, a cottage in Black River in Jamaica, built around the same time (figs. 85, 86).[106] Another example from a cooler climate is the *Moody - Gosset House*, a corrugated iron prefabricated house sent to British Columbia in 1859 (fig. 88).

Interestingly, we came across an almost identical cottage on the island of Principe (fig. 90). The only differences with the STP station cottages laid with the fact that it had wood siding, and clay tiles on its dual-hipped roof – not corrugated iron. Unlike the STP cottages, the Principe building had elaborate fretwork decoration on the gable end, and its balcony railing was ornate (figs. 92, 93). This house was probably constructed a few years later than the STP railway cottages.[107]

Figs. 85 and 86. Cottage Carnegie Library in Domenica from 1906 (left) and Cottage Black River, Jamaica (right) from around 1900.

Fig. 87. Workers cottage the *S.* Sebastião Maritime Station*,* 2015..

[105] Davies 2005, p.47-50.
[106] Gordon & Hersh, p 74, 2005; Crain,p.62, 1994.
[107] Interview with Paulo Daio, Sao Tome & Principe, November 2015.

Fig.88. The Moody - Gosset House, a corrugated iron prefab house from 1859, British Columbia, Canada.

Figs. 89, 90. Facade of the 5th workers cottage, next to the S. Sebastião station building, 2015.

Fig. 91. Long side of the 5th workers cottage, adjacent to the *S.* Sebastião station building; note the elevation, louvered windows and transoms as typical features of architecture for the tropics, 2015.

Figs. 92, 93. Long side of the 5th workers cottage, adjacent to the S. Sebastião station building on the left, round louvre opening main facade on the right, 2015.

Fig. 94. Facade of the Principe cottage, Santo Antonio, Principe, 2012.

Figs. 95 and 96. Details facade of the Principe cottage, Santo Antonio, Principe: ornate balcony railing, elaborate fretwork decoration gable end, 2012.

Two guard's cottages

Last but not least, a pair of two guard's cottages was built in the center of the station yard, in between the semi-circular roundhouse and the goods shed. Here the function was to provide basic accommodation to the guards protecting the station.

These were small single-story cottages, substantially more modest than the ensemble of cottages described above, having a floor space about half the size. It concerned two raised cottages constructed with brick, and lime-cement These were square structures, with their exterior finished off with plain plaster, and covered by a dual pitched hipped roof, covered with terracotta roof tiling. There was no veranda - to let a breeze through there were timber louvered entrance doors with a line of transom above, and window openings had been inserted on all sides of the buildings, in the shape of louver shutters made of timber.

The STP railway guard-houses may have been inspired by a style commonly exported to Portuguese colonies from the 1900's onwards.

Figs. 97 and 98. Facade and long side of the guard's cottage at the S. Sebastião Maritime Station, 2015.

Other

A few other single storey ancillary structures were constructed between 1910 and 1916 at the station yard. While these are important in their contribution towards understanding how the STP railways functioned, these were by and large modest out-buildings and represented generally unimportant examples of architecture.

A space for warehousing goods (*Armazem)* was constructed at short remove from the terminal station. This structure was not included in the master plan from 1911, but the map from 1916 clearly marks it (figs. 45, 46.) The same applies to a woodshed *(Cais de Carvao)* used for storage of large quantities of firewood. This structure was placed next to the railway workshop.

Rudimentary barracks for the builders (*Sanzalas)* were also erected.[108] Since these buildings seem not to have been reflected on any map at the time, we would assume these were truly temporary structures.

There was a modest signal box too, not listed in the master plan but visible on above-mentioned map from 1916. This building was situated next to the row of four sea fronting workers cottages. Like these cottages the signal box had a veranda facing the sea, as we can distill from a photograph from the 1920s (fig. 99).

Last but not least, adjacent to the signal box a dwelling was built to serve as an office for staff of the Port Authority (*Capitania*). This building was included in said master plan of the station yard dating back to 1911, as police quarters (*Quartel de Policia*) with the map from 1916 later referring to it as Capitania. It befits the STP station yard, which had been

[108] Vieira 2005, p.134.

subject to so many chops and changes. From the 1916 map and pictures dating back the 1920s and 1960s we gather what was actual constructed looked similar to the four workers cottages, but then elongated and with a slimmer width (figs. 46, 47, 99). Like the four cottages, the building had a wrap-around veranda and was covered by a dual-pitched hipped roof, whilst the facade was sea-fronting.

Fig. 99. The S. Sebastião Maritime Station circa 1920: partly visible from left to right are three workers cottages, the signal box and the ‘’Capitania”.

5. The S. Sebastião Maritime Station today

Fig. 100. Aerial view of the S. Sebastião Maritime Station circa 2010.

More than one century after the building process started, today the S. Sebastião station area remains a secluded but prominent site on the north-eastern tip of Sao Tome city. The yard is framed by the landmark fortress S. Sebastião, by harbour buildings from the 1960s and 1970s, and by the sea (fig. 100).

The majority of the individual station buildings is still around and has been repurposed. Some have been properly renovated, to cater for new functions; others assumed new functions as afterthoughts and are now decaying structures. The railroad tracks have long been pulled, the terrain is overgrown with grasses and mud.Today, the area is an urban type development with a variety of mixed uses comprising leisure, retail, food and drink, offices, art galleries, public museum and archive.

Current structures: the former train terminus station, engineering and maintenance quarters and significant additions

Train terminus station

The former train terminus station building is currently in a good state. It was rescued from demolition, and thoroughly restored in 2005. The building was adapted to accommodate

offices and shops. Currently, it hosts a branch of a bank, the *Banco Internacional de STP* and a souvenir shop on the ground floor. The local offices of a Portuguese NGO, *Santa Casa de Misericordia,* are located on the first floor.

Adjacent to the sea facing facade a garden with tropical plants was created. A discreet external staircase on the east side of said facade was added to provide external access to the 1st floor veranda. It concerns a discreet intervention, the harmony of facade remains intact (fig. 101). As for the interior, the refurbishing stripped away what was left from original layout and decoration of the building, including the internal staircase.

The renovation and refurbishment of the building was led by. The former station building is currently owned by Santa Casa de Misericordia.

Fig. 101 Terminus station S*.* Sebastião*,* with its new external staircase, 2016.

Train shed

The train shed with its elegant rusticated facades is still standing, but in a dilapidated state. The narrow side facades were tampered with over the years and look disfigured (figs. 102, 103). Specifically, the original principal entrances have disappeared; these were filled with brick and cement, and then plastered over. Windows were inserted too on the side facing west, probably at the beginning of the 21st century.[109] One horizontal band of rustication from the 1910s survives here.

As for the elongated side facades with their rusticated arches. these are largely still intact. A brick wall placed alongside both side facades largely obscures the view to the original side facade, however. It appears this wall was already added in the 1920s, it was probably built to create additional space to protect railway related goods from the elements. In consistency with the recognizable house style of the main station buildings, the exterior of the new walls were finished with off rusticated vertical bands of molded concrete alternating with plainly plastered surface. To provide access to the building the side facade on south side was broken though in the beginning of the 21st century.[110] It represents a crude rupture in the visual identity of this side facade. Next to this provisional entrance there is currently an unofficial rubbish dump alongside the walls of the facade. It is an ungainly sight (figs. 104 & 105).

Nowadays the roofing of the building is a combination of the dense flat asbestos from around 1910 and of corrugated iron, as a more recent intervention. It represents a rather uneven combination. The esthetic quality of the shed is nevertheless still visible, but only if one makes an effort to have a proper look at the building at close range. From afar, the views to the train shed are by and large obscured, owing to the erection of two new small new unremarkable two-story office buildings with a walled parking lot, these new structures belong to the Civil Engineering Laboratory of STP *(Laboratorio da Engenharia Civil de STP).* These new buildings stem from 2005.

The train shed currently functions as a silo for bulk storage of bagged cement. The building is owned by the Saotomean state, with a concession for usage granted to the CGI company, a Saotomean enterprise owned by local entrepreneur and politician Fradique de Menezes.

[109] Interview with architect Paulo Daio, Sao Tome & Principe, May 2016.
[110] Interview with architect Paulo Daio, Sao Tome & Principe, May 2016.

Figs. 102, 103. Side facades train shed anno 2016

Figs. 104, 105. Elongated side facade train shed, anno 2016. Note the recent gate which insertion broke the original rhythm of rusticated arcades.

Semi-roundhouse

Besides the train shed there is the semi-roundhouse, still standing. This handsome if seriously run down building has lost some of its original features, such as some of the windows treated with fixed horizontal blinds. Eight of the nine of the principal entrances were partially filled with cement. The view to this main facade is obscured, owing to the aforementioned walled parking lot belonging to the Civil Engineering Laboratory of STP. Early in the 21st century, the building was turned into a cement distribution center which at this time still seems to be its current function. The terrain directly in front of the main facade appears to be an unofficial rubbish dump (fig. 106). Notwithstanding so many discordant notes, the quiet grandeur of the structure survives, but barely and only for now. The semi-roundhouse is currently owned by the Saotomean state, with another concession for usage granted to the CGI company, this Saotomean enterprise owned by local entrepreneur and politician Fradique de Menezes.

Fig 106. The dilapidated semi-roundhouse anno 2015, with unofficial rubbish dump.

Goods warehouse and its replacement

The goods warehouse was torn down, probably during the 50s of the 20th century, and replaced by an office building for the Directorate of Public Works on STP.[111] It was built in the stripped-back monumental neoclassical style of the New State (*Estado Novo),* the name for the authoritarian regime which governed Portugal and its colonies from 1932 to 1974. It is a nine bays wide rectangular single story building, articulated with an inset front portico and repetitive horizontal lines of identical fenestration on both sides of the portico, and then continued on the side facades. The central block off the facade is slightly raised whereby the front portico is adorned with a prominent keystone; the sequence of three sculptural ornaments placed above said portico seem to allude to a pared–down pediment. The building, painted in a soft shade of pink is covered by a low-pitched hipped roof. It is owned by the Ministry of Public Works and Urbanism *(Ministerio de Obras Públicas e Urbanismo)* on STP, and currently occupied by the National Roads Institute (*Instituto Nacional de Estradas* (fig. 107).

The current National Roads Institute office building is an example of pristine neoclassicism, stripped of the canonical mouldings. It emphasizes symmetry and harmony, in dimensions similar to the torn down goods warehouse. The low-pitched hipped roof pays tribute as it were to the low-pitched hipped roofs of the original buildings of the station yard: the terminus station and the various staff cottages.

Fig. 107. National Roads Institute office building - general view, 2015.

[111] In 1950, the Portuguese state had drawn up to a major building scheme for STP, whereby in the years thereafter many public buildings were indeed constructed.

Railway workshop

Also within the yard is the former railway workshop. In 2008 this workshop building was renovated initially to house art exhibitions. By now the building has grown into a multipurpose cultural space, with exhibition spaces, performance stage, cinema, café, restaurant, offices and other amenities filling the space In this vast almost hangar like building, a flowing grand gallery space has been created through the insertion of plain, movable white walls to display art exhibits. Against the side walls of the building some new spaces were inserted, including offices, meeting rooms, a cinema, and an exhibition spade dedicated to smaller, more intimate art shows (see figs. 76, 78, 79). The memory of a former canteen is preserved in a big café/restaurant, with the seating areas placed adjacent to the performance stage and with views to the gallery space. As a small tribute too its railway history, a single track has been maintained in the building, and a four-wheel steel flat wagon remains on the track. It has been made part of the exhibit.

Through restrained interventions, the fabric of its industrial past is preserved, even venerated. The exterior was restored to its original appearance, the side facades again possessing a strong vigor by the rhythm of repeated double hung awning windows alternated with rusticated horizontal bands. The principal facades, beautifully proportioned in their sight asymmetry dominated by soaring glazing panels, offer an element of splendor again. The grandeur of the building continues inside, where the gallery space offers unobstructed views to the opulent glazing of said principal facades. Inside too, the former railway workshop feel spacious and grand, when entering the building one cannot help but noting the height and breath of the roof, the vastness of the interior. Inside too the expressive opportunities of the original framework of the roof are preserved. The steel rafters and timber tension rods supported by exposed 'tree lanes'' of cast-iron columns from the floor up are prominently visible from the gallery spaces, performance stage and the restaurant.

The renovation and refurbishment of the building was led by Tiago Mestre, a Portuguese architect who had built a reputation while working at *Aires Mateus e associados,* one of Portugal's best known architectural practices. The railway workshop, is owned and run by a cultural organization by the name of *Cacau*, an acronym which stand for *Casa das Artes Criação Ambiente Utopias.* The team which runs Cacau includes João Carlos Silva and his wife Isaura Carvalho, who are also behind the successful repurposing of Roça S. João. Currently the Cacau buiding is widely regarded as the cultural gateway to STP.

Banco Central S.Tomé

Adjacent to the Cacau building, a few meters in westerly direction and still on the original station site, the new premises of the Central Bank of Sao Tome (*Banco Central S.Tomé*) have been erected. The building works are nearly finished, the bank should be open for business in late 2016. It is a rather grandiose building, designed by *Genistal Machado Architects* from Porto in Portugal (figs.108 and 109). The architectural design of its exterior mass seems inspired by the monumental, austere neoclassicism practiced in Italy during the fascist regime of Benito Mussolini and the more grandiloquent variation of neo-classism of the Estado Novo in Portugal, as the hallmark of dictator Antonio Salazar's

architecture. Similarities to the fascist buildings created at EUR in Rome in the late 1930s and for example the palace of justice (*Palace da Justice*) in Porto dating back to 1961 are striking (fig. 110).

This spectacular bank structure, dominates the northwest side of the station yard. This building, though bombastic, seems generally well composed and constructed. At the same time, in its disregard for the early 20th century station buildings which surround the bank, it becomes an overweening and discordant building. What may look bewildering to our eyes, however, is that this new central bank building on STP is built in an architectural style which blatantly harks back to the Salazar regime. This was a regime reviled by many Saotomeans because of its authoritarian brand of colonialism and racism.

Fig. 108. Central Bank of São Tomé under construction - general view, 2016. Part of the roof from the former railway workshop (*Cacau)* is visible on the left.

Fig. 109. Central Bank of São Tomé sketch-up - general view circa 2010.

Fig 110. Palace of justice (*Palácio da Justiça*) in Porto from 1961 built in the New State (*Estado Novo*) style, circa 2014.

Wood shed

A wood shed, from the 1910's, is still preserved. it stands next to the railway workshop, half-hidden behind vegetation, in a crumbling state. This was a functional building not of much architectural note, and erected as an afterthought, as it was not included in the master plan from 1911. That said, the wooden exterior wall from the side facades, executed as a vent in a grid pattern to aid ventilation, is noteworthy. It is owned by the Ministry of Public Works and Urbanism *(Ministerio de Obras Públicas e Urbanismo)* on STP, and currently used a storage space by a local organization in charge of maintaining the roads in the central region of the island (*Federação de Manutenção de estrada região centro*).

Current structures: the former workers cottages

Station masters' cottage

Today the Station matters' cottage, the most prestigious of all the cottages built at the station yard, lies abandoned in a poor condition as a result of disuse and neglect. It stands partly hidden among overgrown vegetation, some of it exterior walls infested with mold. Part of the roof has fallen in (figs. 81, 82, 83).

That said, it is still an imposing landmark, distinguished by its pleasing proportions and quirky detailing. The current owner of the property is the Saotomean state

Five staff cottages

The smallest cottage directly adjacent to the east side of the station building looks resplendent. It was renovated 10 years ago concurring with renovation of the main station building. From the main street it now forms an enchanting ensemble of historical tropical architecture, dominated by their verandas, louvered doors and windows, in similar colors. (figs. 89-93). The building is owned by a Saotomean individual, Sr. Leite.

From the four detached, nearly identical cottages constructed next to each other, three structures survive. The cottage closest to the former station has been faithfully restored. The uniformity and the precision of handsome architecture designed for a tropical climate, In particular the elevated, eye-catching wrap-around verandas and hipped roofs make this cottages stand out. It is now a utilized as a an upmarket guest house. The owner is Domingos Monteiro, a local politician and business man. Regrettably, the adjacent cottage owned tool by Mr. Monteiro, has fallen into a state of almost total dereliction. It is still standing at this point, but only just (figs. 80, 111). It is both a sad and bewildering sight, given that the it stands next to splendidly restored identical cottage (figs. 84,112).

Fig 111. Facade and side view of one of the four sea fronting workers cottages, in ruins, 2015.

Fig 112. Facade of the adjacent sea fronting workers cottages, duly renovated, 2015.

Fig 113. Facade of the 3rd surviving sea fronting workers cottage, substantially altered, 2015.

The third structure of the row of cottages was demolished in the early 21st century. It was and replaced by an innocuous dwelling, with dimensions similar to the former cottage.[112] The last cottage dating back to early 20th century is still standing but strangle disfigured, owing to a contorted annex. The latter was created more living space but was constructed is much a manner that the half of the original veranda was taken out (fig. 113). Other than that the building the building is well maintained. It is owned by a local Saotomean businessman.

The original, hundred years old symmetric arrangement of four identical cottages being placed next to each other in one single sequence has been broken. That said, if the above described cottage on the verge of collapse were to recovered, the original elegant visual connectivity from sea boulevard to the cottage ensemble would at least be partly reinstated.

Guard cottages

A few steps away from the semi-roundhouse, in westerly direction, one finds one guard cottage. It is semi-derelict state, and uninhabited. If no action is taken, it will collapse sooner than later. There is nothing left of the other guard cottage. This structure was probably demolished in the beginning of the 21st century.[113] The remaining guard's cottage is currently owned by the Saotomean state

[112] Interview with architect Paulo Daio, Sao Tome & Principe, May 2016
[113] Interview with architect Paulo Daio, Sao Tome & Principe, May 2016.

6. Protection and repurposing: the future of the past of the S. Sebastião station area

The rapid closure of Saotomean railway in 1926 at São Tomé town, after a life span of only 13 years, meant that the buildings at the S. Sebastião Maritime Station site were redundant. It was of course inevitable that such redundancy would cause obsolete buildings at the STP station yard to fall into dereliction. Redundancy would bring about demolition of such buildings too, unless a new use were to be found for them.

It is pleasing to note that now, 90 years later, the majority of the buildings still stand. A growing appreciation of the value of the architecture of the *S.* Sebastião station buildings among local individuals in the country has led to the recent preservation, restoration and repurposing of two large important station structures: the former train station and the former railway workshop. In considerable contrast, the major of the other buildings making up the station yard face an uncertain future, as these have been allowed to get into a poor state of repair, a few now lying in ruins.

Protection of cultural heritage on STP came relatively late. In 2003 a designated law to protect cultural heritage was adopted (*Lei do património Histórico – Cultural Nacional*), which sets a useful framework for the projection of natural and built heritage. Criteria as to how to assess what constitutes built heritage are spelled out, as are the procedures for listing *(classificação).* Then in 2014 a government decree (*Decreto n.º 28/2014*) was issued with a view to establish a committee of multi-disciplined specialists (*Comissão Técnica para a Preservação e Conservação do Património*), whose main tasks include providing a considered opinion on proposals for listing to the responsible government Minister in charge of protection and conservation of heritage. The decree was issued to ensure that the aforementioned *Lei do património histórico – cultural Nacional* from 2003 would be applied indeed.[114]

At this point a survey of built heritage possibly eligible for protection under said law from 2003 has yet to begin. The aforementioned *Comissão Técnica para a Preservação e Conservação do Património* has not been established yet.[115] This is a pity, as listing officially marks and celebrates a building's special architectural and historic interest, so that it can be protected for future generations.

Two main elements would suggest that the site of the S. Sebastião station yard and its collection of historic structures would be eligible for listing: the historic significance of the yard and the architectural and historic interest of the yard ant its surviving buildings. In particular the factor that the station yard was created to ensure that STP's global leadership role as the largest cocoa producer in the world in the 1st decade of the 20th century would be maintained, contributes to its rare national and international historic significance. The site's strong associations with important figures in Saotomean history, in

[114] The preamble to Decreto n.º 28/2014 states this: ''Tornando-se necessário garantir a aplicação da norma contida na Lei sobre o património Histórico-cultural, Lei n.º 4/2003, nomeadamente na vertente material e paisagem cultural". (SÃO TOMÉ E PRÍNCIPE - DIÁRIO DA REPÚBLICA N.º 162–1 de Dezembro de 2014).

[115] As confirmed in email exchange between author and Saotomean lawyer Adelino Periera, June 2016.

particular engineer and urban planner Ezequiel de Campos, whose works had a large impact on the layout of the station site, as well as on the current layout of Sao Tome town, is also a factor bestowing additional historic interest to the area.

As regards architectural and historic importance of the area's surviving industrial and administrative structures and workers cottages, these display innovatory forms of construction. In particular the industrial structures thereby exemplify a style of building typical of its period, with added grandeur through scale, ornamentation and a recognizable house style.

The railway buildings are also important because of their aesthetic significance. The streetscape of the many buildings is the combined result of the desire of the government at the turn of the century to create substantial industrial buildings of architectural significance. Its design, scale and detailing provide important architectural statements fronting the traverser at the yard. Many of these buildings are of particular architectural merit. A fine example of a station building for a tropical climate is the former S. Sebastião terminus station building. Fine examples of railway warehouses are the former railway workshop, train shed and semi-roundhouse. The set of prefabricated workers cottages are significant as they created a unified, harmonious ensemble designed for tropical living. The more ornate station master's cottage is a fine example of a tropical house for a highly ranked government official at the entrance to the station yard.

These railway building are also unique in terms of how they were realised. They were designed by Portuguese engineers, inspired by architecture from the US and Belgian Congo, and built by Saotomeans and Mozambicans, with building material imported from Germany Belgium and the UK. The accomplished work of the Saotomean and Mozambicans laborers and craftsmen who actually shouldered the labor of constructing the buildings at the station area more than 100 years ago, needs to be appreciated as another key factor when considering these buildings' distinctive historic character and appearance.

What can be done to safeguard the S. Sebastião Maritime Station and to secure its future? A useful first step would be to survey the yard and its individual buildings. Following such exercise an inventory of those structures which should be assessed for listing under the *Lei do Património Histórico – Cultural Nacional* should be drawn up. This may lead to listing of individual structures and designating the station yard as conservation area, since the STP station site has a visual unity which loses much of its impact when buildings are seen in isolation. If this listing is followed though, a wider appreciation among locals and tourists of the historic importance and quality of the architecture and how these fit within STP history would probably be generated. At the same time, such a context could be amenable that measures (enforcement actions) are taken by the authorities, to ensure that this remarkable collection of buildings of national importance that survive, are not destroyed, or left to deteriorate that leads buildings to the point of collapse.

If listing were to be successfully approved, with buildings at the site having been added to a National Heritage List for STP, the next steps would be restoration and then imaginative re-use. In line with best practices from many other cities vis-a-vis urban generation of

redundant former industrial building sites, an independent foundation could be set up.[116] Its main objective would be to support the conservation and restoration of the historical railway buildings in the ownership of the foundations' sponsors (i.e. the Saotomean state, local people owing buildings in the area). It would as act as catalyst between the sponsor and outside parties on finding a new life for property no longer in use, allowing for a positive link between heritage and economic development.

The challenge for such foundation and its sponsors is to transform these fine but decaying buildings into a desirable and liveable environment. The conversion of the former station building into shops and offices, coupled with the transformation of the former railway workshop into the *Cacau* cultural centre has shown, has made a part of station yard more agreeable. Locals and tourists of all countries now visit *Cacau,* the former railway workshop buiding*,* at day and night. It shows culture means business too. It is also a sign of the growing presence of STP in the international African art world.

Reuse of other derelict structures at the site could well be a catalyst for further urban renewal. Adding other functions like housing businesses in the best historic buildings, could spur the development of new projects, like pedestrian areas. With great care, from paving of sidewalks to planting tropical trees to provide shade, the area could become a desirable urban walkable experience. At the same time, the current international passion for sustainability fits very well the reuse the best and biggest buildings of the past.

Finally, if the quality, breath, and significance of the original century old station buildings would be acknowledged and these buildings would be prepared for intelligent reuse, the remarkable history and craft embodied its walls can be saved. In such positive circumstances, the S. Sebastião station yard has the potential to become an international landmark for conservation and repurposing in Africa.

(Suggestions for concrete actions include: installing ''blue plaques'', organizing tours and exhibitions to increase awareness, fostering good working relationship with city administration)

[116] Examples include the Railway Heritage Trust in the UK, Stadsherstel Paramaribo in Surinam, Stadsherstel Willemstad in Curaçao and Stadsherstel Amsterdam in the Netherlands.

Conclusion

A few architects and architectural historians have researched and written about various aspects of Saotomean built heritage, however scholarship has not focused on the country's remarkable *S.* Sebastião Maritime Station yard. The aim of this study has been to obtain an in-depth understanding of the history of this station and the architectural merits of its buildings. More specifically, an attempt was made to explain the specific social, political and economic conditions that lead to the establishment of the *S.* Sebastião Maritime Station yard at is main hub. Through this prism the building history, function and the architecture of these railway buildings was explored.

Formal discussions on constructing a state railway on Sao Tome, with a view to provide the roça plantations with a mechanical way of transporting their produce to the capital of the country, commenced in 1890. Ten years later, one of the engineers working on STP during a reconnaissance mission for a possible state railway, Ezequiel de Campos, became well-known within the Portuguese colonial administration when he commenced advocating that resolving the general unhealthiness of São Tomé town was more pressing than a railway project.

Campos' recommendations for taking remedial action regarding this insalubrity included filling in all major swamps surrounding the town and rebuilding it with new bungalows which would take the tropical climate into account, i.e. with shutter boards and verandas, and palm trees providing shade. Around 1900 most housing stock in São Tomé town was haphazardly constructed, not properly designed for a tropical climate, lacking adequate ventilation, with backyards used for dumping waste. Campos' template for the clean-up and modernization of the capital town was initially ignored. Much later, during the 1st and 2nd decade of the 20th century, were his recommendations followed though. The current appearance of Sao Tome dominated by tropical cottages taking the wet and hot climate into account is indebted to Campos' farsighted urban planning work.

Definitive approval for construction off the STP railway connecting the plantations with the capital only came in 1905, after more than 15 years of deliberations. Transportation of cocoa and other merchandise from plantation to São Tomé town had been carried out by roça contact workers which were de-facto slaves, and not considered a real cost. It is significant that the official go-ahead for constructing the STP railway was given just months after an international scandal on labor conditions on roças had erupted, spread through press coverage in leading international magazines and papers. This marked a turning point, it had become clear to the Portuguese government that using de-facto slave labour on the STP plantations had to be phased out, and a working state railway at STP was now a necessity.

A not so substantial railway of 18km wat eventually constructed, with the *S.* Sebastião Maritime Station as it substantial epicenter. The station yard was populated during the 1910s with a streetscape of substantial industrial buildings of architectural significance. The design, scale and detailing of these structures provide important architectural statements, whereby nearly all of these buildings are of particular architectural merit; the

railway station, the train shed, the railway workshop, the semi-roundhouse and all staff cottages are singled out as particularly fine buildings.

These railway building are significant too, even unique, in terms of how they were realized. They were designed by Portuguese engineers, inspired by architecture from the US and Belgian Congo, and built by Saotomeans and Mozambicans, with building material imported from Germany, Belgium and the UK. The accomplished work of the Saotomean and Mozambican laborers and craftsmen who shouldered the labor of constructing the buildings at the station area more than 100 years ago, needs to be appreciated as another major factor when considering these buildings' distinctive historic character and appearance.

The factor that the S*.* Sebastião Maritime Station was designed to handle a growing volume of cocoa in a country which was the largest cocoa producer in the world, and in that capacity critical to the Portuguese budget, was certainly expressed in the ambitious, sometimes even monumental architecture of the buildings at the station yard. In effect it may be regarded as an indulgence, since the monumental station hub was only to serve a small railway of less than 20km.

The S*.* Sebastião Maritime Station turned out to be a dud investment. The state railway closed in 1926, after a life span of only 13 years, the buildings at the S*.* Sebastião Maritime Station yard were decommissioned. Only a few cocoa producing roças had been connected to the railway, and it is noted this factor represented a structural design flaw of the state railway. This became an acute issue when in the early 1920s the cocoa boom was tailing off dramatically, and production shrank dramatically.

At this time, the majority of the original station buildings is still around and has been repurposed. Some have been properly renovated to cater for new functions, including the former station building, the former workshop, and two former worker's cottages. Other fine buildings face an uncertain future and are at risk. The splendidly decorated former trains shed and the semi-roundhouse assumed new functions as afterthoughts and are now decaying structures. Three further remaining former staff cottages are not in use, and have been allowed to get into a very poor state of repair. These crumbling buildings strike a discordant and sad note at the former station yard.

Since 2003 a designated law *Lei do património Histórico – Cultural Nacional* aiming to protect cultural heritage has been in place on STP. At this point however, this law has not brought about the official listing of any building on STP.

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