
HoST - Journal of History of Science and Technology
Vol. 17, no. 2, December 2023, pp. 61-80
10.2478/host-2023-0011

THEMATIC DOSSIER
SOCIAL HISTORY OF SCIENCE AND HISTORIOGRAPHY:
WHERE ARE WE IN BRAZIL?

André Rebouças Beyond the Atlantic: The Racism and Sociability Network of a Black Nineteenth-Century Engineer

Wladimir Barbosa da Silva

Federal Center for Technological Education of Rio de Janeiro, Brazil

pascoalwlad@gmail.com

Maria Renilda Barreto

Federal University of Bahia, Brazil

maria.renilda@ufba.br

Abstract: In this article, we analyse the intellectual trajectory of André Pinto Rebouças (1838-1898) between 1870 and 1888, and how he problematised the relation between education, technology, and social reform. Rebouças argued that access to land and technical education were the mechanisms of upward mobility for black people and European immigrants. He was an engineer, teacher, businessman, abolitionist, journalist, and man of science. His family, intellectual, and professional trajectory was permeated by an extensive sociability network and racial barriers, both within and outside Brazil. Rebouças was a spokesman for the social concerns of his time, particularly those which affected not only the productive sector, but the living conditions and survival of non-white people. The relevance of this work is to add reflections to the history of science and black intellectuals.

Keywords: history of science; André Pinto Rebouças; black intellectual; social reform; Brazil

© 2023 da Silva, Barreto.

This is an open access article licensed under the Creative Commons Attribution-NonCommercial-NoDerivs License (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Late nineteenth century Brazil was experiencing major social, political, cultural, and ideological transformations. During this period, we can trace the path of abolitionist and Republican movements, emerging industrialisation, and the expansion of higher education, with the establishment of law, engineering, and medicine degrees. Throughout this process of change, André Pinto Rebouças dedicated himself to considering a developed nation, or what he called “without ignorance.”¹ For this, he conjectured the implementation of “open, free, and scientific instruction,” as a viable support for the advances required in the social and economic field. He was an enthusiast of new forms of modernity in circulation in Europe and North America, such as improvements to railways, river transport, and ports to receive merchandise, customs houses to store and distribute products, basic sanitation structures, pavements, and paved roads.

André Rebouças conceived the possibility of uniting technical knowledge through education, with the redistribution of land in equal parts for free men and women, and the immigrants who had arrived from Europe to swell the ranks of the national labour market. Generally speaking, Rebouças defended the equal division of land, and non-centralisation of large areas in the hands of a small group of people. He understood that these spaces would become flourishing locations if freed black people and immigrants received specific training on the use of land, and the products which best adapted to each region of the country, thereby resulting in rural democracy.

There are several studies on the Rebouças family, specifically on Antônio and André Rebouças, which will be cited throughout this article, that do not problematize the racial issue. Racism and its multiple forms of manifestation have gained more space as a research problem in recent decades, in line with the decolonial epistemological turn.² This article is aligned with this

¹ André Rebouças, *Minha Fé de Ofício* (Fundação Joaquim Nabuco: Recife, n.d.).

² Leo Spitzer, *Vidas de Entremeio: Assimilação e Marginalização na Áustria, no Brasil e na África Ocidental* (Rio de Janeiro: Ed UERJ, 2001); Hebe Mattos, “The East River Reminds Me of the Paraná: Racism, Subjectivity, and Transnational Political Action in the Life of André Rebouças,” in *The Boundaries of Freedom: Slavery, Abolition, and the Making of Modern Brazil*, eds. Brodwyn Fisher and Keila Grinberg, 315-38 (Cambridge: Cambridge University Press, 2022); Hebe Mattos, “André Rebouças e o Pós-Abolição: Entre a África e o Brasil (1888-1898),” in *Histórias do Pós-abolição no Mundo Atlântico: Identidades e Projetos Políticos*, eds. Martha Abreu, Carolina Vianna Dantas, and Hebe Mattos, 13-31 (Niterói: Editora da UFF, 2013, v.1.); Hebe Mattos, “De Pai Para Filho: África, Identidade Racial e Subjetividade nos Arquivos Privados da Família Rebouças (1838-1898),” in *Escravidão e Subjetividades no Atlântico Luso-brasileiro e Francês (Séculos XVII-XX)*, eds. Myriam Cottias and Hebe Mattos, 203-25 (Marseille: Open Edition Press, 2016, v. 1); Hebe Mattos, *Cartas da África: Registro de Correspondência. André Rebouças (1891-1893)* (São Paulo: Chão Editora, 2022); Wladimir Barbosa da Silva, *Reformismo Social e Ação Política de André Rebouças: Ensino Técnico no Brasil em Finais do Século XIX* (PhD diss, Rio de Janeiro: CEFET/RJ, 2020); Luciana da Cruz Brito, “‘Mr. Perpetual Motion’ Enfrenta o Jim Crow: André Rebouças e sua Passagem pelos Estados Unidos no Pós-Abolição,” *Estudos Históricos* 32 (2019): 241-66; Keila Grinberg, *A Black Jurist in a Slave Society: Antonio Pereira Rebouças and the Trials of*

tendency, problematising political, professional, and social barriers on a black intellectual in a society permeated by slavery and structured by racism.

Among the sources used, we highlight Rebouças' diaries, written between 1870 and 1876, which are held at the José Nabuco Foundation (FJN). An analysis of this material enabled the identification of a *habitus* of intellectual choices and political options;³ a lifestyle marked by family cultural heritage and the adoption of monarchy etiquette; and, lastly, business relations within and outside Brazil. In personal records, there is a description of racist attacks, a dialogue with Emperor D. Pedro II, travel notes, clippings from newspapers, in addition to a personal account with extensive hours of study, which included technical research trips to Europe and the United States. In these, Rebouças developed the possibility of interconnecting the ports to the railways in Brazil, formatting the understanding that the modernity of the Brazilian economy included port organisation with the organisation of loading/unloading and arrival/departure processes, allocation, care, and the logistics of the rapid offloading of merchandise by rail transport.

Another source to be highlighted is a document produced by André Rebouças entitled *Minha Fé de Ofício* (My Craft Faith), an autobiographical text also held at the FJN. In this, we gain access to the self-image that the engineer constructed, his liberal spirit, attachment to religiosity, and belief in social change through “open instruction for the people.”⁴ He expressed the desire to establish two universities, one on each tip of Brazil, interconnected to a scientific and literary institute; he nurtured thoughts on the equal division of land; he studied the development of agriculture, trade, and national industry; he defended paid employment, instead of using slave labour. Other sources were the basis for our analysis, such as correspondence, newspapers, Polytechnic School documents, and the engineer's intellectual production.

We have divided the text into three sections: in the first, we briefly outline Rebouças' family, level of education, and the Rebouças' connections to politics, art, and science; the second introduces a set of ideas on “Brazilian rural democracy”; and we finalise with the racial barriers which permeated André Rebouças' existence in Brazil and the United States. The three sections highlight the junctions of Brazilian slave heritage which marked the construction of science and its participants; at the same time, they highlight the political nature of black people's struggle for social visibility in particular.

Brazilian Citizenship (Chapel Hill, NC: University of North Carolina Press, 2019).

³ We are referring to *habitus*, as explored by Pierre Bourdieu, *Esquisse d'une Théorie de la Pratique* (Paris: Seuil, 2000) which relates individual actions to social conditions; in other words, that social place, added to subjective experiences and feelings, produces the repertoires of interpretation and practices.

⁴ André Rebouças, *Minha Fé de Ofício* (Fundação Joaquim Nabuco: Recife, n.d.).

A Family of Black Intellectuals in Slave-holding Brazil: Insertion Strategies in Spaces of Power

The existing documentation on the Rebouças family's origins in Brazil dates to 1780, when the Portuguese tailor, Gaspar Pereira Rebouças, André Pinto Rebouças' grandfather, arrived in Salvador. Gaspar, following a short period in the capital, moved to the village of Maragogipe, located on the margins of the Paraguaçu River, and married Rita Basília dos Santos, a black woman, with whom he had four children, three boys and a girl. Importantly this region is located in the south Recôncavo of Bahia, a zone of major economic importance, strong racial diversity, permeated by strong social tensions and land disputes.⁵ The most recent historiographic works support the formation of a black elite in this region, and the Rebouças were part of this framework.⁶

One of the couple's sons, José Pereira Rebouças, was a violinist educated at the conservatory of Bologna, a musician at the Imperial House, and conductor of the Theatre of Bahia orchestra for a number of years. Their second son, Cornélio Manoel Maurício Rebouças, studied medicine in France and was a professor at the Medical School of Bahia. Their third son, Antônio Pereira Rebouças (1798-1880)—André Rebouças' father—started his career as an accountant at the age of 16, in 1814, worked at a law firm and became a legal expert. He started his political career as a member of parliament, representing Bahia between 1828 and 1846, with a number of interruptions in his terms of office. In 1837, he presented a project prohibiting the import of African people; he was also secretary of the Sergipe government, and Advisor to Emperor D. Pedro II.⁷ For Nora Oliveira,⁸ the Bahian group belonging to the General Council of the Province—of which Antônio Pereira Rebouças was part—alternated at institutions of power and prestige, being an environment of political experience capable of projecting its members into the national sphere, while also strengthening provincial power.⁹ Advisor Rebouças married

⁵ Wellington Castellucci Junior, "Entre Veredas e Arrabaldes: Histórias de Escravos e Forros na Comarca de Nazaré. Bahia, 1830-1850," *História & Perspectivas* July-Dec. (2008): 261-304; Stuart B. Schwartz, *Segredos Internos: Engenhos e Escravos na Sociedade Colonial (1550-1835)* (São Paulo: Companhia das Letras, 1985).

⁶ Maria Renilda Barreto and João Batista Cerqueira, "Assistência à Saúde no Interior da Bahia Oitocentista: A Irmandade da Santa Misericórdia de Nazaré," in *A Interiorização da Assistência: Um Estudo Sobre a Expansão e a Diversificação da Assistência à Saúde no Brasil (1850-1945)*, eds. Maria Renilda Barreto, Gisele Sanglard, and Luiz Otávio Ferreira, 205-32 (Belo Horizonte: Fino Traço, 2019).

⁷ Keila Grinberg, "Em Defesa da Propriedade: Antônio Pereira Rebouças e a Escravidão," *Afro-Ásia* no 21-22 (1998-1999): 111-46.

⁸ Nora de Cassia Gomes de Oliveira, *Democracia, Liberdades, Utopias: a Elite Política da Bahia no Século XIX: Perfil dos Membros do Conselho Geral de Província (1828-1834)*, XVI Encontro Estadual de História (Rio Grande do Sul: Anpuh, 2018).

⁹ For more on Antônio Pereira Rebouças, see Keila Grinberg, *A Black Jurist in a Slave Society: Antonio Pereira Rebouças and the Trials of Brazilian Citizenship* (Chapel Hill: University of North Carolina Press,

Carolina Pinto Rebouças, with whom he had seven children. Of these children, we highlight André Pinto Rebouças (1838-1898), born in the town of Cachoeira, in the Bahian Recôncavo region. The family left Bahia for Rio de Janeiro when he was eight years old, and he lived there for most of his life.

Advisor Rebouças' sons had an outstanding formal education,¹⁰ provided at private institutions during the primary and secondary levels, with their higher education at public institutions of Imperial Brazil.¹¹ The brothers, André and Antônio Rebouças, took an engineering degree at the Military School in Rio de Janeiro. The narratives in André Rebouças' diary are permeated by racial barriers, including an episode at the Military School. Its regulations granted the award of a study trip to Europe to the best students, funded by the State. In 1861, the brothers competed, but "the damned prejudice of colour, denied Antônio and I the prize of a trip to Europe."¹² Much negotiation was required behind the scenes of the Imperial Court for the State to fund the young Rebouças' trip to England and France, where they visited educational institutions, works, factories, arsenals, and ports.¹³

Scientific trips to European centres formed part of the etiquette of educating intellectuals and sealed their entry into spaces which legitimised science. It was one of the paths taken by the learned elites, in search of validation for processes to reform and modernise Brazil during the post-independence period. For men of business, science, and letters, who carried the marks of modern slavery on their bodies and in their souls, dominating this repertoire was an essential condition to break social, economic, and political interdictions.

While they gained professional experience, the engineers Antônio and André Rebouças defined survival strategies in the world of work: the former became established outside Rio de Janeiro, while the latter remained in the Imperial Court. André Rebouças forged closer ties with international and Brazilian investors and became a partner of the Pedro II Docks Company and the Rio de Janeiro Customs House, in addition to other businesses in this city.¹⁴

2020).

¹⁰ During the Imperial period, education was organized at three levels: primary, secondary, and higher. For further information on Brazilian nineteenth century education, see Tereza Fachada Levy Cardoso, *As Luzes da Educação: Fundamentos, Raízes Históricas e Prática das Aulas Régias no Rio de Janeiro. 1756-1834* (Bragança Paulista: EDUSE, 2002).

¹¹ The political history of Brazil is divided into three periods: Colonial (1500-1822), Imperial (1822-1889), and Republican (1889- to the current day).

¹² Rebouças, personal diary, Vol. 12, (1872), Fundação José Nabuco.

¹³ Boletim do Expediente do Governo: Ministério do Império (RJ) – February 1861. Tomo 19, 44, Fundação Biblioteca Nacional.

¹⁴ Joselice Jucá, *André Rebouças: Reforma & Utopia no Contexto do Segundo Império: Quem Possui a Terra Possui o Homem* (Rio de Janeiro: Odebrecht: 2001); Maria Alice Rezende de Carvalho, *O Quinto Século: André Rebouças e a Construção* (Rio de Janeiro: Revan/Iuperj, 1998); Silva, "Reformismo social."

In 1863, André Rebouças obtained his first appointment to inspect forts located between Santos and Santa Catarina. As a military engineer with the rank of lieutenant, even when not allocated any specific work he received a small monthly wage. With his brother, Antônio, he directed work at Cananéia, Paranaguá, and Santa Cruz forts. He enlisted as a volunteer in the Paraguay War (1864-1870), but requested discharge from the army in 1866, being appointed to direct work on the Rio de Janeiro Customs House. He replaced the English engineer Charles Neate, who became a friend and partner at the D. Pedro II Docks Company. He also became a teacher at the Polytechnic School during this period.

Although he portrayed himself as a businessman, André Rebouças was an intellectual and political activist campaigning for the end of slavery. He had actively contributed to the *Sociedade Auxiliadora da Indústria Nacional* (Society for the Support of National Industry) since late 1860, where he defended the advance and modernisation of Brazilian industry, with an increase in immigrants during this process, promoting the development of technical education, both for immigrants and free African people, or those still in captivity. However, this society, which presented well-defined bases much before Rebouças became an associate, would not be the most auspicious path of Brazilian social reformism. Thus, the answer for the engineer was to take part in establishing a society which tackled the topic of technical education and rural land ownership for black people and immigrants in a more significant way. Consequently he became involved with the *Sociedade Central de Imigração* (Central Immigration Society). In 1867, he produced the first version of the tax on slavery law, and the *Associação Geral de Protetores dos Emancipados* (General Association of Protectors of the Emancipated) statutes in early 1870, with the objective of protecting and educating the emancipated of Brazil.¹⁵

Rebouças actively took part in the creation of the *Sociedade Brasileira Contra a Escravidão* (Brazilian Society Against Slavery, 1880) manifest,¹⁶ activating his network of international contacts, which were the result of his trips to Europe and the United States. As a result, in 1883 the *Confederação Abolicionista* (Abolitionist Confederation) was established, which was able to bring together various societies on the subject. Rebouças produced many documents where he emphasised the need to “ensure the freedom and well-being of all, promoting education and instruction of the free, facilitating the acquisition of land for them, on which they could work, establishing them as land-owning farmers.”¹⁷

¹⁵ Jucá, *André Rebouças*, 67.

¹⁶ On the Brazilian society against slavery, see Wladimir Barbosa da Silva, *Escravidão, Imprensa e Sociedade: O Protagonismo Feminino na Campanha Abolicionista* (master's thesis, Rio de Janeiro: CEFET/RJ, 2014); Ângela Alonso, “Associativismo Avant la Lettre – As Sociedades Pela Abolição da Escravidão no Brasil Oitocentista,” *Sociologias* 28 (2011): 166-99.

¹⁷ André Rebouças, *Confederação Abolicionista. Programa de Solução Depois da Lei de 13 de Maio de 1888* (Joaquim Nabuco Foundation, 1888).

André Rebouças' intellectual background forms part of the 1870 generation. Other intellectuals were part of this group, such as José do Patrocínio, Joaquim Nabuco, Quintino Bocaiuva, Machado de Assis, Sílvio Romero, Tobias Barreto, and others. According to Ângela Alonso,¹⁸ this generation was diverse in terms of social origin, interpretations of liberalism, positivism, and racial theories. Despite having social and epistemological differences, these individuals shared personal, political, and ideological objectives, which disturbed the conservative wing, mainly on the agenda which defended improving political representation, and the path which accompanied the social integration of black people who had become free, immigrant workers, and the poor in general.¹⁹ What was André Rebouças' positioning?

The Project to Build Brazilian Rural Democracy

The rural democracy project considered by André Rebouças had three well-defined pillars: education, social inclusion, and the redistribution of land. With regards the educational structure in place in the Empire, Rebouças understood that it was necessary to develop education, with a focus on productive work. According to him,

The utmost social problem of the century was announced as follows: “Educate the people to be rulers”; “Educate the kings to be citizens.” All of this demonstrates that we need to educate the growing generation for farming, for industry, for trade, and, in just one word, for work! Education has been merely political until now. It left academia for electoral colleges, often for provincial legislative assemblies, and even national parliament. Consequently, this general revulsion for productive work. All of this needs to be radically reformed, if we do not want to have the luck of France, or Spain.²⁰

Another priority was the mismatch between education, social inclusion, and the new technological demands arriving in the country. For the engineer, progress was linked to “transformation of the current slave-based, sterilising, and commonplace cultivation in the free, fertilizing and progressive farming industry.”²¹ Thus, he believed that education and capital were required:

And it is not possible to build schools, buy books, and pay masters without capital; the problem of capital and the problem of education need to be solved simultaneously: ‘you cannot teach the hungry to read.’ Capital is required for

¹⁸ Ângela Alonso, *Ideias em Movimento: A Geração 1870 na Crise do Brasil-Império* (São Paulo: Paz e Terra, 2002).

¹⁹ On Rebouças' trajectory seen through the lens of the sociology of ideas, see Alexandre Dantas Trindade, *André Rebouças: Da Engenharia Civil à Engenharia Social* (PhD diss., Campinas University, 2004).

²⁰ André Rebouças, *Agricultura Nacional: Estudos Econômicos; Propaganda Abolicionista e Democrática* (Recife: Massangana, 1988), 284.

²¹ Rebouças, *Agricultura Nacional*, 144.

education and industry. The following must be simultaneously given to the people—education and work. Providing an education to Brazilian people, so that they know the full range of their rights and duties, perfectly: give them work, so they can really be free and independent! We repeat: it is necessary, urgent, and essential to educate this nation for agriculture, for trade, and in just one word, for work! This should be the main scope of this Empire.²²

Interacting with European education models, André Rebouças also proposed the establishment of school funds which were available in France, Italy, and Belgium. In general terms, this fund would serve as a savings account for parents, with the aim of instilling a culture of economic education in students. According to Rebouças, “the effects would be even more significant in the future when current students, becoming adults, would form a generation of workers fully familiarised with the savings account, and countless honest and productive clients.”²³

According to Jucá,²⁴ Rebouças had been developing his ideas and social thinking since the 1860s. He produced a study on the *Lei de Imposto Sobre a Escravatura* (tax law on slavery) in 1867 and, in early 1870, was showing clear concerns with the slaves’ fortunes following emancipation, producing a document called *Estatutos de uma Associação Geral Protetora de Emancipados Para Proteger e Educar os Emancipados no Brasil* (Statutes of a General Protective Society of the Emancipated to Protect and Educate the Emancipated in Brazil). The elements found during this research indicate that the engineer’s political endeavours were not enough to sensitise the most influential people of the Empire, since the social reform programme which he designed was not implemented.

The social actions which André Rebouças defended were not solely addressed at the enslaved, but also included immigrants. The latter, left to their own devices, could become “a new type of slave.”²⁵ Brazilian historiography, while comparing André Rebouças’ and Joaquim Nabuco’s activism, demonstrates a disagreement based on the following arguments:

Rebouças probably had more difficulties in disseminating a social reformer’s ideas, and this was due to different factors: firstly, it was linked to the fact that he only became an abolitionist and social reformer after a long career as an entrepreneur and businessman, being deeply involved with the business world between the 1860s and 1870s. In other words, until this point, he did not have the habit of being an intellectual and social thinker. Secondly, Rebouças was never a politician, in the sense of joining political parties, therefore not having a platform, or a seat in the Chamber of Deputies, or the Senate, from where he could disseminate his

²² Rebouças, *Agricultura Nacional*, 284.

²³ Rebouças, *O Novo Mundo* 1 (April 1879), 83.

²⁴ Jucá, *André Rebouças*, 210.

²⁵ There is an extensive bibliography on the exploitation of the immigrants brought to Brazil. However, we highlight the memories of a Swiss national, Thomas Davatz in *Memórias de um Colono no Brasil: 1850* (São Paulo: Itatiaia, 1980).

ideas. Not even in journalism, where he pontificated as a columnist, it was in the sense of a serviceman in pamphleteering journalism, or acting as a speaker in the form of Patronage. Lastly, when his ideas began to emerge in the 1870s press, they caused a level of criticism, and even incomprehension of the essence of his 'land nationalisation' proposal.²⁶

Rebouças gives us clues, which enable us to argue that his ideas were circulated, but rejected, mainly by the political class and agrarian elite. The proposed social reforms—especially in education and agriculture—were not compatible with the ideological aspirations of the Brazilian elite. In the engineer's point of view, social and economic mechanisms needed to be created in favour of immigrants and black people, through a technical level educational instruction programme, whose applicability would occur by nationalising land. His years working in port and railway construction, and as a teacher at a technical institution, bestowed on him the viewpoint that black people would continue to execute marginalised work and jobs, prevented from specialising in activities that would improve their lives. His proposal was to generate a new status for this segment, through freedom and land use. This thinking is reflected in article IV of his programme of solutions, proposed to the Abolitionist Confederation in 1888, in which the main principles were: i) promoting land nationalisation through land tax, and freedom of land conservation; and ii) facilitating the acquisition of plots of land for all nationals and immigrants.²⁷

Rebouças developed legal principles which permeated rural ownership and communicated these in countless articles. He directed harsh criticisms at Law no. 601 of September 18, 1850, also known as the land law. This law allowed a concentration of land, since it could only be acquired through a purchase, with new concessions of *sesmaria* not being allowed,²⁸ nor occupancy through possession. For Luís Felipe de Alencastro,²⁹ small subsistence farmers were subjected to the loss of their lands, with an indication that they would be prevented from acquiring it in the future. For Márcia Motta,³⁰ the land law safeguarded the interests of major landowners; it did not allow an agrarian division, nor did it solve the Brazilian land problem. This context, diversified, and covered by various interests, became a turning point for Brazilian society's agrarian thinking.

²⁶ Jucá, *André Rebouças*, 211.

²⁷ Rebouças, *Confederação Abolicionista*.

²⁸ *Sesmarias* were official land donations which the Portuguese Crown made during the American land occupation process.

²⁹ Luís Felipe Alencastro, *O Trato dos Videntes: Formação do Brasil no Atlântico Sul, Séculos XVI e XVII* (São Paulo: Companhia das Letras, 2006).

³⁰ Márcia Motta, *Nas Fronteiras do Poder Conflito e Direito à Terra no Brasil do Século XIX* (Rio de Janeiro: APERJ/Vício de Leitura, 1998).

Between 1870 and 1880, André Rebouças focused on the land tax and land nationalisation, understanding them as mechanisms of social transformation. This aspect, according to his notes, was close to what we now understand as agrarian reform.³¹ In April 1879, Rebouças published a long article in the *O Novo Mundo* newspaper, in which he presented a set of arguments in defence of the feasibility of the land tax. In practice, the engineer proposed the reorganisation of the sums charged on the purchase and sale of rural properties:

As recent evidence has shown us, land tax should be established in proportion to the surface area owned, and never in relation to the net income of rural properties:

1 - since there are precise, simple, mathematical means of evaluating the surface area of a rural property, and it is extremely difficult to assess net income;

2 - since the surface area is fixed and constant for each property, and net income is moveable and variable from crop to crop, and year to year;

Clearly, a hectare planted with grass does not produce the same as that planted with coffee, sugar, or cotton;

3 - land tax, paid by surface area, prevents the monopoly on arable land, precludes the forests for hunting, and the woodlands preserved for aristocrats' grandchildren and great-grandchildren, when the people are dying of hunger, due to the lack of bread, or immigrants are forced to fight the indigenous people to gain an area, where they can plant a little corn;

4 - calculated on the surface area, land tax encourages improvement of elevations, drainage, use of better manure, and more advanced agricultural machinery, the rationed selection of a more lucrative crop in each rural zone; in just one word, is a constant stimulus for the progress of farming and, therefore, the increased well-being of the entire human race;

5 - the basis for net income requires declarations from land owners; the basis of tax for surface area is indelibly written on the land itself; it is registered on all purchase and sale contracts, in all wills, in all mortgage deeds; it can be verified at any moment with a theodolite and measuring tape;

6 - payment of land tax by surface area will compel the subdivision of land; payment by net income will eternalise the enormous properties, the old kings' donated *sesmarias*, and the large estates of the slave-owning barons of this Empire;

7 - tax on income favours the idle: produce nothing, pay nothing; while tax on the surface area encourages the diligent; the more that is produced, the less is paid, relatively; one eternalises the aristocracy, monopoly, and parasitism; the other develops rural democracy, promotes the subdivision of land, and encourages talent, initiative, and work;

³¹ For Luiz Felipe de Alencastro, the balance of power was not favourable to André Rebouças. There was no farmers' movement in favour of agrarian reform, or a grassroots organization fighting for the right to land. Brazil is one of the only large agricultural exporting countries which has never implemented agrarian reform.

8 - tax on the surface area of the land incessantly improves the registration plan and, therefore, the country's general plan; tax on net income obligates topographic registration operations and, therefore, disregards the best basis of land tax;

9 - when land tax is high enough to serve the productive capacity of each area of land, it is possible to evaluate it in relation to the most productive crops and, thus, provide land tax by surface area, establishing it through an equation similar to tax on income; but it is the Leaders' duty to never reach this limit;

10 – a territorial levy, calculated on the surface area, even if it is a little high, has the advantage of attracting farmers to the most fertile land; consequently, raising their prices; while, at the same time, lowering the price of less fertile land, allowing it to be purchased by immigrants and intelligent, emancipated people, capable of artificially giving them fertile conditions;

11 - land tax, established in relation to the surface of the land area is, therefore, democratic and progressive in everything, and for all; while land tax calculated on net income is aristocratic, stationary, and even retrograde, expressly machined to conserve and eternalise the monopolies and privileges of barbaric times!³²

He intended to counter arguments in favour of maintaining large areas centred around a small group of people. Throughout the document, countless criticisms of the inefficient territorial division system are formalised, indicating that the mechanism was backward, affected social parity and hindered the educational and technical advancement of black people and immigrants.³³ Rebouças touched on one of the most sensitive points in 19th century Brazil: disbanding the rural monopoly and, consequently, the Imperial status quo itself. The engineer argued that “tax on income favours the idle: produce nothing, pay nothing.”³⁴ By adopting a discourse contrary to maintaining the territorial privileges of the rural aristocracy, Rebouças diverged from the economic and political interests of the hegemonic group.

He linked the emancipation of the enslaved to new property regulations and land use:

I would like to end by saying that following the emancipation of the slaves, there is no social, economic, and financial reform more important for Brazil than the establishment of land tax by surface area: it will be the alpha of countless liberal and democratic reforms, destined to promote the union, greatness, and prosperity of the Brazilian family.³⁵

A tax alternative for disadvantaged social groups would be the introduction of the Torrens system:³⁶

³² André Rebouças, *Jornal O Novo Mundo*, 100 (April 1879), 82-3.

³³ Angela Bernadete Lima, “‘Quem Possui a Terra, Possui o Homem’: Abolicionismo e Democracia Rural nas Ideias Agrárias de André Rebouças,” *Revista Per Cursos* 43 (2019): 295-314.

³⁴ André Rebouças, *Jornal O Novo Mundo* 100 (April 1879), 82-3.

³⁵ Ibid.

³⁶ This type of simplified transfer of property was adopted in Brazil at the start of the Republican period

If the land of Brazil was divided and apportioned; if there was freedom of the trade of land within the moulds of the Torrens law; the State would sell 20 to 30.00 contos of land per year.

This entire amount routinely emigrates to Europe, bringing a continuous upsurge of foreign currency, and all the associated commercial transactions.

When the Territorial Monopoly ends, everyone will say the following of slavery:
- How did we consent to this injustice, this iniquity, and barbarism for so long in our beautiful Homeland?!³⁷

Furthermore, André Rebouças published an extensive work on the rural economy in the *Jornal do Agricultor* (Farmer's Newspaper) in 1879. In the article, he explained the process of industrial gains in various parts of the world in detail. On Germany and Belgium, he commented:

Agricultural institutions and models from Germany competed for greater improvement of agriculture in Belgium, which, on account of its geographic position, the quality of its land, and many other circumstances, due to nature and art, achieved a flourishing state in agriculture.³⁸

The arguments to leverage the Brazilian rural economy were fundamentally based on agricultural schools, which would teach productive foundations to free children from the Law of the Free Womb (1871). For the engineer, instruction would rescue children from social deterioration:

Teaching them all farming operations, the selection of land appropriate for certain, specific crops; sowing, transplanting, pruning, grafting, harvesting, improving the soil through fertilisers, manure, irrigation, and drainage, etc.

Involving them in small-scale animal husbandry, to their advantage and that of the establishment.

Providing them with appropriate teaching in the places in which the pastoral industry prevails: veterinary art, tanning, and making cheese and butter. Close to the sea, or important rivers, educating them in navigation, fishing, salting and preserving fish, and other sea or river-based products.

Proving to the students, by all practical means, that in a well-managed agricultural establishment, and where there is order and thrift, a farmer can live on this, or what he supplies, and still have a surplus for the market.

Showing them the advantages of collective work, as the only way of avoiding salaried work, practised by small farmers in some of the provinces of Brazil.

This is what I propose in general, with the objective of preparing the majority of the innocent, to one day be moralised men, and dignified citizens of a civilised

on May 31, 1890, known as the Torrens law.

³⁷ André Rebouças, *A Cidade do Rio* 15 (July 1888), 153.

³⁸ André Rebouças, *Jornal do Agricultor* 1 (1879), 19.

country. If the children of the enslaved are raised as captives, we may affirm that when the time comes for their defended release, they will be as brutish as their parents.³⁹

The school space considered by Rebouças would be “elementary,” with “masters, and nothing more.” In 1881, in the same newspaper, he returned to defending the rural economy, saying that “although they have only merged five hundred central mills, it did not appear difficult for each of them to be responsible for twenty innocents [children], and then we would have 10,000 people receiving an excellent rural education.” The engineer’s intention was for the government to take on the rural schools, which, perhaps was one of the most contentious points of his programme, and all the indications are that this was not supported. There would be financial support for farmers who emancipated “the highest number of slaves . . . and keep the best technical education system in their establishments.”⁴⁰

To summarise, Rebouças knew that, with the advent of abolition, exclusion and a lack of education, this would push black people into lower jobs. The absence of a greater socio-political project for the recently freed population contributed to the traditional presence of black people (until current times) in marginalised professions, and casual work with lower salaries, rarely in positions of social and economic prestige.

Racial barriers

Father of spells and father Quimbombo

They proceed in the order of the day
Two heroes of the same herd,
One famous for spells
The other, in I don’t know what.

They have privileges by the hundreds,
Free roads and *daring*
One day to say that everything is achievable
Imitating Juca Rosa.

With effective imitation
It is budgeted with such a morning,
That Juca Rosa succumbs,
And the father of spells wins.

Wells, dikes, and moccas⁴¹,

³⁹ André Rebouças, *Jornal do Agricultor*, 1 (1879), 88.

⁴⁰ André Rebouças, *Jornal do Agricultor*, 2 (1881), 17.

⁴¹ Informal name used for the currency of the time.

Everything is mortgaged
To two opaque comets,
Of the dirty waters of the State.

They say that even a balloon⁴²
Wants privilege,
And poor Dr. Freitas
Who endures this sacrilege! ...

The one thousand, six hundred contos
That the licence⁴³ cost,
Not counting the luxuries and labour
Which the downpour swept away.

All of this is compensated
By *twenty leagues of ground*
And another railway track
For colonisation.

In the hills of Curitiba,
The rumble is now blasting out,
Of Rebouçado⁴⁴ progress.
On the trails of father Quimbombo.

With one hundred and fifty contos,
Via Mato Grosso
Father Quimbombo is to establish
A colossal colony...

And those who think differently
Can change the core.
At the time of mocas
Those who do not change are fools.⁴⁵

These sonnets were cut out and pasted into the pages of Rebouças' diary. He interpreted them as yet another insult aimed at him and at his family which pierced him and his family. The "two heroes of the same herd" were the engineering brothers who were locked into a professional dispute with the engineer and inspector Francisco José de Freitas—"poor Dr. Freitas." The feud revolved around technical issues surrounding the plumbing of a warehouse built to drain the water collected in the city's wells and springs. Moving on from these lengthy episodes, we will focus on the terms and expressions used in the sonnet: "herd" understood here as a "small herd of cattle"; "opaque comets" in a reference to temporary, stars without any light; "Rebouçado

⁴² Object used during carnival to squirt water.

⁴³ License for civil servants.

⁴⁴ This term does not have a translation in English, since it was a facetious, derogatory neologism with the Rebouças family's surname.

⁴⁵ N.a., "Trapiches e Macacos," *Diário do Rio de Janeiro*, 40 (1871), 2.

progress” is a neologism in a facetious tone, and derogatory pun on the family’s surname; lastly, the title of the sonnet “Father of spells and father Quimbombo” is a disparaging reference to religions of African origins, comparing the brothers to sorcerers who influence through illusionism and enchantment.

At all times, the black intellectuals’ positions are disassociated from their sound scientific education. The entire sonnet is permeated by racist markers of humiliation, exclusion, and the dehumanization of black men, since they threatened the secular privileges of the white, holders of income, intellectual development, and social prestige.⁴⁶ The verses published in the newspaper enable the reader of this article to see the weave of Brazilian social fabric which, throughout the centuries, has destroyed the self-esteem and identity of black people.

The black intellectuals organised strategies to break through the racial and slavery blockade. Rebouças’ accounts reveal an awareness that he was part of a racialised society,⁴⁷ which imposed barriers on a daily basis. For example, this occurred when Rebouças and his brother stood out as the best students at the Military School.⁴⁸ In order to gain a professional space, the young, black engineers were involved in an intellectual and political agenda of social legitimacy.

In March 1870, André Rebouças mentions in his diary that “I was with Antônio from 10½ to 11½, at the Minister of Agriculture’s house, since he had promised to appoint Antônio to study the water supply of Rio de Janeiro.”⁴⁹ Between September and October, Diogo Velho left the Ministry of Agriculture, ceding his position to Teixeira Junior. According to André Rebouças’ diary, the new minister took the post amid intrigue about the brothers’ work, and almost immediately dismissed Antônio Rebouças from the services that he had been undertaking for nine months. Although the new minister had alleged budgetary constraints for paying Antônio Rebouças, the problem at hand was preventing two black men from receiving credit for a project of such importance. The ministerial intrigue was less about money and more for racial reasons.

André Rebouças travelled to Europe for the first time in 1861 and 1862, in the company of his brother Antônio Rebouças. We did not identify any reports of racial prejudice in his diary entries. The engineer opted to describe what he deemed positive, such as visits to museums and universities, connections with teachers and inventors, in addition to meetings with

⁴⁶ See Liv Sovik, *Aqui Ninguém é Branco* (Rio de Janeiro: Aeroplano, 2009).

⁴⁷ We have used the term “racialism” as the result of social hierarchization of the concept of race, used as an ideological tool to justify different social places, privileges belonging to a specific group, and exclusion of the other. This discussion spans numerous studies by Kabengele Munanga, *Rediscutindo a Mestiçagem no Brasil: Identidade Nacional versus Identidade Negra* (Petrópolis: Editora Vozes, 1999).

⁴⁸ For further details on this episode, see José Louzeiro, *André Rebouças* (Rio de Janeiro: Tempo Brasileiro, 1968).

⁴⁹ Rebouças, personal diary, Vols. 9-10 (1870-71).

entrepreneurs. His accounts did not indicate racial barriers when looking for accommodation at hotels, or at restaurants.

In mid-1872, Rebouças followed his plan, travelling from Europe to North America, with the goal of expanding his commercial ties with various businessmen. In addition, scientific advances connected to ports and railways in the USA sparked whet his technical-scientific curiosity. On 9 June, 1873, Rebouças arrived on North American soil and, according with his diaries, the arrival took place in a rather embarrassing way, since while his “white” companions, were quickly accommodated in rooms in the best hotels of the city, he, as a “man of colour,” soon met with difficulties at his accommodation.⁵⁰ With regards to the treatment received, he commented on the hotels and the form of hygiene used in the USA. He reported that “in the morning he was forced to take a bath in a barber’s shop, as there were no bathrooms at the Washington Hotel.”⁵¹ When making a comparison between the continents, he highlighted that “the bathrooms were wooden; the towels even smaller and shabbier than in the public baths of London.”⁵²

In the engineer’s words,

After several attempts, I understood that the issue of colour was the cause of room refusals; I obtained the address of the Brazilian consulate, and was driven there in a special car. Fortunately, at the consulate I met the old Consul Luiz Henrique Ferreira de Aguiar and Minister João Pedro de Carvalho Borges, who gave me a very warm welcome. The consul’s son, the engineer Aguiar, who sometimes visited me at the Rio de Janeiro Customs House Water Works office, with my assistant José Américo dos Santos, obtained a room for me at the ‘Washington Hotel,’ with the condition of eating in the room and never in the ‘Restaurant.’ The first room I had was a very dirty little room on the 3rd floor; later they gave me a lounge and bedroom, no. 43, on the ground floor, with an exit straight into the square, where ‘Broadway’ began. The ‘Washington Hotel’—Broadway no. 1—had the glory of receiving the immortal Washington; it was in fashion for several years; it is now a 3rd class hotel.⁵³

The routine of American racial segregation proved to be as perverse as that in Brazil. If racism in Brazil only appeared between the lines of newspapers, in institutional hurdles obstructing a black engineer’s projects, and creating obstacles, so that he could not study outside the country, prejudicial actions were overt in the USA. André Rebouças witnessed “the coincidence between blackness and slavery”, and the “non-human” and “non-citizen” on a daily basis. “The disadvantage of colour prevented me from attending a performance at the “Grand Opera

⁵⁰ On Rebouças’ stay in the United States, and racial segregation policies, known as Jim Crow, see Brito, “Mr. Perpetual Motion.”

⁵¹ Rebouças, personal diary, Vol.15 (1873).

⁵² Ibid.

⁵³ Ibid.

House,” a magnificent building constructed by the famous banker, Fisk, and the Booth Theatre, which also functions in a majestic building.”⁵⁴

Although surprised by the blatantness of American racism, Rebouças was able to bypass the constraints in New York, acting with significant resistance, since he had well-defined objectives; in other words, he remained vigilant to modern apparatus, evaluating what could be introduced in Brazil. During the evening, after he had acquired a room, André seized the opportunity to observe the technologies used in American streets and a type of illuminated sign with advertising opposite a theatre on Broadway with 5th Avenue, the engineer suggested to colleague and journalist José Carlos Rodrigues that the respective “magic lamp of advertising was introduced in Rio de Janeiro.” José Carlos Rodrigues was editor and owner of the *Novo Mundo* (New World) and *La América Ilustrada* (Illustrated America) newspapers and, consequently was part of the sociability network which Rebouças established. We should remember that the engineer was a member of the editorial body of *Novo Mundo*, written in Portuguese and published in New York.

Rebouças did not waste time in activating his sociability network to accomplish an agenda of visits. He needed to present letters of recommendation in order to obtain access to these ventures. According to the engineer, the letters were written by:

Frederico Youle to H. H. Swift & Companhia 158 Pearl Street; friend Harrah to F. H. Louvel – 233 Pearl Street; colleague Captain Duarte to brother-in-law Francisco Gomes Guimarães – 72 Beaver Street; widow Lecomte & Companhia de Paris to Clayde & Crooks 26 Beaver Street; and friend Harrah to engineer William Wilme Roberto, director of the North Pacific Railroad. This engineer was not available; however, his secretary, James H. Bartholomeu (James H.) gave me a very warm welcome. He accompanied me on a visit to the Cooper Institute, the Astor bookshop, and Barracks Club of the 7th Regiment of the National Guard, which he belongs to, and is the most popular in New York (see the guides). Then we visited the pillars under construction on the New York and Brooklyn side for the monumental suspension bridge.⁵⁵

The establishment of André Rebouças’ sociability network on American soil made it possible for a black man to visit white investors, businessmen and engineers’ establishments. In this intertwining of economic and professional interests, we highlight the social profile of the people cited by André in the extract above: a) Frederick Youle was the brother of Stanley P. Youle, Rebouças’ friend and partner in the Dom Pedro II Docks Company; b) G. J. Harrah had investments in Brazil as one of the Rio de Janeiro Transway entrepreneurs, and had studied investment in London with Rebouças between 1872-73; c) Antônio Francisco Duarte (Captain

⁵⁴ Rebouças, personal diary, Vol.15 (1873).

⁵⁵ Ibid.

Duarte) was with Rebouças in Liège in Belgium, supervising an important order of Comblain rifles for the Brazilian army in 1873.

André closely observed the question of prejudice among Americans, leading him to register the racial controversy involving Frederick Douglass on June 11, 1873:⁵⁶

Douglass, the mulatto, an old friend of President Grant, and very influential on his re-election, was recently rejected from Washington hotels; this event gave way to controversy in the newspapers, and a motion in the Senate. (See the Minutes of Louisiana Congress among the documents)

Civil Rights Bill presented by Senator Sumner.⁵⁷

Rebouças recognised the importance of Frederick Douglass for the history of American slavery and international abolitionism. In 1847, Douglas established the abolitionist newspaper *The North Star* in Rochester, in the state of New York. Two years earlier, in 1845, Douglass had launched his autobiography, titled *The Narrative of the Life of Frederick Douglass, an American Slave*. The lives of these two black intellectuals had fighting slavery, proximity to the highest leaders of their countries, and the construction of self-representation in common: the Brazilian as a man of science, and the American, as an accomplished speaker.⁵⁸

The version that André Rebouças became more engaged in the abolitionist movement following his visit to the USA predominates in Brazilian historiography, with racist episodes being a turning point for his change in attitude, leaving the sidelines of the abolitionist struggle to take centre stage.⁵⁹ Despite the importance of these studies, we diverge from this understanding, basing our research on the sources explored in this article. The awareness of racial barriers spanned throughout André Rebouças' lifetime and defined him as an intellectual and social reformer.

⁵⁶ Frederick Augustus Washington Bailey, or just Frederick Douglass (1818-1895), the pseudonym by which he became known worldwide, selecting this name when signing his work. He was an Afro-American citizen, abolitionist, speaker, writer, and statesman who disclosed what it really meant to be a slave in his country through his autobiographies. Thus, he was able to describe the painful experiences which he witnessed and experienced, in a simple, objective and truthful way, transforming his writing into the most commonly read accounts throughout national territory, making Douglass a true leader, fighting the legal system of North American slavery. Frederick Douglass, *A Narrativa da Vida de Frederick Douglass, Um Escravo Americano: Escrita Por Ele Mesmo* (Porto Alegre: n.ed., 2012). To find out more about Frederick Douglass, see James Colaiaco, *Frederick Douglass and the Fourth of July* (New York: Palgrave MacMillan, 2006).

⁵⁷ Rebouças, personal diary, Vol.15 (1873).

⁵⁸ Brito, "Mr. Perpetual Motion".

⁵⁹ Carvalho, *O Quinto Século*; Jucá, *André Rebouças*; Trindade, *André Rebouças*; Alonso, *Associativismo Avant la Lettre*.

Conclusions

The analysis of André Pinto Rebouças' family trajectory enabled us to discuss black men's social mobility strategies, and the barriers originating from the racist structure, which were consolidated over the centuries. Many have studied the engineer André Rebouças, but only recently was the experience of racism posed as a research issue. It is a historiographic challenge to investigate how black men and women broke through the racial blockade, particularly in the field of science.

We argue that the systematic episodes of racial prejudice which the engineer suffered defined his life options and intellectual and professional choices, shaping his reformist thinking. Between 1870 and 1888, Rebouças introduced a discussion which would affect two pillars of Brazilian society: the latifundium and slavery. The State would implement these changes through education, science, and law, and a technical education proposal for the liberated, the free, and immigrants; and review of the land law.

These projects circulated in the press, in conversation circles, and ministerial offices, but were rejected. For the engineer, the politicians were unwilling, since social reforms—particularly educational and agrarian—were not in line with the Brazilian elite's ideological aspirations.

This research does not intend to exhaust André Rebouças' activities as a black intellectual and social reformer. However, through his trajectory, we can gain a better understanding of the dynamic of the actions of black people, who in the late nineteenth century spearheaded the difficult task of political, economic, intellectual, social, and cultural engagement. Since, as Hebe Mattos affirmed in a recent text,⁶⁰ the Rebouças are the tip of a hidden iceberg, formed by a non-white population, removed from slavery for one or two generations, and who commanded respect in the public space, defending universal citizenship, access to education, and the end of modern slavery. However, these stories were wiped out by the eraser of invisibility, one of the most perverse strategies of Brazilian racism.

⁶⁰ Hebe Mattos, *Cartas da África*. We register Hebe Mattos' production as an epistemic turning point, introducing the racial issue as the key to understanding André Rebouças' trajectory.

Acknowledgements

We would like to thank the José Nabuco Foundation and colleagues who read and gave their opinion on the first versions of this article.

Competing interests

The authors have declared that no competing interests exist.

Funding

National Council for Scientific and Technological Development, Brazil (CNPq)