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German Technology, Caribbean Rum: Georg Stade and the Industrialization of Rum Production in Barbados, 1892–1898*

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In October 1892, the German-born and British-naturalized engineer Georg Stade arrived in Barbados to set up the West India Rum Refinery and Experimental Station.[1] Financial backing came from his brother Hermann, a director of the beet-sugar refinery in Broistedt near Brunswick, and Hermann's business partner, Emmy Leiste, a wealthy widow. The factory equipment was delivered by the Rhineland-based Sürther Maschinenfabrik and included the first column still on Barbados, enabling rum distilling on an industrial scale and based on scientific methods.[2] The West India Rum Refinery commenced operations in 1893, advertising its product under the label 'Stade's Rum'.[3] The company soon assumed a dominant position, pushing smaller producers out of the market. A report by the West India Royal Commission showed that at 156,889 proof gallons in 1896, the West India Rum Refinery had produced three times more rum than all other distillers in Barbados together. The report explained that one of the causes

> why the small distiller cannot compete is, that the West India Rum Refinery, which started in 1893, is gradually obtaining command of the rum trade of this Island, the class of spirit which this refinery produces at one distillation being purer than the other distilleries can produce, except by the process of redistillation.[4]

The word *Stades* quickly established itself as a synonym for 'rum' in Barbadian parlance.[5] In the long term, the venture set in motion a process of modernization and concentration in the Barbadian rum industry. In 2026 rum is one of Barbados's main export commodities

* The authors would like to thank Andrew Hassell of the West Indies Rum Distillery for granting access to historical company records. Helpful comments on earlier versions of the article were provided by members of the Aston University History Colloquium and by the three reviewers for *German History*.

[1] *Kölnische Zeitung*, 27 Sept. 1892, no. 767; 'Molasses as Fuel or for Distillation', *The Sugar Cane*, 24 (1892), pp. 520–1.

[2] West Indies Rum Distillery company files, Bridgetown (hereafter WIRD archive), uncatalogued, 'Case for the Opinion of Mr C. Henderson Clarke, Barrister-at-Law', 1937.

[3] *Barbados Herald*, 24 Aug. 1893 and 11 Dec. 1893.

[4] *Report of the West India Royal Commission* (London, 1897), Appendix C.—Part III., Barbados, p. 232.

[5] 'Letter to the Editor', *Barbados Herald*, 14 Nov. 1895.

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and is produced by four distilleries. The renamed West Indies Rum Distillery is still the largest distillery and accounts for 85 per cent of the island's total output of rum.[6]

The West Indies Rum Distillery encapsulates a history of close entanglement of Germany, the British Empire and the Caribbean whose significance goes far beyond individual biography and geographical location. It highlights complex pathways of trans-imperial entrepreneurial activity, technology transfer, and German involvement in globalizing a commodity—rum—which is usually associated with tropical locations. This history has, so far, fallen between the cracks of research, fitting neither Whiggish interpretations of the inherently 'British' nature of empire nor nationally demarcated histories of Germany. It is only since historiographies of the empire have been decentred and diversified and those of Germany have been thoroughly re-spatialized in global terms that histories such as Stade's can be discussed in productive new frameworks.[7] Such case histories were not a fringe occurrence and can be located right at the centre of British and German entangled histories. As Glenn Penny and David Blackbourn have demonstrated in their recent interventions, a great deal of 'German' history took place outside its shifting borders, through emigration, trade, colonization and warfare.[8] This article not only makes an empirical contribution to this literature but also argues for a wider lens in terms of both geography and discipline.

First, geography. The latest comprehensive history of the Caribbean is aptly entitled 'Empire's Crossroads', for it depicts the region as a central node of global entanglements.[9] Germans were involved from the early modern period as merchants, financiers, plantation owners and migrants, with skills that were relevant in colonial economies. A widespread pattern was for German merchant houses to have family members or partners naturalized in Britain in order to have unhindered access to British overseas markets. This participation included deep involvement in the trading and ownership of enslaved people, most notoriously in the case of the German-Danish merchant Heinrich Karl von Schimmelmann, who owned over 1,000 slaves on the Danish Virgin Islands and was considered one of the wealthiest

[6] 'West Indies Rum Distillery: The Backbone of Barbados Rum', Business Barbados, 2023, *www.businessbarbados.com/articles/west-indies-rum-distillery* (accessed 9 June 2026).

[7] For decentring and diversification see, for example, P. Mishra, *From the Ruins of Empire: The Revolt against the West and the Remaking of Asia* (New York, 2012); D. Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton, 2000); A. Kohli, *Imperialism and the Developing World: How Britain and the United States Shaped the Global Periphery* (Oxford, 2020); C. Elkins, *Legacy of Violence: A History of the British Empire* (New York, 2022). For re-spacialization in global terms see S. Conrad, *Globalisation and the Nation in Imperial Germany* (Cambridge, 2010), and H. G. Penny and S. Rinke, 'Germans Abroad: Respatializing Historical Narrative', *Geschichte und Gesellschaft*, 41 (2015), pp. 173–96.

[8] H. G. Penny, *German History Unbound: From 1750 to the Present* (Cambridge, 2022); D. Blackbourn, *Germany in the World: A Global History, 1500–2000* (London, 2023).

[9] C. Gibson, *Empire's Crossroads: A New History of the Caribbean* (London, 2014).

merchants in Europe in the 1780s. Over the last few years, a critical body of scholarship has unearthed manifold German stakes in the Caribbean.[10] For the nineteenth century, however, scholarship is largely silent. Mass emigration from the 1820s went elsewhere, slavery was abolished in the British Empire in 1834, German formal colonialism played out in other world regions, and centres of economic activity diversified globally. On a macro level, these shifts meant that the Caribbean lost its key role in production and trade for European economies and that scholars of Germany's global presence had little interest in the region. By contrast, the Pacific has attracted much pertinent scholarship.[11]

Nonetheless, German–Caribbean entanglements persisted throughout the nineteenth century. After slavery had come to an end in Jamaica, labour shortages and fear of native insubordination on plantations caused the authorities to actively recruit immigrants from Germany. Between 1834 and 1838, around 1,200 farmers, small-trades people and disbanded soldiers arrived, forming communities where anglicized names such as Hacker, Kleinhans and Schleifer have survived until the present day.[12] In terms of global political aspirations, there were efforts by successive German governments between the mid-1860s and the First World War to build coaling stations and naval bases in the Caribbean to counter US dominance.[13] Merchants in Hamburg and Bremen had close trading links with Cuba. And to conclude these few examples, in Trinidad a community of German industrialists and merchants was very much part of local elites.[14] As will be shown, the Caribbean sugar and rum industries were a magnet for German entrepreneurial and technical activity, and the case

[10] For example, M. Schulte-Beerbühl, *The Forgotten Majority: German Merchants in London, Naturalization, and Global Trade, 1660–1815* (Oxford and New York, 2015); R. von Mallinckrodt, J. Köstlbauer and S. Lentz (eds), *Beyond Exceptionalism: Traces of Slavery and the Slave Trade in Early Modern Germany, 1650–1850* (Berlin and Boston, 2021); F. Brahm and E. Rosenhaft (eds), *Slavery Hinterland: Transatlantic Slavery in Continental Europe 1680–1850* (Woodbridge, 2016). For Schimmelmann see most recently D. Pieper, *Zucker, Schnaps und Nilpferdpeitsche: wie hanseatische Kaufleute Deutschland zur Kolonialmacht trieben* (Munich, 2023).

[11] For example, H. Berghoff, F. Biess and U. Strasser (eds), *Explorations and Entanglements: Germans in Pacific Worlds from the Early Modern Period to World War I* (New York, 2019); H. Hiery (ed.), *Die deutsche Südsee 1884–1914: ein Handbuch* (Paderborn, 2001).

[12] Jamaica National Heritage Trust, Dis 'N Dat, 2011, *http://www.jnht.com/disndat_people.php*.

[13] N. Mitchell, *The Danger of Dreams: German and American Imperialism in Latin America* (Chapel Hill, 1999); D. Bönker, *Militarism in a Global Age: Naval Ambitions in Germany and the United States before World War I* (Ithaca, NY, 2012). For Central America see T. Schoonover, *Germany in Central America: Competitive Imperialism, 1821–1929* (Tuscaloosa and London, 1998); Politisches Archiv des Auswärtigen Amtes, Bonn, RZ 201/17465 bis RZ 201/17469: Britische Besitzungen in Südamerika; Bundesarchiv Lichterfelde R 2/1723, Britisch-Westindien 1900–1910.

[14] M. Zeuske, 'Preußen und Westindien: die vergessenen Anfänge der Handels- und Konsularbeziehungen Deutschlands mit der Karibik und Lateinamerika', in S. Carreras and G. Maihold (eds), *Preußen und Lateinamerika im Spannungsfeld von Kommerz, Macht und Kultur* (Münster, 2004), pp. 145–216; A. De Verteuil, *The Germans in Trinidad* (Port of Spain, 1994). For Jamaica see S. Manz and P. Panayi, *Enemies in the Empire: Civilian Internment in the British Empire during the First World War* (Oxford, 2020), p. 154.

history of the West Indies Rum Distillery has to be seen within this broader context of German, British and Caribbean entanglements throughout the nineteenth century.

Second, the discipline. We argue that a sustained focus on the history of technology can make a valuable contribution to re-spatializations of German history. Transnational scholarship on the Second Empire acknowledges that German machines and technology were an integral part of Germany's presence in the world, including at locations in the British Empire such as India. Krupp, Borsig, and Orenstein & Koppel delivered locomotives, wagons and replacement parts for the East Indian Railway and other railway companies on the subcontinent. Siemens delivered generators for the Tata steelworks in Jamshedpur, and Krupp built an entire cement plant for the Indian Cement Co. Ltd in Porbandar.[15] Relevant studies focus on economic implications rather than processes of technology and know-how transfer. The history of the machines themselves is not used in any sustained way for re-spatializing our understanding of German history. What were the actual processes of innovation, technology transfer and adaptation within different environments? How did international market forces shape that innovation? How do we assess the human factor as migrating specialists transferred know-how into these environments? What obstacles and opportunities did they encounter as they interacted with local authorities, competitors and consumers? Focusing on Georg Stade and the West Indies Rum Distillery allows us to tackle these questions.

This article also fills a gap in the Barbadian national historiography. To date, there has been no article-length academic treatment of the distillery's German roots. Barbados's foremost economic historian, Henderson Carter, does not mention them and merely states that the Stade brothers were an example of 'new capitalists [who] embarked on a programme of rationalization, designed to reduce costs, increase cane yields and factory efficiency'.[16] Neither general histories of the island nor the *Journal of the Barbados Museum & Historical Society*, which covers an otherwise admirable breadth of local histories, has as yet tackled this instance of Barbadian–German entanglement.[17] The literature on rum in Barbados is similarly

[15] J. Oesterheld, 'Zum Spektrum deutscher Eliten im kolonialen Indien: ein erster Überblick', in M. Denzel (ed.), *Deutsche Eliten in Übersee, 16. bis frühes 20. Jahrhundert* (St. Katharinen, 2006), pp. 377–96; C. Lubinski, 'Business beyond Empire: German Multinationals in Pre- and Post-Independence India, 1890s–1960s', *South Asia*, 41 (2018), pp. 621–41. For Britain see A. Hagen, *Deutsche Direktinvestitionen in Großbritannien, 1871–1918* (Stuttgart, 1997), pp. 328–38.

[16] H. Carter, *Business in Bim: A Business History of Barbados, 1900–2000* (Kingston and Miami, 2008), p. 20.

[17] For general histories see H. Beckles, *A History of Barbados: From Amerindian Settlement to Caribbean Single Market* (Cambridge, 2006); A. Walrond, *Westminster's Jewel: The Barbados Story* (Bridgetown, 2015); F. A. Hoyos, *Barbados: A History from the Amerindians to Independence* (London and Basingstoke, 1978). Two contributions with a specific Barbadian-German angle are A. Gunkel and J. S. Handler (ed. and trans.), 'A German Indentured Servant in Barbados in 1652: The Account of Heinrich von Uchteritz', *Journal of the Barbados Museum and*

scant, for it either does not cover the nineteenth century or is of a non-academic nature.[18] An exception is Frederick H. Smith's study on Caribbean rum, which contains valuable general sections on Barbados.[19] A current UNESCO-funded capacity building project intends to address the lacuna, recognizing the importance of safeguarding the heritage of sugar and rum for sustainable development.[20] As it stands, however, only the distillery itself upholds the memory of its founder, through marketing materials and branded products such as 'Stade's Rum'.[21]

The reasons for this silence are twofold. The first reason is found in the Germanophobia that during the First World War swept through the Caribbean just as much as through other parts of the British Empire, and indeed the world. Both German property ownership and the collective memory of the German presence in the empire were much reduced.[22] The second reason lies in the nature of the sources. These are scattered across Britain, Switzerland, Barbados and Germany and not all are publicly accessible. There are no ego-documents left by Georg Stade and his contemporaries that would feed into a biography beyond business matters, nor is there a comprehensive company history of the West Indies Rum Distillery. We had to reconstruct Stade's life from a complex set of sources located in Germany, Britain and Barbados, including registration data, patents, local newspapers and Stade's own publications on technical matters. Some of the documents related to the early history of the company are held by the West Indies Rum Distillery, albeit not catalogued within a publicly accessible company archive. We were fortunate to be granted exclusive access to these files. Our challenge was then to triangulate this material with publicly accessible sources in order to construct a sound narrative of transnational innovation processes.

Our methodological focus on biography has generated sufficient source material to build a study that goes beyond Georg Stade as an individual. Older generations of functionalist business historians,

Historical Society, 13, 3 (1970), pp. 91–100; and S. Manz, '"I Can't Understand Why I Must Be a Prisoner of War": Civilian Internment in Barbados during the First World War', *Journal of the Barbados Museum and Historical Society*, 68 (2022), pp. 32–51.

[18] Anon., 'Editorial: Barbados Rum', *Journal of the Barbados Museum and Historical Society*, 38, 2 (1988), pp. 97–100; H. Carter, 'A History of the Rum Enterprise in Barbados, 1640–1815' (MPhil thesis, University of the West Indies, 1992); Anon., *Barbados Rum Book* (London and Basingstoke, 1985).

[19] F. H. Smith, *Caribbean Rum: A Social and Economic History* (Gainesville, 2005).

[20] UNESCO, Press release: The Importance of the Story of Sugar and Rum in Barbados, 27 Oct. 2020, last updated 20 Apr. 2023, *https://www.unesco.org/en/articles/importance-story-sugar-and-rum-barbados*.

[21] 'West Indies Rum Distillery: The Backbone of Barbados Rum'.

[22] G. D. Howe, *Race, War and Nationalism: A Social History of West Indians in the First World War* (Kingston and Miami, 2002); P. Panayi (ed.), *Germans as Minorities during the First World War: A Global Comparative Perspective* (Farnham, 2014). Most recently, see the comprehensive doctoral thesis by C. La Lumia, 'The War against Germans: Economic Nationalism, Property Rights and Citizenship of German Ex-Enemy Aliens, 1918–1933' (University of Naples, 2024).

who focused on structures and institutions, would have been sceptical of this method. More recent approaches, by contrast, have highlighted individual agency in historical processes, not least in relation to entrepreneurial activity and innovation. Business historians Dan Wadhwani and Christina Lubinski, for example, argue for a 'new entrepreneurial history', which they define as 'the study of the processes through which actors, individually and collectively, make sense of and pursue the development of future goods, services, and markets, thereby transforming markets, industries, and capitalism from within'.[23] Within that context, immigrant entrepreneurs are of particular interest, as they navigate foreign environments, with all their advantages and disadvantages.[24] It is not our aim either to resurrect notions of 'great men' making history or to provide a contributionist history extolling the work of 'pioneers of *Deutschtum* abroad'.[25] Instead, reconstructing individual transnational agency in the industrializing landscape of a British overseas territory demonstrates the impact of globalizing technologies and markets at the end of the nineteenth century and German involvement therein.

I. Germany and Stade in the Global Sugar Industry

Nineteenth-century rum production was closely linked to shifting technologies in sugar production, as rum is a by-product of cane-sugar refinement. After the crystalline sugar has been extracted from boiled cane juice, a syrupy mass is left. This molasses, or extracted sugar juice, is mixed with water and yeast to produce alcohol. After fermentation, the liquid is distilled to separate the alcohol from impurities. Georg Stade's broader background was, indeed, that of a sugar expert. He was born in 1863 in Peine, a small industrializing town between Hanover and Brunswick with a thriving beet-sugar industry. He most likely attended the Schule für Zuckerindustrie (School for the Sugar Industry) in Brunswick, a training college offering 4-month-long courses on chemical technology that awarded the title *Civil-Ingenieur*. The college had a large international student body. Stade found his first employment at the Braunschweiger Maschinenbau-Anstalt. This company earned

[23] R. D. Wadhwani and C. Lubinski, 'Toward the "New Entrepreneurial History"', working paper for the joint meeting of the Business History Conference (BHC) and the European Business History Association (EBHA), Historical Approaches to Entrepreneurship Theory & Research, held in Miami, 24–27 June 2015. For a general discussion see R. D. Wadhwani and C. Lubinski, 'Reinventing Entrepreneurial History', *Business History Review*, 91 (2017), pp. 767–800, and U. Spiekermann, 'Why Biographies? Actors, Agencies, and the Analysis of Immigrant Entrepreneurship', in H. Berghoff and U. Spiekermann (eds), *Immigrant Entrepreneurship: The German-American Experience since 1700* (Washington DC, 2016), pp. 37–52.

[24] H. Berghoff and A. Fahrmeir, 'Unternehmer und Migration: Einleitung', *Zeitschrift für Unternehmensgeschichte*, 58 (2013), pp. 141–8.

[25] S. Manz, *Constructing a German Diaspora: The 'Greater German Empire'* (New York, 2014).

global recognition for the introduction of Julius Robert's diffusion process, which significantly improved both beet- and cane-sugar production. By 1877 the company had constructed forty-one complete sugar factories, many of them abroad.[26]

Stade quickly established himself as an expert in sugar production, cost cutting and rationalization. In his first scientific publications, written at the age of twenty-one, he argued for more data to analyse manufacturing and to optimize the production process.[27] In 1885, while working at the Usine St. Madeleine factory in Trinidad, he explained to an international readership the accounting practices of German companies, using the Nörten Sugar Manufacturing Company as a case study.[28] In his articles, he combined the increasingly detailed knowledge of organic chemistry related to the composition of sugar cane and sugar beet with the chemical reactions during processing. As was typical of general advances in German food science, sugar production was for him a large-scale chemical experiment. Success resulted from knowledge and application of the laws of nature.[29] As an engineer, his particular focus was on the equipment and machines that made this possible.

In early 1885 Stade took up his first post abroad, in Trinidad.[30] His new role can be directly linked to two macro-economic forces on the global sugar markets: first, the fierce competition between colonial cane sugar and central European beet sugar, and secondly, the falling price of beet sugar, which had led to the German 'sugar crash' in 1884. Many smaller sugar refineries went bankrupt, and the market for machinery came to a standstill. The Braunschweiger Maschinenbau-Anstalt had to increase its export efforts and gain new markets, away from Europe and away from beet sugar: as a close contemporary source notes, 'For this purpose, engineers were sent out, agencies were established and overseas exhibitions were held with products from the factory.'[31] Stade was part of this outward flow of German engineers. He believed in the future of cane sugar. In the long run and without duty barriers, he argued, it would be cheaper than beet sugar, but only if its processing was radically modernized.[32] In 1885 he took up a position as 'engineer & technical chemist & sugar & spirit manufacturer' at the Usine St. Madeleine in Trinidad.[33] This

[26] R. Bettgenhaeuser, *Die Industrieen des Herzogthums Braunschweig* (Brunswick, 1898), p. 123.

[27] G. Stade, 'Notes on the Working of a Sugar Refinery', *Sugar Cane*, 17 (1885), pp. 13–22, 64–9.

[28] G. Stade, 'How Losses in Sugar Manufacturies Can, Sometimes, Be Accounted For', *Sugar Cane*, 18 (1886), pp. 38–9.

[29] S. Manz and U. Spiekermann, *Making Food Empires: German Technology and Global Mass Production, 1870–1914* (Oxford, 2026).

[30] *The Colonies and India*, 2 Jan. 1885.

[31] Bettgenhaeuser, *Die Industrieen*, p. 123.

[32] G. Stade, 'Cost of Production of Beet Sugar without Bounties', *Sugar Cane*, 22 (1890), pp. 397–403, here p. 397.

[33] Memorandum about Mr. Geo Stade, Bad Oeynhausen, 1 Jan. 1919, and letter Stade to Secretary of State for the Colonies, 21 Feb. 1919, WIRD archive, not catalogued.

factory was part of the Colonial Company, which was owned by the British industrialist Charles Tennant. Here he witnessed the centralization of a major industry through scientific methods and modern technology, with a multitude of small sugar producers giving way to a few capital-intensive ventures. This model had been successfully introduced in the French and German beet-sugar industries in the 1870s. In Hawaii in 1878, the German-born immigrant entrepreneur Claus Spreckels adapted it by converting uncultivated land into cane-sugar land and building central factories for processing large and expandable quantities of cane.[34] Stade became a prominent propagandist of these new forms of enterprise in the Caribbean.[35]

The two sugar-producing Caribbean colonies at the forefront of technological innovation were British Guiana—'where sugar estates were models of efficiency', commented Ray Beachey[36]—and Trinidad. Although most of the machinery came from Britain, the rise of the beet-sugar industry in continental Europe had led to specific advances which could also be applied to cane-sugar production. British Guiana planter Quintin Hogg, for example, ordered his diffusion batteries from Sangerhausen in Germany, and he made personal visits to Austria-Hungary in the 1880s to purchase an evaporator. Other machinery ordered from Germany included vacuum pans, clarifiers and gadgets for testing and controlling. The transfer of machinery went hand in hand with the migration of German experts.[37] By the 1890s, German chemists were employed on most of the large estates in British Guiana. The Planters Association of that colony found the familiarity of their German staff with beet-sugar production methods particularly advantageous.[38] A traveller on his way to the West Indies in 1896 spoke of 'a sprinkling of Germans on board, generally chemists or engineers going to large usines in Trinidad or to set up diffusion sugar processes in Demerara'.[39] Stade was part of this cohort of mobile experts, whose transnational networks constituted channels for knowledge exchange. In Trinidad, for instance, he was in close postal communication with sugar refineries that used the Braunschweiger Maschinenbau-Anstalt's diffusion process: Madras (East Indies), Almeria, Mobul, and Nerja (Spain), Tor del Mor, Braculy and Barcellos (Brazil), Parkinson Sugar Works (Ottawa), Fort Scott, Kansas (USA) and Penn Nonpareil (British Guiana). Ethnic networks could strengthen such connections, as in

[34] U. Spiekermann, 'Claus Spreckels: Robber Baron and Sugar King', in German Historical Institute Washington DC (ed.), *Immigrant Entrepreneurship: German-American Business Biographies, 1720s to the Present*, vol. 2 (2013), *https://www.immigrantentrepreneurship.org/entries/claus-spreckels-robber-baron-and-sugar-king/*.

[35] G. Stade, 'On the Working of a Cane-Sugar Central Factory and Distillery', *Sugar Cane*, 22 (1890), pp. 131–42, 345–55.

[36] R. W. Beachey, *The British West Indies Sugar Industry in the Late 19th Century* (Oxford, 1957), p. 77.

[37] *Ibid*., pp. 175–6.

[38] *Ibid*.

[39] C. W. Eves, *The West Indies* (London, 1897), p. 12, quoted in Beachey, *British West Indies Sugar Industry*, p. 175.

the case of Stade's cooperation with German immigrant entrepreneur Hans Nitzsch, technical manager of the cane-sugar factory in Barcellos, Brazil.[40]

In 1886 Stade began his application for British citizenship, which was granted in 1887.[41] The decision to become naturalized is a clear sign that he saw his professional future in the British Empire with its substantial sugar industry. His long-term plans to set up his own factory meant he would need to own land, for which British nationality was a requirement. When he returned to Berlin, probably in 1888, he had accumulated a wealth of expertise, international networks and an understanding of markets and production methods. In April 1890, he registered his own trading company, Geo. Stade & Co., in Charlottenburg.[42] His brother Hermann became a partner in 1892, and Hermann's future wife Emmy Leiste, who was a widow, was cofounder and also a partner. Important in financial terms was Hermann Stade's directorship of the Actien-Zuckerfabrik Broistedt, which was profitable and well known in the sugar industry as a place where new technology was tested.[43] When Hermann and Georg Stade cofounded the West Indies Rum Refinery, they registered the company in Barbados as 'Stade Bros.' Together the two brothers had the know-how, capital and citizenship to set up a business in a British Empire location.

II. The Establishment of the West Indies Rum Refinery

Georg Stade arrived in Barbados in 1892 'for the purpose of erecting an automatic still for making refined rum which when completed was to be worked and carried on by himself and his brother Mr Herman Stade in partnership as "*Stade Bros.*"'[44] His aim was to produce rum that was free of fusel oil without any chemicals, in contrast to the rum produced by many smaller refineries on the island, and indeed across the Caribbean. This industry had not experienced significant modernization and investment. In Europe, continuous stills had been widely used for spirit production since their introduction in 1801, but Caribbean rum makers remained 'technologically conservative', in Smith's words, and still largely relied on the

[40] G. Stade, 'Diffusion Applied to Sugar Cane in South Brazil', *Sugar Cane*, 19 (1887), pp. 46–8. See also Berghoff and Spiekermann, *Immigrant Entrepreneurship*.

[41] Memorandum about Mr. Geo Stade, Bad Oeynhausen, 1 Jan. 1919, and letter Stade to Secretary of State for the Colonies, 21 Feb. 1919, WIRD archive, not catalogued. The National Archives only holds colonial naturalization records from 1915; it therefore does not hold Stade's records.

[42] *Deutscher Reichsanzeiger*, 16 Apr. 1890; 10 June 1892.

[43] *Hannoverscher Courier*, 1 Dec. 1901.

[44] Case for the Opinion of Mr C. Henderson Clarke, Barrister-at-Law, 1937, WIRD archive, not catalogued. The document erroneously gives 1893 as the year of arrival.

common pot still.[45] The latter was cheaper to set up but did not allow mass production on an industrial scale. Pot stills operate by heating the fermented liquid and capturing the alcohol vapours as they rise through the still. In contrast, continuous stills, also known as column stills, pass the liquid through a series of plates, where it is heated and distilled multiple times, resulting in a purer and more refined alcohol. Both methods are still widely used, depending on the desired flavour and output volume.

The West India Rum Refinery disrupted the local production methods, which had changed little during the preceding centuries. Rum originated as a commodity in Barbados. Its first recorded mention was by an anonymous visitor, who wrote in 1651 that 'the chief fudling they make in the island is Rumbullion, alias Kill-Devil, and this is made of sugar canes distilled, a hot, hellish and terrible liquor'.[46] Its quality subsequently improved, and rum soon became an established alcoholic drink in the Caribbean. It was consumed locally and exported to other British colonies—it was documented in New England from the 1660s—and was also part of Royal Navy rations, a tradition that persisted into the twentieth century. The cultural connection of the drink with its 'birthplace' remained strong: well into the eighteenth century, rum was referred to as 'Barbadoes-Liquor' in English-speaking regions.[47] Rum was part of local Barbadian identities, and the disruption triggered by the West India Rum Refinery thus occurred not only at the production level but also at a broader cultural level.

At the time Stade arrived in Barbados, individual distillers in the Caribbean tended to follow their experience rather than scientific manuals. The results were varied and inconsistent, although there were exceptions.[48] Aware of the international markets, Stade knew what could be achieved through rigorous modernization and investment. In Cuba, Catalonian immigrant Facundo Bacardí Massó had started large-scale rum production in 1862. Belgian, French and British copper and steam-powered continuous distilling machines had replaced the earlier Jamaican stills, triggering a proliferation of local producers and a highly profitable industry on the island.[49] The situation was similar in Jamaica, where by 1887 rum exports were

[45] Smith, *Caribbean Rum*, p. 197.

[46] Quoted in I. Williams, *Rum: A Social and Sociable History* (New York, 2005), p. 28. The first mention in German is J. Oldmixon, *Das Britische Reich in America* (Lemgo, 1744), p. 437.

[47] R. Foss, *Rum: A Global History* (London 2012), pp. 28–9.

[48] E. C. Wells, 'Social and Environmental Impacts of British Colonial Rum Production at Betty's Hope Plantation, Antigua', in C. E. Orser (ed.), *Archaeologies of the British in Latin America* (New York, 2018), pp. 235–53, quote p. 238. See also N. Zahedieh, 'A Copper Still and the Making of Rum in the Eighteenth-Century Atlantic World', *Historical Journal*, 65 (2022), pp. 149–66.

[49] J. M. Lázaro, 'Rum, Business and Society in Cuba, 1832–1965', *Revista de Historia Industrial*, 63 (2016), pp. 13–48, esp. pp. 17–18; T. Benbow-Pfalzgraf, 'Bacardi Limited', in J. P. Pederson (ed.), *International Directory of Company Histories*, vol. 18 (Detroit, 1997), pp. 39–42, here pp. 39–40.

worth 20 per cent of the island's total exports, and rum brought in more than sugar. This growth had a German dimension, as a profitable market emerged in Germany around a growing demand for rum. Jamaican 'ether' rum with its intense flavour was the gold standard for German spirit importers and producers, who mixed it with potato spirit and water.[50] During the 1880s, German houses sent their buyers specifically to Jamaica to spot the right kind of ferment.[51] In Venezuela, the German Vollmer family had started rum distilling in the 1830s and modernized production from 1881 with a copper still imported from Cologne.[52] Stade clearly saw the immense potential of a technological 'catch up' in a suitable location. In British Antigua, his analytical work received positive reviews in 1890 and 1891.[53] In the following two years, he repeatedly advertised steam stills from Sachsenberg Bros., located in Dessau-Roßlau, Saxony-Anhalt, which were based on the patents of Robert Ilges, a Cologne-based engineer.[54] After initially considering Cuba as a location for his own production site, Stade finally settled for, and in, Barbados.[55]

First, land had to be purchased, both for the plant and for his house. The chosen plot had been part of the Spring Garden Plantation near Bridgetown. The land had access to fresh water, which was an important criterion. It was on the seafront and measured two acres and thirty perches (8,853 square meters). Within a year the land had been transformed by buildings, machinery, dwellings, watercourses, trees, lights and walls.[56] To create good infrastructure for his factory, Stade applied to build a jetty into the sea from his land. Permission was granted by a Private Act passed by the Barbados legislature in December 1892 and submitted to the Secretary of State for the Colonies for Royal Assent.[57] Next, the machinery had to be set up. During 1892, Stade instructed Maschinenfabrik Sürth near Cologne to produce the kind of still that was used for spirit production from beet molasses and potatoes in continental Europe.[58] The complete

[50] U. Spiekermann, 'Deutscher Rum—Gestaltungsutopie, Importalternative, Billigangebot', 11 Jan. 2023, *https://uwe-spiekermann.com/2023/01/11/deutscher-rum-gestaltungsutopie-importalternative-billigangebot/*.

[51] Beachey, *British West Indies Sugar Industry*, p. 76; Smith, *Caribbean Rum*, pp. 203, 206.

[52] Santa Teresa is currently the main rum producer in Venezuela and is still run by the Vollmer family, now in the fifth generation. There is no academic literature on the company's history. The information comes from websites and cannot be checked. See All At Sea, Rum Review: Santa Teresa 1796, 13 Nov. 2019, *https://www.allatsea.net/rum-review-santa-teresa-1796/*, and SantaTeresa 1796, History, *https://www.santateresarum.com/heritage/* (accessed 9 June 2026).

[53] *Antigua Observer*, 10 July 1890 and 11 June 1891.

[54] *Antigua Observer*, 28 Apr. 1892—6 Aug. 1893.

[55] 'The Largest Rum Distillery in the World', *Louisiana Planter and Sugar Manufacturer*, 8 (1892), p. 179, also p. 182.

[56] Barbados Department of Archives, Bridgetown, Title Deeds, RB 1/396/198, No. 453, entered 23 Aug. 1893.

[57] The National Archives, Kew, Richmond (henceforth TNA), Erection of Jetty by G Stade, CO 28/232 No. 237, 1 Dec. 1892, Attorney General's report 21 Nov. 1892. See also notice in *Barbados Herald*, 17 Oct. 1892.

[58] Case for the Opinion of Mr C. Henderson Clarke, Barrister-at-Law, 1937, WIRD archive, not catalogued. The Sürth works were taken over by Linde in 1920. The Linde company archive has not been publicly accessible since Linde plc moved to Glasgow in 2022.

set of machinery and associated chemical manufactures was delivered at a cost of at least £3,238, or £331,000 in today's money.[59]

In order to run the factory, staff with expertise in scientific distilling had to be employed. The still and machinery were such that they could be operated by relatively few engineers. Automation was key. A visiting correspondent from the *Georgetown Daily Chronicle* observed in 1894,

> Free and valuable use is made of the teaching of science, and so thoroughly automatic are the works in construction, that labour is reduced to a minimum. Two thousand gallons of rum per day could be made, said Mr. Geo. Stade, and not more than four hands be employed for the manufacturing department proper.[60]

Staff registers from the 1890s have not survived, so we have to piece together information from various sources to identify individuals. Stade's main collaborator was Albert Dollmey, who appears in the sources as 'engineer and distiller' and was a signatory to the title deeds of Stade Bros. He came to Barbados before August 1893, possibly together with Stade. In 1893 his face was burned in an explosion.[61] He died in a subsequent explosion at the factory, in May 1900.

Other staff included the engineer and chemist Georg Leiste, who was 'brought to this Island by Mr Stade' in April 1894 and was in all probability related to Hermann Stade's wife Emmy, formerly Leiste.[62] He was appointed as Stade's successor two years later, but then decided to immigrate to the United States.[63] Hother Hage, a Dane specializing in fermentation chemistry, was employed as a technical manager in 1899, after Stade had left the island. He too died in the explosion in May 1900.[64] German and Scandinavian science cultures were firmly intertwined.[65] It is therefore no coincidence that a Danish chemist was among the staff. Generally, the staff list at the West India Rum Refinery accords with the patterns of mobility and dissemination for German chemical science around 1900.[66] As

[59] Barbados Department of Archives, Blue Books for Barbados, Section W1, 1891 to 1894; to calculate the equivalent today, we used *www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator*.

[60] *Georgetown Daily Chronicle*, 4 Aug. 1894.

[61] Barbados Department of Archives, Title Deeds RB 2/8/453, 23 Aug. 1893; TNA, Stade Bros. Claim for Compensation, CO 28/236 No. 139, 19 Sept. 1894; Explosion in Rum Refinery, CO 28/237 No. 46, 2 Apr. 1895; *Barbados Agricultural Reporter*, 8 May 1900.

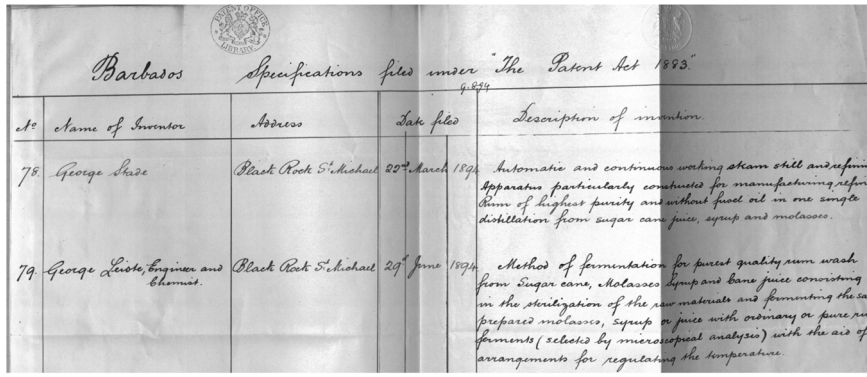
[62] *Barbados Agricultural Reporter*, 24 Nov. 1896. Shipping list in *The Colonies and India*, 28 Apr. 1894.

[63] *Barbados Agricultural Reporter*, 4 Dec. 1896, 1 June 1897, 3 Nov. 1897, 4 June 1898, 11 June 1898; for Leiste's immigration record, see US Federal Census 1900.

[64] For Hother Hage: *https://www.geni.com/people/Hother-Hage/6000000022230785988*; Barbados Agricultural Reporter, 11 May 1900.

[65] For example, most Danish and Swedish brewers were trained in Germany, including the founder of the Carlsberg Brewery in Copenhagen. See S. Manz, 'Technologietransfer und Spezialistenwanderung: eine Augsburger Lagerbrauerei in Glasgow, 1889–1959', *Zeitschrift für Unternehmensgeschichte*, 2, 25 (2000), pp. 225–47, here p. 240; K. Bruland, *British Technology and European Industrialization* (Cambridge, 2003).

[66] For example, R. Fox and A. Guagnini (eds), *Education, Technology and Industrial Performance in Europe, 1850–1939* (Cambridge, 1993).



Barbados Specifications filed under "The Patent Act 1893."

No.	Name of Inventor	Address	Date filed	Description of invention
78.	George Stade	Black Rock St. Michael	20th March 1894	Automatic and continuous working steam still and refining apparatus particularly constructed for manufacturing refined rum of highest purity and without fusel oil in one single distillation from sugar cane juice, syrup and molasses.
79.	George Leiste, Engineer and Chemist.	Black Rock St. Michael	29th June 1894	Method of fermentation for purest quality rum wash from Sugar cane, Molasses Syrup and cane juice consisting in the sterilization of the raw materials and fermenting the said prepared molasses, syrup or juice with ordinary or pure rum ferments (selected by microscopical analysis) with the aid of arrangements for regulating the temperature.

Figure 1: Patents filed by Georg Stade and Georg Leiste during their time in Barbados
Source: British Library, Patents and Intellectual Property, 'Barbados. Specifications filed under The Patent Act 1883', nos. 78 and 79

probably in the case of Georg Leiste, family networks could be an impetus for migration.

By the summer of 1893, land, machinery and staff were in place, and on 24 August 1893 the *Barbados Herald* announced that production had started. The newspaper's assessment was very positive, speaking of 'the most modern improved machinery' and of 'rum of a first class quality'. The correspondent wrote of the rum that 'in flavour it surpasses any we have tasted before'. The article reported that the product was also endorsed by the island professor of chemistry, John D'Albuquerque, who found it free from fusel oil and other adulterating substances: 'He considers the sample sent him to consist of excellent and perfectly wholesome rum.'[67]

The experimental nature of the enterprise was evident. Stade constantly strived to improve the efficiency of the machinery and the quality of the rum. The still imported from Germany had originally been built for producing spirit from beet molasses and potatoes, and it had to be adapted for the local conditions, which led to a patent in March 1894.[68] Only three months later, Georg Leiste, who had just arrived from Germany, filed his own patent for a fermentation method.[69] (Both patents are recorded in Fig. 1.) Patents were immensely important for Stade as a long-term strategy for accessing and monetizing his intellectual property beyond the confined world of Barbadian rum. He would later utilize them in his work as an

[67] *Barbados Herald*, 24 Aug. 1893.

[68] Case for the Opinion of Mr C. Henderson Clarke, Barrister-at-Law, 1937, WIRD archive, not catalogued, p. 1.

[69] British Library, London, Patents and Intellectual Property, 'Barbados. Specifications filed under The Patent Act 1883', nos. 78 and 79.

engineering consultant. They are evidence of the multidirectional pathways that made colonies into 'laboratories of modernity'.[70]

The only drawing we have of the original stills is from 1920 (Fig. 2). It was drafted by the Sprit-Automatenbau-Gesellschaft, a limited company based in Brühl near Cologne, which owned the Robert Ilges patents. The date of the drawing suggests that the West India Rum Refinery continued to rely on German technical know-how long after Stade's departure and the ruptures of the First World War.

Stade Bros. quickly established itself as a major rum producer recognized across the Caribbean. External commentators tended to refer positively to two qualities: purity and taste. The *Port of Spain Gazette* focused on the purity and highlighted the gap in the market filled by Stade. It explained that rum in Barbados had been produced 'by a crude and primitive process' and involved fusel oil, which was injurious to health. Indeed, the article contended that consumers had not even been aware of the dangers of impure rum and that the term 'fusel oil' had been 'about as intelligible to the average citizen as, say, the parallelogram of forces'. Stade Bros. had now changed the situation 'by reason of their scientific knowledge'.[71] In the same vein, the *Antigua Standard* found Stade's the 'best rum in the market' and explained that the two shopkeepers in Antigua 'now handling this superior article will, we have no doubt, find it to their advantage to vend no other'. The article concluded that customers 'will discover that the evil effects of some of their drinks are avoided by sticking to Stade's Barbados Rum, the like of which is to our taste not known here'.[72]

III. Crisis Management as an Outsider

The newly established enterprise experienced a dramatic setback with the explosion at the factory in March 1894. The Inspector of Inland Revenue Officers had ordered alterations to the piping of one of the spirit receivers. The work could not be completed during his visit on 10 March 1894, and he ordered the hole provisionally filled with a wooden plug and sealed with wax to which the Inland Revenue stamp would be applied. Engineer Albert Dollmey and a coppersmith, Jacob West, melted the wax and applied it to the plug. But the receiver contained flammable alcohol, and a massive explosion resulted. Albert Dollmey's face was badly burned, and the inspector

[70] A. L. Stoler and F. Cooper (eds), *Tensions of Empire: Colonial Cultures in a Bourgeois World* (Berkeley, 1997). For a recent intervention see L. Fernandez-Prieto, 'A Laboratory of Colonial Agricultural Modernity: Environment, Sugar and Slavery in Cuba', in A. van Nederveen Meerkerk and R. Bauer (eds), *Global Agricultural Workers from the 17th to the 21st Century* (Leiden, 2022), pp. 236–67.

[71] *Port of Spain Gazette*, 3 Aug. 1894.

[72] *Antigua Standard*, quoted in *Barbados Herald*, 18 Feb. 1895.

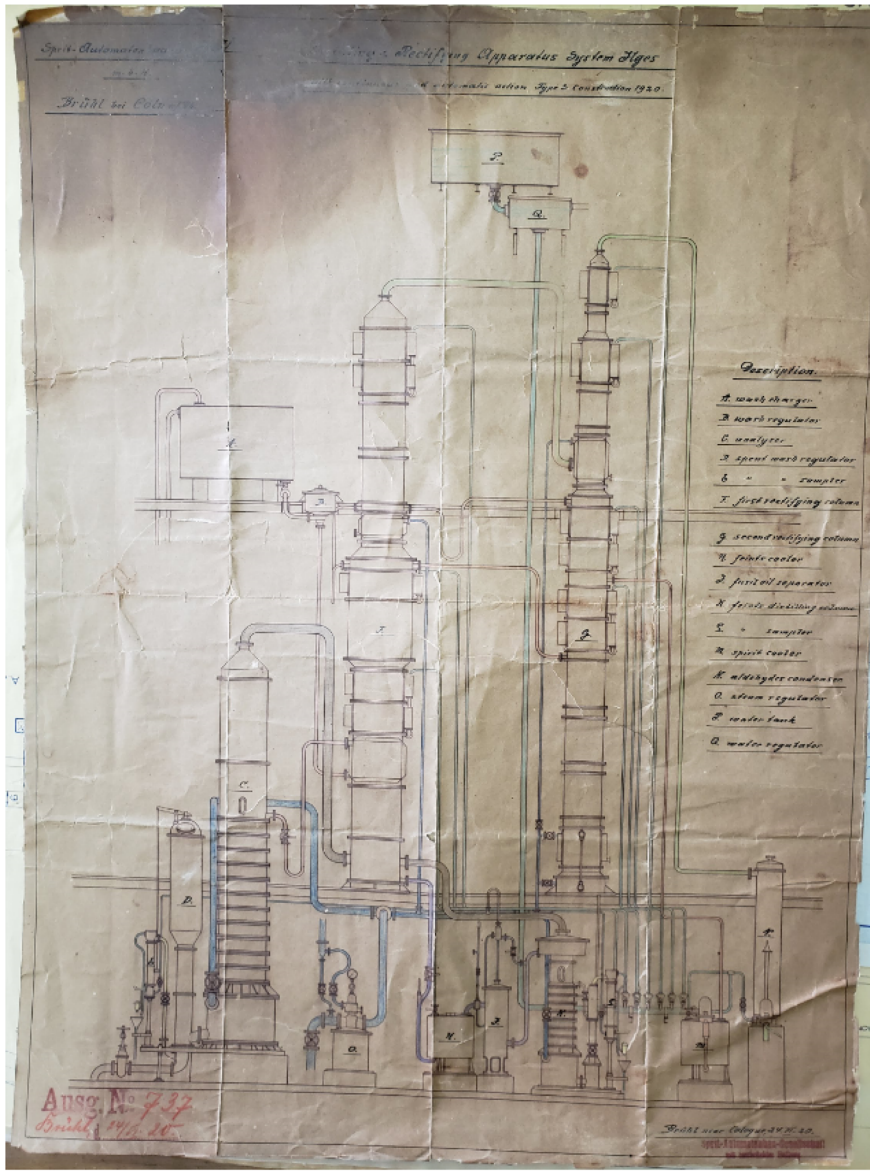


Figure 2: Drawing from 1920 of the original still imported by Georg Stade
Source: West Indies Rum Distillery Barbados

and Jacob West were singed. The damage to machinery and buildings was considerable.

The incident generated substantial correspondence between Stade Bros., the island authorities and the Secretary of State for

the Colonies.[73] These sources can be read in light of literature on immigrant entrepreneurship. That scholarship has highlighted the advantages for outsiders, who have a broader understanding of market forces and are less entangled in local obligation systems that tend to stymy change. It has also noted disadvantages for outsiders, including a potential lack of social capital beyond ethnic patronage systems (these did not exist for Stade in Barbados), as well as issues with cultural and linguistic communication.[74] Stade's attempt to be appointed as Swiss honorary consul, which was unsuccessful, can be seen as a bid to compensate for some of these disadvantages.[75] His relationship with the local and colonial authorities became increasingly confrontational. As we will see, they clearly closed ranks against a recently arrived outsider with no lobby in the local government.

Stade Bros. first wrote to the governor of Barbados, claiming compensation on the grounds that the explosion was caused 'not by any voluntary act or proceeding of theirs but by the enforced compliance by them with directions and orders of the inspector of Inland Revenue Officers'. The compensation claim was for a total of $4,168.[76] It prompted a response from the Inland Revenue officer, who asserted that many of Stade's statements were 'untrue or exaggerated and misleading' and that he could not be held responsible for the explosion.[77] The island government followed the revenue officer's reasoning and informed Stade 'that after careful consideration, the Governor in Executive Committee is unable to recommend any compensation being paid to you'.[78]

For Stade Bros. the matter was not closed. The correspondence became heated and confrontational. After all avenues within Barbados had been exhausted, Georg Stade decided to approach the Secretary of State for the Colonies in London. He complained about the lack of independence and objectivity on the island: 'It would be very difficult for us to succeed in this matter here—being a German firm and fighting against the revenue officer who is connected by family with almost all leading parties of the island.' Stade accused the revenue officers of having 'not the slightest idea about the work and the danger in Spirit Distillation'.[79]

[73] TNA, CO 28/236 No. 139, 19 Sept. 1894, and CO 28/237 No. 46, 2 Apr. 1895. Sources are quoted verbatim here, with all their linguistic inaccuracies.

[74] M. Granovetter, 'The Economic Sociology of Firms and Entrepreneurs', in A. Portes (ed.), *The Economic Sociology of Immigration* (New York, 1995), pp. 128–65.

[75] Swiss Federal Archives, Berne, B.2. No. 115, Stade. Consulat aux Barbados, 1894, and Schweizerisches Departement des Auswärtigen to Schweizerische Gesandtschaft London, 31 May 1894.

[76] TNA, CO 28/236 No. 139, Geo. Stade for Stade Bros., 7 May 1894.

[77] TNA, CO 28/236 No. 139, Minute by the Inspector of Inland Revenue Officers to the Colonial Secretary, 16 May 1894.

[78] TNA, CO 28/236 No. 139, Colonial Secretary Barbados to Stade, 12 June 1894.

[79] TNA, CO 28/236 No. 139, George Stade to Secretary of State for the Colonies, 11 Aug. 1894.

The Colonial Office also rejected the claim for compensation, with correspondence sent via the German Foreign Office in Berlin.[80] Stade pressed his claim. The company supplied a detailed nine-page technical report plus sworn statements from engineer Albert Dollmey, coppersmith Jacob West and carpenter Nathaniel Burnett as to the truthfulness of Stade's depiction of events.[81] The report provided evidence of the facts and course of events. Thus, for example, it questioned how the inspector could have correctly assessed the alcohol levels in the rum since 'the government instruments [were] useless and not correct'. It also questioned the competence of the inspector in a blunt and derisive tone that may well have been perceived as rude by the addressees:

> We do not know where the Inspector acquired his technical and engineering capacities as an expert for repairs anyhow we can say with positive authority that the Inspector up to date knows nothing about our machinery in spite of him having the control over the Refinery for over two years now.

In response to the inspector's low estimate of the costs of the damage, Stade retorted, 'However, we are prepared to prove that this misleading machination of the Inspector is made from top to bottom entirely to cover this officers perfect incapacity to fill the responsible office he is trusted with.' And he commented about the inspector's initial instructions: 'To prove that this Inspector has not the slightest idea about the safe and proper arrangements which are necessary for distilleries, we beg to say that the ordered change of piping—which caused the explosion was a nonsense alltogether.'

Stade then pointed to the fact that by law 'the inspector got absolute power to do what he pleases. The distillers have to obey orders, it matters nothing if these orders are justified or not.' With regard to the inspector's comment that it was Stade's men who had lit the receiver, he responded, 'We cannot believe that any one with common sense […] can take that serious. We ask who is responsible the officer who orders the gun to be fired or the medium which obeys orders?'

The final intervention was by the revenue inspector, W. L. Hayes.[82] He confirmed that just like Stade, he would be prepared to state on oath the particulars of his version of events. He admitted that there was no Sykes hydrometer on the island but proposed that Stade's argument with regard to the level of overproof percentage was simply hair-splitting. He refused to respond to arguments containing personal remarks and dismissed Stade's comparison with a degree of sarcasm: 'I am not aware that I ordered the spirit receiver to be

[80] TNA, CO 28/236 No. 139, folio 69, 19 Sept. 1894.

[81] The following quotes are from TNA, CO 28/237 No. 46, Explanations of Stade Bros., 4 Mar. 1895.

[82] TNA, CO 28/237 No. 46, folios 341 to 342A, Inspector of Inland Revenue Officers to the Colonial Secretary, 23 Mar. 1895.

exploded and consequently cannot see how the question bears on the subject.'

In the end, Stade's attempts to be awarded compensation were unsuccessful. The Colonial Office concluded that there was 'no ground for reopening this matter'.[83] For over a year, from March 1894 to April 1895, the issue of compensation had hung over the young enterprise of Stade Bros. The episode clearly shows the dual reality of immigrant entrepreneurship in a British colonial setting, which could tap into local resources and global opportunities but also often encountered resistance. Within a tightly knit island society, it was inevitable that Stade's disruptive production and business methods created enemies, as we shall now explore further.

IV. Disrupting Markets

The company was embedded in local (Barbados), regional (Caribbean) and global (Empire) contexts. Whilst the Barbadian home market remained the most important one, the ultimate success of Stade Bros. was due to international connections that ensured that know-how, capital and goods kept flowing into and out of Barbados. The West India Rum Refinery was a prime example of, using Emily Rosenberg's term, 'a world connecting'.[84]

The home market was embattled. Before Stade's arrival, rum production in Barbados had been in the hands of established firms, some of which were not enthusiastic about the new competition. One of them was Batson's Distillery, which, straight after Stade went into production, published a circular that appealed to the xenophobic instincts of the Barbadian public.[85] It associated the new product with 'foreign matter', in contrast to that 'used by our forefathers', which had been 'pure' and affordable. The circular warned of a 'dangerous monopoly' should consumers flock to Stade's rum. This monopoly would 'affect any *chief* article of native industry'. The language of this circular echoed xenophobic public discourse, tapping into public fears of penetration by foreign people, capital and power.[86] Germany, which had just entered the world stage as a competitor for the British imperial sphere, was an obvious target. Some producers tried to engage with the new competition by copying it. By summer 1894 this counterfeiting had taken on such proportions that Stade Bros. was compelled to publish a notice in the local press announcing that 'some inscrupulous liquor retailers undertook to sell a spurious

[83] TNA, CO 28/237 No. 46, folio 323, handwritten note from 'S. O.', 22 Apr. 1895.

[84] E. Rosenberg (ed.), *A World Connecting 1870–1945* (Cambridge and London, 2012).

[85] *Barbados Herald*, 11, 14 and 28 Dec. 1893, 8 Jan. 1894, 8 and 22 Feb. 1894.

[86] See, for example, D. Glover, *Literature, Immigration and Diaspora in Fin-de-Siècle England: A Cultural History of the 1905 Aliens Act* (Cambridge, 2012).

article as Stade's Refined Rum' and that legal steps would be taken against 'any who are carrying on this dishonest practice'.[87]

After two years of operation the company experienced a change in ownership, structure and leadership. It appears that the sole ownership by the two Stade brothers was not sufficient to guarantee sustained capital flow and management of the growing enterprise. On 15 December 1894 a public company was registered under the name 'West India Rum Refinery Limited', purchasing and taking over the works and patents of Stade Bros. The new company issued 2,400 shares at £5 each, totalling £12,000. Management and organization passed into the hands of members of the local business elite, but the Stade brothers remained heavily invested. Georg Stade was to continue to provide technical supervision for six years, and in lieu of a salary he would receive one cent per gallon of rum sold. The two brothers took 800 shares in the company.[88] This capital helped Georg Stade develop and patent new machines in Germany, most notably his Standard Sand Filters. Produced from 1897 on commission by his former employer Braunschweiger Maschinenbau-Anstalt, these were the financial basis for further sugar and rum machines from Geo. Stade, in Berlin, and the continual improvement of the filters.[89] Capital from Barbados thus supported the expansion of German mechanical engineering in the global sugar and rum industries.

While the home market remained stable, the Barbadian export trade for rum did not take off during the 1890s. It had seen a steady decline since 1864, when the island had exported 42,000 gallons of rum per year. That figure had fallen to 20,000 gallons a decade later, and to 3,467 in 1890, the position when Stade arrived in Barbados. It rose to 12,962 gallons in 1894, which the Colonial Report attributed to the fact that 'a refinery was established in 1893 near Bridgetown' and to an influenza epidemic in Britain. Rum had a long history of being ascribed medical qualities and prescribed by the medical profession.[90] As the epidemic came to an end, rum exports to Britain declined. This fall was aggravated by the British duty and tax regime for spirits, which consistently disadvantaged colonial distillers vis à vis their British counterparts.[91] The Colonial Report for 1897 recorded, 'Rum is now practically not exported.' The domestic market had natural limits, and the export opportunities were evidently restricted, which together hindered the West India Rum Refinery's

[87] *Barbados Herald*, 26 July 1894, 6 and 9 Aug. 1894.

[88] *Barbados Herald*, 7 and 10 Jan. 1895. Although this is the time the West India Rum Refinery came into being as a legal entity, Stade seems to have used the term right from the start. See *Louisiana Planter and Sugar Manufacturer*, 9 (1892), p. 281: 'Mr. Geo. Stade, managing director of the West India Rum Refinery, owned by Stade Bros.'

[89] G. Stade, 'Mechanical Filtration', *International Sugar Journal*, 1 (1899), pp. 624–8; G. Stade, 'Mechanical Filtration', *Hawaiian Planters' Record*, 2 (1910), pp. 241–8.

[90] Foss, *Rum*, p. 84; Williams, *Rum*, pp. 180–202.

[91] Beachey, *British West Indies Sugar Industry*, p. 75.

expansion. While Stade could not quickly establish Barbados as a serious competitor in the world rum market, he did plant all the seeds for the refinery's later development into a major exporter.

In light of the challenging export market, the home market was all the more important. Stade's Rum was soon available from the major retailers on the island. The advertisements regularly published in the local press always stressed the purity of the product.[92] The advertisement in Figure 3a appeared in 1896, by which date the West India Rum Refinery had been selling its product for three years. The advertisement is slightly tongue in cheek, declaring youthfulness a virtue and making a dig at the older established companies. The allusions to the horse races suggest the refinery is positioning itself within the British colonial social and cultural context and thus countering notions that its rum was a 'foreign' product.

According to the advertisement in Figure 3b, the Stade rum also had particular health benefits. First, the advertisement warned against the detrimental effects of impure alcohol. Second, it tapped into medical notions of rum as 'an excellent stimulant for sick people'. The claim that not only doctors but also 'connoisseurs' declared the rum excellent suggests a class aspect. Stade's main buyers were the poor working classes on the island, both black and white, many of whom consumed 'an almost deadly level' of more than a pint per day.[93] Middle-class and wealthy whites in the Caribbean also drank heavily, but they tended to consume imported alcohols rather than rum.[94] Rum producers made repeated attempts to break through this class barrier and appeal to the middle classes. The reference to 'connoisseurs' in the advertisement served this end.

In 1897, the West India Royal Commission undertook a major inquiry into the future of the Caribbean sugar industry. The substantial documentation included a report on the rum industry in Barbados that highlighted the West India Rum Refinery's dominant position and its wider impact on production: smaller producers were simply not able to compete with its science-based production methods. As we have heard, by 1896, the refinery was producing three times more than all other distillers together.[95] In 1897, smaller distillers asked the House of Assembly for an amendment to the Rum Duty Act (1892), arguing that 'if nothing was done, the West India Rum Refinery would have the monopoly of supplying the whole island with rum'. Their suggested changes to the duty and licensing regime were rejected on the grounds that they would set a

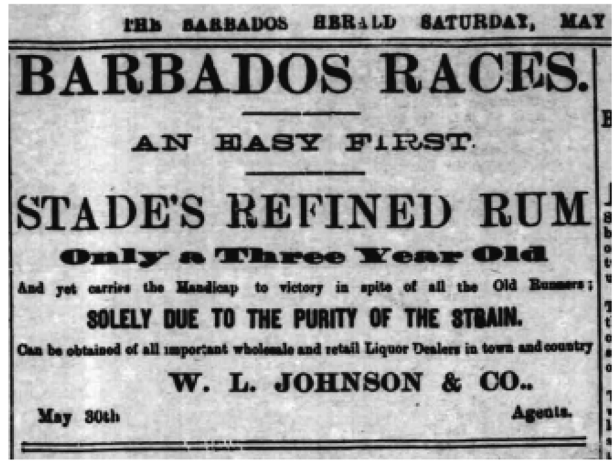
[92] For example, *Barbados Herald*, 13 Nov. 1893, also 16, 27 and 30 Nov. 1893.

[93] Smith, *Caribbean Rum*, p. 175.

[94] *Ibid.*, p. 177.

[95] *Report of the West India Royal Commission* (London, 1897), Appendix C.—Part III., Barbados, p. 232. Incidentally, the report was written by the inspector of inland revenue, W. Lindsay Haynes, with whom Stade Bros. had clashed in the wake of the 1894 explosion.

(a)


THE BARBADOS HERALD SATURDAY, MAY

BARBADOS RACES.

AN EASY FIRST.

STADE'S REFINED RUM

Only a Three Year Old

And yet carries the Handicap to victory in spite of all the Old Runners;

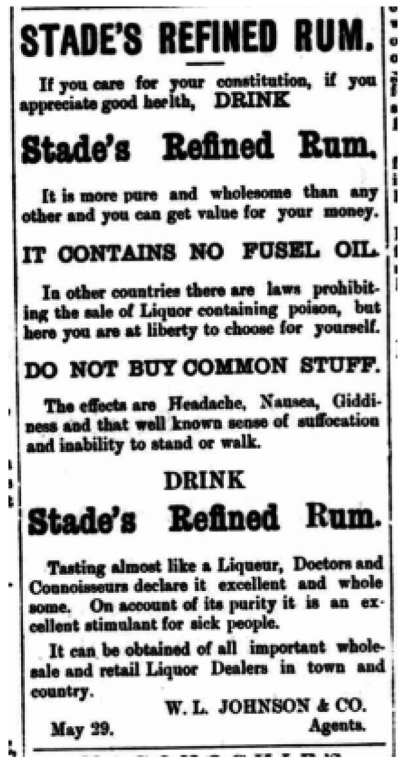
SOLELY DUE TO THE PURITY OF THE STRAIN.

Can be obtained of all important wholesale and retail Liquor Dealers in town and country

W. L. JOHNSON & CO.,

May 30th Agents.

(b)


STADE'S REFINED RUM.

If you care for your constitution, if you appreciate good health, DRINK

Stade's Refined Rum.

It is more pure and wholesome than any other and you can get value for your money.

IT CONTAINS NO FUSEL OIL.

In other countries there are laws prohibiting the sale of Liquor containing poison, but here you are at liberty to choose for yourself.

DO NOT BUY COMMON STUFF.

The effects are Headache, Nausea, Giddiness and that well known sense of suffocation and inability to stand or walk.

DRINK

Stade's Refined Rum.

Tasting almost like a Liqueur, Doctors and Connoisseurs declare it excellent and wholesome. On account of its purity it is an excellent stimulant for sick people.

It can be obtained of all important wholesale and retail Liquor Dealers in town and country.

W. L. JOHNSON & CO.

May 29. Agents.

Figures 3a–b: Advertisements for Stade's Rum that appeared in the local Barbados press
Source: *Barbados Herald*, 30 May 1896 (Figure 3a), and *Barbados Agricultural Reporter*, 29 May 1896, also 2, 5 June 1896 (Figure 3b)

dangerous precedent, discouraging those willing to invest in modern technology.[96]

The episode highlights the more general effect that Georg Stade had on the modernization of the Barbadian industry. With the sugar industry on the island struggling, he was asked 'to work out a scheme of rules similar to those in force in about 700 European Central Factories but modified particularly for the Sugar Cane Industry'.[97] He responded with a document entitled 'Co-operative Central Factories', an elaborate blueprint that covered financial, organizational and technical aspects. He claimed that he had 'compared a good many rules and regulations now in force in European Factories to find those best suited to our wants'. Following the same principles that underlay his own enterprise, he argued that size mattered: 'Competition is now much keener than in former times, and it is found to be for mutual benefit to subordinate individual interests to the general benefit of the Usine.' The 'most modern appliances' would need to be introduced:

> No specialist acquainted with the subject would imagine that the European Competitors would put up the same machinery which was in use 20 or even 10 or 5 years ago. Every one acquainted with the course of progress in the cane sugar industry, must now unhesitatingly confess that in every case where the whole formation of the concern has been intelligently arranged, where no half way measures have been adopted in modernising the working together of agriculture and the Central Factory, the success has been always satisfactory.
>
> (Sgd) GEO. STADE
> Civil Engineer & Technical Chemist.
> Barbados. 28th Oct. 1894.[98]

The West India Rum Refinery was presented as a test case for scenarios of modernization in Barbados. The sugar industry was suffering from an acute lack of investment, and the refinery was held up as a model of how centralized production could be transferred into that sector: 'See how the West India Rum Refinery had increased its output within the last three years! That increase was entirely the effect of improved machinery.'[99]

Georg Stade left Barbados in 1898 and returned to Germany. With the technological and entrepreneurial experience gained abroad, he expanded his consultancy business in Berlin, advertising as 'Geo. Stade. Civil Engineer & Technical Chemist. Expert for Sugar & Spirit

[96] *Barbados Agricultural Reporter*, 1 and 3 May 1897.

[97] Beachey, *British West Indies Sugar Industry*, p. 63. For the problems of the Barbadian sugar industry, including the effect of European sugar bounties and tariffs, see Hoyos, *Barbados*, chap. 13.

[98] *Barbados Herald*, 12 Nov. 1894. On the same topic, working out a plan for central factories, see a memorandum prepared by The Foreign and Colonial Investment Trust Company Ltd, *The Case for Central Factories in Barbados 1897–8* (1898)—a copy is held by the British Library.

[99] *Report of the West India Royal Commission* (London, 1897), Appendix C.–Part III., Barbados, p. 162. See also Beachey, *British West Indies Sugar Industry*, pp. 33–4, 49–51.

Manufacture & Refining'.[100] His patented inventions such as sand filters (for clarifying raw sugar juice) and vacuum evaporators (for concentrating sugar juice) were advertised in German, English and Spanish and installed in sugar factories all over the world. When, for example, Australian experts travelled to Hawaii in 1910, they noted, 'The vacuum pans are of Geo. Stade's type or altered to that type; the object is to make the whole heating surface available from the start of the boiling, and it is said to be working very successfully.'[101] Another example of his impact is provided by a commission from the Japanese government that he received in 1907. Formosa (Taiwan) had been made a Japanese colony in 1895, and Stade was commissioned to modernize its cane-sugar industry. He worked together with a number of German companies, such as F. Hallström in Nienburg, Saxony-Anhalt, to supply machines and know-how.[102] During the First World War he was identified as an 'enemy alien' in Germany because of his British passport. He was accused of being a spy and briefly interrogated, but he was then left in peace. Georg Stade died in 1922.[103]

V. Conclusion

In a classic essay from 1908, sociologist Georg Simmel proposed that 'the stranger is freer practically and theoretically; he surveys conditions with less prejudice; his criteria for them are more general and more objective ideals; he is not tied down in his action by habit, piety, and precedent'.[104] The essence of Simmel's observation still figures in current research and analysis on immigrant entrepreneurship. Those who set up businesses abroad tend to have comparatively high levels of education, international work experience and connections. Their outsider view increases their ability to identify new niche markets and products. They can connect different markets through language and culture, and they have access to different networks (including finance) and a greater willingness to embrace

[100] *International Sugar Journal*, 1 (1899), no. 12, p. x.

[101] 'Sugar Growing in Hawaii', *Australian Sugar Journal*, 1 (1910), pp. 417–20, quote p. 420.

[102] 'Die Zuckerindustrie auf Formosa (Japan)', *Hamburger Correspondent*, 2 June 1907; *Chemiker-Zeitung*, 32 (1908), p. 225.

[103] Memorandum about Mr. Geo. Stade fr. January 1, 1919, WIRD archive; death certificate: Stadtarchiv Blankenburg, Sterbebuch 1919–1924, no. 103.

[104] G. Simmel, 'Exkurs über den Fremden' (1908), cited from G. Simmel, *The Sociology of Georg Simmel*, trans. K. H. Wolff (Glencoe, IL, 1950), p. 404.

risk.[105] At the same time, they may be constrained by their lack of *local* social capital and operational knowledge.[106]

Such theoretical insights help us place the case study of Georg Stade in a wider context. They provide a broader explanation of his successes and setbacks and also deconstruct claims about Germany's place in the world that were made at the time. Commentators were quick to interpret the West India Rum Refinery as a proof of innate national qualities. The author of an article entitled 'Das Rum-Fieber auf Barbados' (Rum fever in Barbados) was convinced that Stade saw on the island 'a profitable field open to German knowledge and skills. […] Even the German observer, standing far away from the island, can only rejoice at the sight of this image, where German diligence gains recognition and success in this field.'[107] The leading German business newspaper interpreted Stade's success in exporting sugar machinery as an expression of Germany's global power.[108] And even Eduard Bernstein of the Social Democratic Party cited Stade in the Reichstag as an unbiased witness of Britain's technical backwardness and the oppression of its colonial populations.[109]

These interpretations do not chime with Stade's own publications and life choices. They also do not chime with the views of Stade's international peers, who held him in high regard as a 'well known sugar chemist' with 'considerable skill'.[110] Such reciprocal assessments by engineers were based on expertise and not on national background. Stade was primarily a scientist and engineer who looked at markets with an analytical eye and took decisions accordingly. He possessed what Simmel called the 'element of coolness' (*Element der Kühle*) of a stranger's perspective.[111] He sought the success of his enterprise, not the expansion of German influence. As a naturalized British citizen working within a British colonial environment, he lived one of those transnational lives which have been associated with global modernity. As Desley Deacon, Penny Russell and Angela Woollacott explain, 'mobility has been crucial to a modernizing world. […] Lives elude national boundaries; yet biography […] has often been pressed into the service of the nation.'[112]

[105] H. Li, Y. Awotoye and R. P. Singh, 'Immigrant Entrepreneurs in the U.S.: Firm Performance Based on Entrepreneurial Competencies', *Economies*, 11 (2023), pp. 1–14; C. Stadler, 'Five Reasons Why Immigrants Make Great Entrepreneurs', *Forbes*, 8 Sept. 2015; F. K. Schlosser and R. Zolin, 'Characteristics of Immigrant Entrepreneurs and Their Involvement in International New Ventures', *Thunderbird International Business Review*, 55 (2013), pp. 271–84.

[106] Berghoff and Fahrmeir, 'Unternehmer und Migration'.

[107] 'Das Rum-Fieber auf Barbados in Westindien', *Brennerei-Zeitung*, 11 (1894), p. 1333.

[108] *Berliner Börsen-Zeitung*, 27 June 1904.

[109] *Verhandlungen des Deutschen Reichstages* (Berlin), session 222, 25 Nov. 1902, p. 6583.

[110] *Sugar Cane*, 27 (1895), p. 339; *The Colonies and India*, 8 Aug. 1894, p. 18.

[111] Simmel, *Sociology*, p. 405.

[112] D. Deacon, P. Russell and A. Woollacott, 'Introduction', in D. Deacon, P. Russell and A. Woollacott (eds), *Transnational Lives: Biographies of Global Modernity, 1700–present* (New York, 2010), pp. 1–14, quote p.

Among functional elites, mobile engineers were arguably the professional group that did most to connect the world, through railways, ships, cables and the mass production of traded commodities. Yet in histories of globalization they often remain elusive, not least because they preferred to express themselves through formulas and patents rather than grand narratives and interpretations. The article has addressed this disproportion. In empirical terms, it has been the first to explore a chapter of German–Barbadian entanglement in a sustained way and the role of German technology in making Caribbean rum a global commodity. Our main argument, however, is of a broader methodological and perspectival nature. Exploring transnational histories of technology and entrepreneurship can do much to explain the mechanics of late nineteenth-century globalization. In a transnational and functional sense, experts like Stade were literally 'middlemen' on the ground. The scarce and largely technical nature of the sources is a positive challenge for historians aiming to situate engineers' histories more centrally within globalization narratives. In 2006, Thomas Friedman coined the metaphor of a 'flat world' for the state of globalization at the beginning of the twenty-first century.[113] Over a century earlier, for experts like George Stade the world was already flat *avant la lettre*.

Abstract

In 1892, the German-born and British-naturalized engineer Georg Stade set up a modern rum factory in Barbados. Machinery, capital and technical staff came from Germany. The enterprise quickly established itself as the largest distillery on the island, pushing smaller competitors out of the market. The article integrates this case history into broader research on transnational entanglements. In examining the involvement of Germany, Britain and—for the first time—Barbados, it challenges the idea of the inherently 'British' nature of the British Empire. The article, which has a broad empirical foundation, argues that detailed case histories of mobile engineers and technology transfers are currently lacking in pertinent research, yet they can do much to explain the mechanics of nineteenth-century globalization. This type of engagement was particularly relevant for Imperial Germany, with its emerging technology and export sectors.

Keywords: globalization, immigrant entrepreneurship, rum production, technology transfer, Barbados, German–Caribbean entanglements

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2; C. Pursell, 'Herbert Hoover and the Transnational Lives of Engineers', in Deacon, Russell and Woollacott, *Transnational Lives*, pp. 109–20.

[113] T. L. Friedman, *The World is Flat: A Brief History of the Twenty-First Century* (New York, 2006).

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