

Frank Uekötter (ed.)

Comparing Apples, Oranges, and Cotton

Environmental Histories of the Global Plantation

Frank Uekötter is a Reader in Environmental Humanities at the University of Birmingham.

Campus Verlag
Frankfurt/New York

Distribution throughout the world except Germany, Austria and Switzerland by

The University of Chicago Press
1427 East 60th Street
Chicago, IL 60637

Published with support from the VolkswagenStiftung
and the Rachel Carson Center for Environment and Society.

**Rachel
Carson
Center**
ENVIRONMENT AND SOCIETY



Bibliographic Information published by the Deutsche Nationalbibliothek.
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>
ISBN 978-3-593-50028-7

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the publishers.

Copyright © 2014 Campus Verlag GmbH, Frankfurt-on-Main

Cover design: Campus Verlag GmbH, Frankfurt-on-Main

Cover illustration: Application of pesticides on a pineapple plantation © Deutsches Museum, Munich

Typesetting: Campus Verlag GmbH, Frankfurt-on-Main

Printing office and bookbinder: Beltz Bad Langensalza GmbH

Printed on acid free paper.

Printed in Germany

This book is also available as an E-Book.

For further information:
www.campus.de
www.press.uchicago.edu

Contents

Rise, Fall, and Permanence. Issues in the Environmental History of the Global Plantation <i>Frank Uekötter</i>	7
Plantations, Agroecology, Environmental Thought, and the American South <i>Mart A. Stewart</i>	27
Cotton's Metropolis: Memphis and Plantation Development in the Trans-Mississippi West, 1840–1920 <i>Jeannie M. Whayne</i>	49
Ephemeral Plantations: The Rise and Fall of Liberian Coffee, 1870–1900 <i>Stuart McCook</i>	85
Between “Wild Tropics” and “Civilization”: Guatemalan Coffee Plantations as Seen by German Immigrants <i>Christiane Berth</i>	113
Divide and Cultivate: Plantations, Militarism and Environment in Portuguese Timor, 1860–1975 <i>Chris Shepherd and Andrew McWilliam</i>	139
Pines, Pests and Fires: Large Scale Plantation Forestry in New Zealand, 1897–1955 <i>Michael Roche</i>	167

coffee chain were able to “pick the lock” in ways that Liberian coffee producers never were.

Finally, the case of Liberian coffee reminds us that “commodification” can be a two-way process. An object can be commodified, and then de-commodified. Its case is not isolated, either. Many of the leading plantation crops of the nineteenth century have seen their global markets shrink significantly or disappear altogether over the twentieth century. Cinchona trees, whose bark was valued as an antimalarial, was circulated and cultivated globally at around the same time as Liberian coffee, and harvested in plantations across the Indian Ocean Basin. With the development of modern synthetic medicines in the twentieth century, however, the value of cinchona bark plummeted and cinchona plantations failed. Similarly, indigo was a major plantation crop, producing a highly-prized dye. When German companies developed synthetic indigo at the turn of the twentieth century, however, cultivated indigo could no longer compete. By the 1920s, the era of indigo plantations had come to an end.⁷⁵ More recently, some scientists and journalists have expressed fear for the future of the banana industry in the face of new blights that threaten the main banana cultivar, and the limited ability to produce new cultivars that are economically viable.⁷⁶ Even the most powerful commodity chains can be vulnerable, and even the most powerful plantations can be ephemeral.

75 Prakash Kumar, *Indigo Plantations and Science in Colonial India* (Cambridge and New York: Cambridge University Press, 2012).

76 Fred Pearce, “Last Days of the Banana: The World’s Favourite Fruit Is About to Disappear,” *New Scientist* 18 (2003).

Between “Wild Tropics” and “Civilization”: Guatemalan Coffee Plantations as Seen by German Immigrants

Christiane Berth

“I was now in the land of coffee. In the land, where coffee grew, where everybody traded with coffee, where everybody somehow lived on coffee, where the whole economic life was dominated by coffee prices. It was obvious for me to ‘go into coffee’ as well, as it was called in Guatemala.”¹

The German immigrant Helmuth Schmolck described coffee as the all-dominant force in Guatemala. Indeed, coffee became the country’s most important export product in the second half of the 19th century. It linked isolated regions to the world economy, changed social structures as well as landholding patterns and transformed whole landscapes. The coffee elites remained the central political force until the 1930s.

German immigrants played a dominant role in the Guatemalan coffee business. At the beginning of the 20th century, they generated roughly one third of the Guatemalan green coffee. Several German coffee producers published autobiographies or travel reports describing in detail their new working environment. These texts are an important source to examine social relations on the plantations, the perceptions of the tropical environment, the organization of coffee plantations and their travel experiences. Written in a great part during the first coffee boom until the end of the 19th century, they reflect the optimism regarding the great business opportunities. At the same time, they also convey some concerns about fluctuating coffee prices and political unrest. Further, these German accounts document the experimental phase of coffee production, when plantation owners tried to find the best way of organizing a plantation, and applied different production patterns and planting methods. But there are also subjects completely ignored, such as social conflicts, business failure, and cultural misunderstandings.

Although recently the ecological consequences of contemporary coffee production have been intensely debated, there is little research on the en-

1 Helmuth Schmolck, *Welthandel selbst erlebt*, 2nd ed (Heidelberg: Vowinckel, 1951), 69.

vironmental effects of coffee production in a historical perspective.² In his study on banana cultures in Honduras, the historian John Soluri suggested to work with the concept of a “commodity web” and to analyze ecological transformations, diseases and people working on the plantations as central variables within it.³ Such an integrated history linking ecological transformations, working environments, the emergence of mass markets and the activities of foreign investors has not yet been written for coffee production either.

This article is an invitation to look at the ecological history of coffee plantation through the eyes of German immigrants. Their perspective offers new insights into the period of plantation expansion in the Alta Verapaz in general and on ecological concerns in the building-up of a plantation. Their perspective also shows how the perception of nature influenced plantation owner's decision-making. Finally, it demonstrates that their “civilizing mission” embraced the social and the ecological environment. For the Indian case, David Arnold has shown how travelers started and expanded the European appropriation of local landscapes and nature in the first half of the 19th century. European scientific explorations of the tropics were linked with the expansion of British and French plantation societies and contributed to define the tropics as a space distinct to Europe including political, cultural, and natural aspects.⁴ In Guatemala, German plantation owners and geographers disseminated the idea of Guatemalan tropical nature as a wild, uncivilized space. For them, founding plantations signified converting tropical nature into organized, productive landscapes. My central hypothesis is that the abundance of land and the absence of major infections allowed German plantation owners not to be worried about soil degradation and deforestation. Their awareness for environmental change was limited to certain as-

2 Stefania Gallini, *Una historia ambiental del café en Guatemala. La Costa Cuca entre 1830 y 1902* (Guatemala: Avansco, 2009); Andrés Guhl, *Café y cambio de paisaje en Colombia, 1970–2005* (Medellín: Fondo Editorial Universidad EAFIT, 2008); Stuart McCook, “La Roya del Café en Costa Rica: epidemias, innovación y medio ambiente, 1950–1995,” *Revista de Historia* 59–60 (2009): 99–117; Stuart McCook, “Global rust belt: *Hemileia vastatrix* and the ecological integration of world coffee production since 1850,” *Journal of Global History* 1 (2006), 177–195.

3 John Soluri, *Banana cultures. Agriculture, consumption, and environmental change in Honduras and the United States* (Austin, TX: Univ. of Texas Press, 2005), 226.

4 David Arnold, *The Tropics and the Traveling Gaze. India, Landscape, and Science, 1800–1856* (Seattle/London: Univ. of Washington Press, 2006), 110–115.

pects as weeds and fertilizing. In general, they perceived nature as a resource for generating profits.

The article is structured in three parts: I will first give a short overview on coffee production in Guatemala, coffee processing, and the influence of German immigrants. Based on their accounts, I will analyze how they described tropical nature and related those descriptions to their perception of the tropics in general. I will argue that dominating tropical nature was presented as part of the German pioneer work in “civilizing” Guatemalan society. Second, I will outline how the authors depicted the environment of the coffee plantations. Third, I will show how the Germans described social hierarchies and extended their civilizing mission to the indigenous workers. Finally, I will analyze their descriptions of global and local influences on the plantations.

Coffee production in Guatemala in the 19th century and the role of German immigrants

The first coffee export in Guatemala, registered in 1853, was a ray of light in an otherwise somber economic panorama. Due to the invention of chemical substitutes, the traditional Guatemalan export products indigo and cochénille entered a stage of crisis in the mid-19th century. Consequently, the Guatemalan government began to look for alternatives and finally chose coffee as an option for the export economy. From the 1850s onwards the government encouraged coffee production and enacted laws benefitting finca owners.

All over Central America, coffee production had expanded since the 1830s. Following the Costa Rican example, plantation owners applied the wet method for processing, which gave coffee a special taste which found great acceptance on European markets. Rapidly, Central American coffee occupied an important segment in the sector of quality coffees. In Guatemala, the expansion of coffee production occurred very quickly: Its share of all exports rose from 1 percent in 1860 to 36 percent in 1868.⁵ In 1862, already more than 5,5 million coffee trees were growing in Guatemala. As land distribution was historically unequal, coffee production mostly took place on large plantation complexes. In 1890, 53 percent of all coffee was produced

5 Regina Wagner, *Historia del café de Guatemala* (Bogotá: Villegas editores, 2001), 51. The information refers to the value of exports in Guatemalan pesos.

on plantations with more than 100,000 trees.⁶ The rapid expansion of production changed social structures in Guatemalan society fundamentally. It changed the patterns of land ownership as well as local power structures and linked formerly isolated regions to the world economy.

In the 1870s, liberal governments came to power with the agenda of strongly promoting agricultural exports. The Liberal Reforms aimed at breaking the power of the church and giving finca owners access to land and workers. President Justo Rufino Barrios (1873–1885) enacted a series of laws which induced the privatization of land ownership in the country. Since 1877, it was possible to claim land as unused (“tierras baldías”) which the government then had to offer for auction. In some coffee growing regions, indigenous communities lost their land and reacted violently to the introduction of coffee production.⁷

Moreover, the Guatemalan government re-introduced colonial forms of forced labor called “mandamientos”. When plantation owners demanded workers from the government, indigenous communities were obliged to provide a contingent. At the same time, seasonal workers were recruited by advance payments, often leading to indebtedness and creating dependence on the plantation owners. In the Alta Verapaz a third form, called “colonato” was quite common: Plantation owners paid workers part of their wage in cash and part of their wage in rights of land use.⁸

Another important factor for the expansion of coffee production was the local infrastructure. In the beginning, coffee had to be transported by mules on small mountain paths to the port cities. As construction of railways throughout the country made transportation faster and more efficient, coffee plantations close to a railway station garnered great advantages. The Guatemalan government built several new ports since the 1870s, for example in Champerico (1877), Livingstone (1878) and Ocós (1884). In 1880, it entered

6 Robert G. Williams, *States and social evolution. Coffee and the rise of national governments in Central America* (Chapel Hill, NC: Univ. of North Carolina Press, 1994), 64; Wagner, *Historia del café de Guatemala*, 49–56.

7 Mario Samper Kutschbach, *Producción cafetalera y poder político en Centroamérica (Colección Rueda del tiempo)* (San José, Costa Rica: EDUCA, 1998), 81–90; Wagner, *Historia del café de Guatemala*, 85–98; Williams, *States and social evolution*, 58–61; David McCreery, *Rural Guatemala, 1760–1940* (Stanford, CA: Stanford Univ. Press, 1996), 163–164, 238–258.

8 McCreery, *Rural Guatemala*, 192–193; Williams, *States and social evolution*, 112–119; Karl Theodor Sapper, *Mittel-Amerika, Auslandswege* 5 (Hamburg: L. Friederichsen & Co, 1921), 102–105.

into a contract with the Kosmos shipping line to establish a regular, direct connection with Northern Germany.⁹ In the Alta Verapaz, a local society was founded to construct a railway linking Cobán with Livingstone. The consortium consisted of several German coffee exporters and coffee trading houses from Hamburg.

The emerging group of German immigrants in Guatemala benefitted from this liberal policy. Since the 1840s, the growing commercial exchange had attracted Germans from Hanseatic cities to Central American coffee producing regions. In Guatemala, the German presence was strongest: Germans were involved in the coffee production, coffee export, infrastructural projects, shipping lines and banking. In any case, they could rely on cheap credits from their hometowns and the protection by diplomats from the German empire. By promoting European immigration, the Guatemalan government sought to import new technologies and infrastructure.¹⁰ But racial considerations played an important role as well: Generally, Guatemalan society in the 19th century was deeply divided by ethnic criteria. The mestizo or white elites considered the indigenous population as an inferior group that had to be civilized by hard work.¹¹ Moreover, they tried to “improve” the composition of the Guatemalan population by attracting white immigrants from Europe.¹²

9 Wagner, *Historia del café de Guatemala*, 85–98; Thomas Schoonover, *Germany in Central America. Competitive Imperialism, 1821–1929* (Tuscaloosa: Univ. of Alabama Press, 1998).

10 See on the history of German immigration in Guatemala Regina Wagner, *Los alemanes en Guatemala 1828–1944* (Guatemala: Afanes, 1996); Stefan Karlen, “Ausländische Wirtschaftsinteressen in Guatemala: Deutschland, 1871–1944. Unter besonderer Berücksichtigung der Jahre 1931–1944,” *Jahrbuch für Geschichte und Staat, Wirtschaft und Gesellschaft Lateinamerikas* 31 (1994): 267–303; Stefan Karlen, “The German Colony and Economic Interests in Guatemala in the Late 19th and Early 20th Centuries,” in *Grenzenlose Märkte? Die deutsch-lateinamerikanischen Wirtschaftsbeziehungen vom Zeitalter des Imperialismus bis zur Weltwirtschaftskrise*, eds. Boris Barth and Hamburger Ibero-Amerika Studien 6, (Münster: Lit Verlag, 1995), 133–156. On the history of coffee trade in Hamburg, see: Julia Laura Rischbieter, *Mikro-Ökonomie der Globalisierung: Kaffee, Kaufleute und Konsumenten im Kaiserreich 1870–1914* (Köln: Böhlau, 2011).

11 Marta Elena Casaús Arzú, *La Metamorfosis del Racismo en Guatemala* (Guatemala: Cholsamaj, 2002), 34–41; Arturo Taracena Arriola, *Etnicidad, estado y nación en Guatemala, 1808–1944*, vol. 1 (Antigua Guatemala: CIRMA, 2002), 267–389.

12 Marta Elena Casaús Arzú, *Guatemala. Linaje y racismo. Tercera ed., revisada, ampliada y actualizada* (Guatemala: F & G Editores, 2007), 67.

German immigrants soon played a central role in the Guatemalan coffee business even though they barely numbered one thousand.¹³ In 1898, the German diplomat Friedrich von Erckert wrote a long report on the German presence which sheds light on their growing influence. At this point, German immigrants possessed 170 coffee fincas with a value of 64 million marks. Erckert estimated the total value of German investments in Guatemala at 184.5 million marks. Furthermore, the credits for the coffee harvests given every year by Northern German trading houses were very important for the coffee business. When Erckert published his report, the German share in Guatemalan coffee production constituted roughly one third. The region with the strongest German presence was the Alta Verapaz, where Germans owned more than 1,500 km² of territory and had a share of 60 percent in coffee production.¹⁴ It was asserted, that the region was far more linked to Germany than to the Guatemalan capital. The German-Guatemalan trade agreement from 1887 gave German immigrants further privileges: They were granted total trade liberty, the right to buy land, and were guaranteed the protection of person and property. As a result, Germany became the most important market for Guatemalan coffee at the end of the 19th century and absorbed more than 50 percent of the Guatemalan production in 1890.¹⁵

After the First World War, a new wave of German immigrants with smaller financial resources came to Guatemala. Their hopes to acquire plantations and become wealthy were not fulfilled. During the 1920s, the German community was marked by growing social and political tensions. Nevertheless, the established Germans maintained their dominant position in the coffee business until the 1930s. The dominant position of German immigrants has provoked controversial discussions among Guatemalan historians, either portraying them as successful pioneers or crude exploiters.¹⁶ Their success was based on the financial support from the main coffee trading centers in

13 According to official statistics, in 1893 400 Germans lived in Guatemala. As there were 900 Germans registered in the German consulates, it may be concluded that their real number was higher. See Wagner, *Los Alemanes en Guatemala 1828–1944*, 54, 325.

14 Friedrich Karl von Erckert, "Die wirtschaftlichen Interessen Deutschlands in Guatemala," in *Beiträge zur Kolonialpolitik und Kolonialwirtschaft* III (1901–1902): 225–284, here 225–238, 267–284.

15 Wagner, *Historia del café de Guatemala*, 103–114.

16 Wagner, *Los Alemanes en Guatemala 1828–1944*, 214–215; Julio Castellanos Cambranes, "Pioneros del desarrollo"—¿Civilizadores? *Consideraciones sobre los neocolonialistas alemanes en Guatemala, 1828–1996*, Publicaciones conmemorativas del XX aniversario 3 (Guatemala: CEUR, 1995).

Europe. In addition, they used their detailed knowledge of the European market, as well as their substantial know-how on coffee production and access to technical innovations.

Coffee Plantations in Guatemala: A Short Overview

In this section, I will give an overview on housing and technical facilities on the plantations, expand on coffee production and harvest and conclude with a short explanation of coffee processing.

By and large, the Guatemalan coffee was produced in two regions: in the Alta Verapaz and in the "Costa Cuca" area of the Western Highlands. The largest plantations were located on the West Coast, most of them owned by plantation companies founded by Hamburg merchants at the end of the 19th century.¹⁷ The historian David McCreery named five important characteristics of the coffee plantations in Guatemala: They were large-scale, owned by foreigners, and disposed of extensive processing machinery and a diversified production. In addition, the land holdings were built up over several years.¹⁸ He concluded:

"The Guatemalan coffee estate was a highly capitalized and technologically advanced enterprise tied to the world markets by increasingly efficient communications, but one that at the same time continued to rely on coerced labor and the direct intervention of the state for its profit and survival. This blending of modern and retrogressive systems was characteristic of colonial economies throughout the world in the last years of the nineteenth century, but in few cases was the contrast more striking than in that of Guatemala."¹⁹

In the Alta Verapaz, the coffee plantations were smaller than on the West Coast with a normal production between 500 and 1,000 hundredweights.²⁰ Still in 1940, the average area of a coffee finca in the Alta Verapaz was only

17 Katharina Trümper, *Kaffee und Kaufleute. Guatemala und der Hamburger Handel 1871–1914*, Hamburger Ibero-Amerika-Studien 7 (Hamburg: Lit Verlag, 1996), 34–47.

18 McCreery, *Rural Guatemala*, 197.

19 McCreery, *Rural Guatemala*, 195.

20 Erwin Paul Dieseldorff, *Der Kaffeebaum. Praktische Erfahrungen über seine Behandlung im nördlichen Guatemala* (Berlin: Hermann Paetel, ohne Jahr), 4. A hundredweight is a unit of mass equivalent to 50 kg.

33 acres, whereas in Western regions it varied between 68 and 107 acres.²¹ Contrary to other Guatemalan regions, coffee replaced corn production around Cobán and Carcha but there was still enough land for subsistence agriculture available.²²

As the ideal altitude for coffee growing in Guatemala was 1,000 to 1,500 meters, most plantations were located far away from cities and villages. Generally, a finca comprised the following buildings: The house of the plantation owner, a building for the higher employees, and an office where the finca books were kept. Workers' housing was normally located in separate zones. Then there were technical facilities, the processing machinery, storage rooms and patios to dry the coffee. One part of the finca was often used for the cultivation of basic grains like corn, and some land was kept in reserve, so that cultivation could immediately be expanded in case of rising coffee prices.²³

The size and furnishings of the owner's house depended on his financial resources. Wealthy owners bought their furniture in Europe and tried to maintain a European way of living. Some of the immigrants brought their wives along with them, which led to increased social activity on the fincas. From time to time, the owners would organize social events on their plantations with meals, music and dancing. Sometimes, the women failed to adapt to the new environment and returned to Germany. Several of the German authors concurred that a coffee plantation was not an adequate place for European women.²⁴ On smaller or newly constructed fincas, there was frequently only a wooden house with basic facilities. Often the German owners spent several months in Europe and left their administrators in charge of the plantation.

Coffee growing took place on the surrounding fields. Coffee trees need up to three or four years until they provide the first harvest. To protect the trees from wind, cold and heat, plantation owners usually planted shade trees. They used fast growing trees, like *Gravilea* and banana trees.²⁵ A good shade tree should not attract insects and had to have small leaves and hard wood. In the best case, both trees have reciprocal positive effects on each

²¹ McCreery, *Rural Guatemala*, 199–200.

²² *Ibid.*, 250.

²³ *Ibid.*, 197–199.

²⁴ Karl Sapper, *Das nördliche Mittel-Amerika nebst einem Ausflug nach dem Hochland von Anahuac. Reisen und Studien aus den Jahren 1888–1895 von Dr. Carl Sapper* (Braunschweig, Berlin, Hamburg: Druck und Verlag von Friedrich Vieweg und Sohn, 1897), 22–23; Schmolck, *Welthandel selbst erlebt*, 93–99.

²⁵ See Dieseldorff, *Der Kaffeebaum*, 6.

other. Sometimes, plantation owners used several variations of shade trees to prevent soil degradation showing an awareness of environmental challenges.²⁶

The coffee plants are seeded in small tree nurseries located on the plantation. After a year, they are put into the soil at a distance of roughly 2x1 m for each tree. During the whole year, regular cropping is necessary to ensure a good harvest. Coffee blossom is very short and takes only two days. The trees have white flowers which have often been compared to jasmine. Coffee can be harvested six or seven months after the blossom when the coffee cherries turn red.

In Guatemala, the coffee harvest takes place between November and April depending on the height of the plantation. It was very labor-intensive as the cherries were picked by hand. Green or overripe cherries affect coffee taste negatively so that picking had to be executed carefully. The harvest workers collected the coffee in baskets carried on their back. Very often, whole families were working on the coffee plantations. The harvest workers carried the coffee from the field to the processing facilities where it was weighed and passed to processing. There was a constant lack of harvest workers and as a result plantation owners competed seriously to attract them to the fincas.²⁷

To explain the method of wet processing, a closer look at the structure of a coffee bean is necessary. Under its outer skin, there is a layer of pulp surrounding the bean. Furthermore, it is protected by two other layers: the parchment and the silver skin. During the processing, the pulp and the different layers are removed. First, the cherries are put into a tank filled with water and then piped through a channel to sort out the unripe cherries and the defilement. The ripe cherries sink down and are put into a coffee pulping machine which removes the pulp by pushing the cherries through holes in a metal surface. After that, the beans are still covered by mucilage that has to be removed by fermentation. The coffee is put into large fermentation tanks where the mucilage is broken down by natural enzymes. Fermentation takes one or two days and is decisive for the coffee's quality. A wrong fermentation can ruin a whole part of the harvest.²⁸ The method of wet processing required large quantities of water. Therefore, finca owners looked for water deposits nearby when choosing the place for a plantation. Wet processing led

²⁶ Juan Antonio Alvarado, *Tratado de Caficultura Práctico* (Guatemala: Tipogr. Nacional, 1935), 47–75.

²⁷ McCreery, *Rural Guatemala*, 228–229.

²⁸ Wagner, *Historia del café de Guatemala*, 71–82.

to water pollution in the communities surrounding the plantations. From Costa Rica, we know that residents of the Central Valley already in the 1840s century protested against contamination. They complained about the pervasive smell but also about the lack of water in harvest times. The contaminated water caused damage to local cattle and led to public health problems. In consequence, the government approved a first, but lax legal provision in 1849. In 1901, it prohibited the finca owners from draining contaminated water into the Costa Rican rivers without additional disinfection.²⁹ In Guatemala and Chiapas the same problems occurred later on, when the growing demand for washed coffee led to a mechanization of coffee production in the 1880s. The finca owners also needed water for the propulsion of machinery, like the drying machines.³⁰

After fermentation, coffee was dried on patios or by drying machines. On the patios, coffee needed to be raked every six hours and drying took up to ten days. On large plantations, mechanical dryers were introduced permitting a faster dehydration. The mechanization of the coffee industry increased quickly after 1880: In Guatemala, there were 686 depulpers and 230 rubbing machines in 1880. Until the 1930s, their number had increased to more than 2,700 depulpers, more than 1,000 rubbing machines, 672 polishing machines, 304 dryers and nearly 1,000 separators.³¹

After drying, coffee beans were hulled to remove the parchment and polished to take off the silver skin. Finally, the imperfect coffee beans are sorted out by women at large wooden sorting tables. They were put into coffee sacks and transported by mules or oxen to the railway stations. The coffee production and processing was frequently described by German immigrants in their reports to give the readers an idea of their daily work.

29 Andrea Montero Mora and José Aurelio Sandí Morales, "La contaminación de las aguas mieles en Costa Rica: Un conflicto de contenido ambiental (1840–1910)," in *Diálogos Revista Electrónica de Historia* 10, no. 1 (2009), 4–15.

30 Justus Fenner, "Agua y café en Centroamérica y Chiapas. Un breve recorrido histórico por la región, 1846–2011" (ponencia para su inclusión a la memoria del evento "Encuentro regional de Agua en el Sureste", Tuxtla Gutiérrez, Chiapas, Mexico, 13–14 septiembre 2001).

31 McCreery, *Rural Guatemala*, 216.

The Sources: Autobiographies and Travel Reports of German immigrants

Contrary to other European nations, Germany acquired no colonies until the late 19th century. In the context of the German nation state foundation in 1871 and the expansive foreign policy since the 1880s German emigrants were perceived as a strategic resource for political influence. This was also reflected by a terminological shift from emigrants to Germans abroad ("Auslandsdeutsche"). Whereas emigrants leave and possibly acquire other nationalities, the expression Germans abroad implies a continuous attachment to the country of origin. The second half of the 19th century witnessed a growing German immigrant literature creating a special picture of South America for the German empire as Sebastian Conrad has shown in his analysis on German immigration in Southern Brazil.³²

In Guatemala, the first immigrants arriving in the 1840s formed part of an international merchant community. Frequently, they had already lived in several places abroad and had worked for different European merchant houses. The German state foundation changed the situation profoundly, as the next generations of immigrants referred with pride to the German Empire. At the same time, they founded their own social institutions, like the German Clubs in Guatemala City, Quetzaltenango and Cobán which permitted them to maintain a separate social sphere with exclusive character. On their coffee plantations the Germans created their own world of patriarchal rule and defended their sovereignty against local authorities as their autobiographic writing shows. In cases of conflict they either referred to their diplomatic representatives or higher Guatemalan authorities.

Several of the German plantation owners published autobiographic texts or travel reports. Their aim was to give the German audience an idea of the situation in Guatemala's coffee producing regions. Most of the texts legitimized the German presence as part of an economic and cultural "civilizing mission". Some of the texts were addressed to their own families, whereas others were written for publication in German newspapers or publishing houses. The published accounts aimed at preparing prospective emigrants for their experiences and warned of unrealistic expectations. The researcher of Romance languages and literature, Ottmar Ette, characterized travel re-

32 Sebastian Conrad, *Globalisierung und Nation im Deutschen Kaiserreich* (München: Beck, 2006), 245.

ports as "processes of linguistic and socio-cultural translation".³³ Phenomena perceived as different or strange were translated in a way that was understandable to German readers. In consequence, the texts contain frequent references to German culture. Besides, the descriptions of Guatemalan society give an idea of the writer's origins and stereotypes.

Most of the accounts follow a similar structure: First, the authors inform about their leaving from Germany and their journey to Central America. Emphasis is laid on their first encounter with the New World which frequently took place on a Caribbean island. The travelers were most impressed by the black population, which they commonly described in negative terms, whereas the indigenous population was characterized as innocent and harmless.³⁴ The next stage in their accounts is the arrival in Guatemala on the Caribbean Coast and the journey to the interior.

The German geographer Karl Sapper worked as an administrator on several coffee fincas in the Alta Verapaz between 1888 and 1895. During his stay, he made several long journeys through Guatemala, creating maps in the process. He wrote down his travel memoirs on the way back to Germany where they were published as a book in 1897.³⁵ Sapper described in detail how he passed the Rio Dulce after arriving in Guatemala in 1888.

"The way towards the interior leads through an entrance gate of really ravishing beauty. Just as the Rhine had to break through the shale mountains, the Rio Dulce had to find its way through the limestone mountains towards the sea, creating a deep valley. However, what tremendous differences in the scenery: Over there, proud castles and flourishing cities with a brave past and a vital present. The intensive traffic on the river indicates the midst of the tumultuous day. Here, there are few plantations, like pioneers of an awakening culture at the river banks, and everywhere still reins the silence of the dawning morning; over there the lines of the vines, formed in a militarily way, recount that the mature nature was subordinated by human will, here it rules in jaunty freedom and with the high spirits of youth."³⁶

In Sapper's description, the coffee plantations appear as pioneers of civilizations in a wild environment. Nature in Guatemala is still young and wanton

33 Ottmar Ette, *Literatur in Bewegung. Raum und Dynamik grenzüberschreitenden Schreibens in Europa und Amerika* (Weilerswist: Velbrück Wissenschaft, 2001), 39.

34 See for example: Sapper, *Das nördliche Mittel-Amerika*, 4–6.

35 Sapper, *Das nördliche Mittel-Amerika*; Franz Termer, *Karl Theodor Sapper 1866–1945. Leben und Wirken eines deutschen Geographen und Geologen* (Leipzig: Barth, 1966).

36 Sapper, *Das nördliche Mittel-Amerika*, 10.

whereas in Germany it was already under control.³⁷ Sapper parted from the assumption of a linear development of human societies, emphasizing the different stages of development in the two societies. A journey to Guatemala therefore was a journey back in time, back to a stage Europe had long left behind. As I will show in the next section, most German immigrants shared Sapper's perception of tropical nature.

Descriptions of Nature and the Perception of the Tropics

The idea of a virgin, untouched forest was a part of colonial ideology creating a dichotomy between civilization and uncultivated nature. On the one hand, German immigrants portrayed tropical nature as a paradise. They described the voluptuous, rampant vegetation as a "glory of flora" outshining by far the beauty of landscapes like Lake Garda or the Riviera.³⁸ On the other hand, tropical nature represented a threat and a danger for them.

Helmuth Schmolck emigrated to Guatemala in 1910 and started to work as an accountant on a coffee plantation.³⁹ When he arrived with his suitcase at a small railway station to start his first job, he only found a message from his employer waiting for him: Schmolck was to continue on the back of a mule which was supposed to know the way to the finca. Looking back, Schmolck recalled how he perceived the virgin forest at night as suspicious, dark and silent. Arrival in the coffee zone evoked other images: Now, there were trees "lined up in orderly fashion as planted by a Prussian forest ranger".⁴⁰ The plantation signified for Schmolck the order he was used to from Germany. In a similar fashion, the protagonist in Adrian Rösch's novel sets apart the coffee plantation from the "masterless jungle".⁴¹ Adrian Rösch emigrated from Southern Germany in 1891 and bought two coffee plantations in the Alta Verapaz, where he lived until the 1930s. Between 1913 and

37 There are parallels to perceptions of Guatemalan nature cited by Gallini, *Una historia ambiental del café*, 2–3.

38 Sapper, *Das nördliche Mittel-Amerika*, 10.

39 Two of his uncles were already living in Central America. Schmolck worked at first as an accountant on a coffee finca and then for an export firm. He published his memoirs after the Second World War when he was back in Germany.

40 Schmolck, *Welthandel selbst erlebt*, 72.

41 Oskar Weber, *Briefe eines Kaffee-Pflanzers. Zwei Jahrzehnte deutscher Arbeit in Zentral-Amerika*, Schaffsteins Grüne Bändchen 50 (Cöln am Rhein: Schaffstein, 1913), 11.

1918 he published three emigration novels under the pseudonym of Oskar Weber. His first novel, "Letters from a coffee grower" (1913) retold his own emigration history. Although the place names are fictitious, it is easy to divine that Rösch writes on Guatemala and the Alta Verapaz.⁴²

The above mentioned negative perceptions of tropical nature fit in a general discourse seeing the tropics as an unsuitable place for European immigrants. In his booklet "Emigration and Acclimatization in the Tropics" (1921), Karl Sapper highlighted the tropical climate as a central danger for Europeans. According to Sapper, the "greenhouse atmosphere" of the tropical lowlands affected the work capacity of Europeans negatively.⁴³ Another immigrant account focused on psychological risks in their descriptions of the topography of a coffee finca in southern Chiapas:⁴⁴

"The residential house of Teutonia and all cultivated areas are situated in a large valley surrounded by mountain ridges. They impede the view to the vast expanse that is necessary in the tropics. After a short while, one has the impression of being in prison. After several years, a 'Tropenkoller'⁴⁵ arose."⁴⁶

The author stressed the danger of a "Tropenkoller" because of the fears that the tropical climate could affect mental health. Another important element of this discourse was that living in the tropics also entailed on alcoholism and relationships with indigenous women. In the Anglo-American context, the same phenomenon was referred to as tropical neurasthenia. First discovered by the American neurologist George Beard in the 1860s, the concept

42 Elisabeth Lehnhoff, "Oskar Weber y María Schwauss: literatura e inmigración alemana en Guatemala" (Tesis de Licenciatura, Departamento de Letras y Filosofía, Universidad Rafael Landívar, Guatemala, 2004), 30–37, 50–56, 65; Weber, *Briefe eines Kaffee-Pflanzers*. The novel consists of 26 fictitious letters written between 1891 and 1913 from a German emigrant to his brother. The protagonist works as an employee on a coffee plantation until he finally buys his own land; Oskar Weber, *Der Bananenkönig: Was der Nachkomme eines verkauften Hessen in Amerika schuf*, Schaffsteins Grüne Bändchen 73, 2. Aufl. (Cöln a. Rh.: Schaffstein, 1919); Oskar Weber, *Der Zuckerbaron: Schicksale eines ehemaligen deutschen Offiziers in Südamerika*, Schaffsteins Grüne Bändchen 54, 3. Aufl. (Cöln a. Rh.: Schaffstein, 1920).

43 Karl Sapper, *Auswanderung und Tropenakklimatisation* (Würzburg: Kabitzsch & Mönnich, 1921), 45.

44 After land prices in Guatemala rose at the end of the 19th century, some German plantation owners moved on to southern Mexico where land was still more affordable.

45 The German term "Tropenkoller" can be translated as tropical madness. It refers to mental illnesses affecting Europeans living in the tropics.

46 R. A. de Brock, *Fata Morgana der Tropen oder: Tropenzauber. In 3 Bänden. Eine wahrhafte Schilderung, aber mit teilweise unwarhen Namen* (Unpublished manuscript, 1934), 274.

of neurasthenia reached Britain twenty years later. Neurasthenia was defined as a mental disorder related to industrialized urban life. Its symptoms were broad, covering loss of appetite, headache, depression, and fatigue. Its transfer to the tropics was made by Charles Edward Woodruff who coming back from the Philippines published his book "The Effects of Tropical Light on White Men" in 1905. The tropical version of neurasthenia affected mainly male, white settlers in their new tropical environment. The tropical sun, the separation from the civilized world and isolation impinged on nerves and energies. The phenomenon had also a racial component as it was a white affliction as opposed to black insanity. Suffering from tropical neurasthenia was still a socially acceptable disease. The syndrome reached its climax between 1905 and 1920 but remained in medical discourse until the outbreak of the Second World War.⁴⁷ It was discussed and diagnosed in Asian and African European colonies but also in the independent Latin American states.

Whether called "Tropenkoller" or "tropical neurasthenia", the phenomenon has its historical roots in the fears of Europeans entering tropical regions. As Rebecca Earle pointed out for Latin America, Spanish colonizers feared the effect of climate and local food on their health and bodies.⁴⁸ Those fears are related to older forms of European environmental determinism as Dane Kennedy has demonstrated in his research on India. There, doctors considered the maintenance of European habits and avoiding drugs and alcohol as important therapy. Another treatment was climate change or definitive return. In Guatemala as in India, loneliness affected especially men living on isolated plantations.⁴⁹ In the 1920s the journal *The German Merchant Abroad* published several letters of a disillusioned immigrant from Guatemala. In one letter he wrote:

"The nature here is impressive, and I am indulging myself here where someone else would despair. It does not do any harm to a young person to look around in the world. If he can make a living in Germany, he should stay there. If not, he has to

47 Anna Crozier, "What Was Tropical about Tropical Neurasthenia? The Utility of the Diagnosis in the Management of British East Africa," *Journal of the History of Medicine and Allied Sciences* 64, no. 4 (2009): 518–548; Anderson Warwick, "The Trespass Speaks: White Masculinity and Colonial Breakdown," *The American Historical Review* 102, no. 5 (1997): 1343–1370; Dane Kennedy, "Diagnosing the Colonial Dilemma: Tropical Neurasthenia and the Alienated Briton," in *Decentering Empire. Britain, India and the Transcolonial World*, eds. Durba Ghosh and Dane Kennedy (London: Sangam, 2006), 157–181.

48 Rebecca Earle, "'If You Eat Their Food . . .': Diets and Bodies in Early Colonial Spanish America," *American Historical Review* 115, no. 3 (2010): 688–713.

49 Kennedy, *Diagnosing the Colonial Dilemma*, 162–168.

come to terms with local circumstances, which is quite difficult for a person still having ideals. [...] Here, one is stuck in the deepest jungle and has to struggle with wild Indians, toxic reptiles and health problems. Any intellectual inspiration is totally missing. In the end, many young Germans become addicted to alcohol or shack up with indigenous women."⁵⁰

Again, we can see parallels to German colonial debates relating to the fear of adopting indigenous habits and losing contact to the home country. In a more radical way, Carl Hagelberg⁵¹ queried the possibilities of settlement in the tropics in a brochure dedicated to future German emigrants. He wrote:

"Though the tropics offer a wide field for our exuberant zest for action, natural laws impede our race to find a second home there. In time, it could undermine its particular character traits or it might even totally lose them. Humans can decide arbitrarily to transplant their race, but they cannot create it arbitrarily. In addition, the German planter will never be attached to his clod of earth in the same way as his brother, the German farmer at home. He will always feel as rice growing in a strange soil."⁵²

Hagelberg thus negates the possibilities of German settlement in the tropics absolutely, asserting an inherent relationship between blood and soil that was used by the Nazis a decade later. But German authors also differentiated between regions more suitable for German settlement like the Verapaz highlands with its balanced temperatures.⁵³

Although they were fascinated by the beauties of tropical nature, most German authors highlighted the dangers and negative effects of living in a tropical environment. For them, the coffee plantations represented islands of civilization and order in this wild context. They saw their work as part of a pioneer mission in reining in and pushing back the tropical wilderness.

The idea that it was necessary to civilize tropical nature was shared by the Guatemalan elites who incorporated it into their discourse on progress and

50 Anonymous, "Briefe aus Guatemala," in *Der deutsche Kaufmann im Auslande*, no. 1 (January 1924): 24–25, here 24.

51 Carl Hagelberg founded a society named "Mexikanische Siedlungsgesellschaft" and published a brochure to promote German settlement in Mexican coffee producing regions. There are some hints that he deceived several emigrants and embezzled their money. Anonymous, "Bericht des Pflanzers Walter Brösel," *Afrika-Nachrichten* Nr. 14, July 1, 1921, Deutsche Zentralbibliothek für Wirtschaftswissenschaften, Pressearchiv.

52 Carl Hagelberg, *Anleitung zum Plantagenbau im mexicanischen Tieflande* (Schleswig: Ibbeken, 1919), 6.

53 Karl Sapper, Vorwort to Adrian Rösch, *Allerlei aus der Alta Verapaz: Bilder aus dem deutschen Leben in Guatemala 1868–1930. Mit einem Vorwort von Karl Sapper* (Stuttgart: Auslands und Heimat, 1934), 6.

modernity.⁵⁴ After analyzing the general perceptions of tropical nature, I will continue with more specific aspects: I will focus on how German authors described nature and ecological aspects of the coffee plantations.

Nature on the Coffee Plantations and Ecological Considerations

The massive expansion of coffee production in Guatemala changed ecological landscapes profoundly. As I already mentioned, there is very little research on the ecology of Guatemalan coffee plantations in a historical perspective. One exception is the study of the historian Stefania Gallini who analyzed the ecological transformations at Costa Cuca related to the intense coffee production. She discusses whether the coffee fincas spawned an "ecological revolution"—a process she defines as a revolution in the material and mental construction of nature.⁵⁵ Concerning the ecological consequences, Gallini highlights two aspects: the deforestation and the effects on food production in the region. Local authorities were alarmed about the deforestation as early as the 1880s, and enacted a first protection law in 1892. Another consequence of increasing coffee production was that the local indigenous population lost its agricultural base. They had to move to higher and colder mountain territories which affected basic food production in the whole region and led to increased food imports.⁵⁶

For the Alta Verapaz, there is no similar analysis and neither deforestation nor food production were subjects mentioned by German plantation owners, who were not in the immediate affected by them. A certain ecological awareness can be seen in four other aspects mentioned by the Germans: the adequate soil for coffee production, the use of fertilizers, the destruction of weeds and the danger of leaf diseases.

Several authors reflected on what was necessary to choose a good place for a coffee plantation. They mentioned the soil quality, the accessibility of water, the altitude and the climate. Most important for the German owners were two aspects: the yields of a plantation in the future and how long

54 Gallini, *Una historia ambiental del café*, 4.

55 Ibid., 261.

56 Ibid., 259–269.

it would take to make it productive. Adrian Rösch calculated that the first full harvest of a plantation would be possible after five years. This productive level could be held for 12 to 15 harvests, then the soil would begin to degrade.⁵⁷ Carl Hagelberg related the outputs with altitude: Plantations at higher altitudes provided good harvests for 20 years, whereas in lower altitudes the soil was already exhausted after 12 years.⁵⁸ In the Alta Verapaz, German plantation owners left the land as soon as it was not productive any more. This practice was possible because in the 19th century land still represented an abundant resource. Moreover, land in the Alta Verapaz was still cheaper than in other Guatemalan regions. Degraded soils were not considered as an important problem.

Since land rotation was still possible (if on the backs of the indigenous communities) investing in fertilizers to maintain high yields was not a priority. Even an advocate of fertilizers such as Erwin Paul Dieseldorff thought that it made only sense in times of high coffee prices.⁵⁹ In addition, he referred to the danger that fertilizer vendors cheated the plantation owners by selling useless mixtures of different substances.⁶⁰ Adrian Rösch mentioned that the mountain topography made regular fertilizing very difficult.⁶¹ David McCreery stated as well that chemical fertilizing was not common in 19th century Guatemala because of its high transportation costs. Instead, most plantation owners used coffee pulp as fertilizer and relied on the good qualities of Guatemalan volcanic soil.⁶²

When it comes to the subject of weeds, the idea of civilizing nature appeared again. Adrian Rösch's protagonist described its growth as "frightening"⁶³. During the whole year, it was necessary to pull weeds off using hack and machete. If plantations remained without weeding for two years, "Bush and forest will have blanketed and ranked all our troublesome work victoriously", was the pessimistic assessment.⁶⁴ In marked contrast to this attitude, Carl Hagelberg attributed the positive effect of soil protection to weeds, but concluded that after two years, they had to be pulled up. Erwin Paul Dieseldorff agreed, arguing that weeds could as well be used as a ferti-

57 Weber, *Briefe eines Kaffee-Pflanzers*, 66.

58 Hagelberg, *Anleitung zum Plantagenbau im mexicanischen Tieflande*, 40.

59 Dieseldorff, *Der Kaffeebaum*, 21–24.

60 Alvarado, *Tratado de Caficultura*, 326.

61 Adrian Rösch, *Allerlei aus der Alta Verapaz*, 34.

62 McCreery, *Rural Guatemala*, 217.

63 Weber *Briefe eines Kaffee-Pflanzers*, 66.

64 Ibid., 66–67.

lizer if put into soil before blooming.⁶⁵ In conclusion, German finca owners had an ambivalent attitude towards weeds. They could contribute to the protection of soil and fertilizing but were seen as a danger to the plantation owners' civilizing effort as well.

During its history, coffee production was affected by fungal diseases and pathogens several times. One of the most common diseases was the coffee leaf rust discovered in Sri Lanka in the 1860s that reached nearly all coffee producing regions in the 20th century. In Central America, it did not appear until the 1970s, but coffee plantations in the 19th century were affected by other fungal diseases.⁶⁶ Erwin Paul Dieseldorff was the only author who mentioned infections of coffee trees. The most widespread disease was caused by a fungus named "Stilbum flavidum" or "ojo de gallo". It is characterized by small yellow spores on the leaves and coffee cherries which makes them fall off the trees. In his recommendations on how to combat infections, Dieseldorff draws parallels to the control of human infectious diseases. Affected trees have to be isolated soon, but he considered it even more important to prevent infection by improving ventilation on the plantations. Other infections were caused by small insects like butterfly worms and greenflies.⁶⁷

Whereas descriptions of soil and fertilizing had mostly a neutral, scientific tone, German authors sometimes also described the plantations as a sort of forest and highlighted the beauty of the coffee blossom. Helmut Schmolck distinguished the European fields from the open tropical plantations of corn, sugar, and tobacco. He argued these plants grew up so high that it was impossible to see the surroundings when you were in it. A coffee plantation with its shade trees seemed at first like a forest, concludes Schmolck.⁶⁸ Later on, he describes a coffee plantation at blossom:

"The coffee bloom, which extends kilometers and kilometers into the forest and emits a sweet, exotic scent, can be compared with our cherry blossom or flourishing jasmine. It inspires local poets and musicians for their poetry and foreign painters for their pictures, normally only showing green branches and white blossoms. The plantation owner's pleasure in the bloom's magnificence is a more materialistic one. Seeing the blossom, he makes a still speculative calculation for the harvest. These

65 Dieseldorff, *Der Kaffeebaum*, 19.

66 McCook, *La Roya del Café en Costa Rica: epidemias, innovación y medio ambiente, 1950–1995*, 99–101.

67 Dieseldorff, *Der Kaffeebaum*, 8–11.

68 Schmolck, *Welthandel selbst erlebt*, 89.

calculations after coffee bloom influence the prices on the world market long before harvest."⁶⁹

Schmolck's emphasis on the material interest of plantation owners parallels his perception of the coffee plantations as a "large scale industry in the countryside".⁷⁰ Natural beauty does not play a role in this. As Erwin Paul Dieseldorff stated at the end of his book, a plantation owner always had to keep in mind future surplus.⁷¹

For the plantation owners, nature was a resource of production that should enlarge profits. They were concerned about every global, ecological or local influence which might reduce surplus or disturb production. Coffee plantations were a new natural environment to the Germans, but also a new social environment. In the descriptions of social hierarchies, the idea of a civilizing mission can be found again. Social conflicts on the plantations are a subject generally avoided by German authors. Their main local adversary was tropical nature.

"A new world opened up for me. It is not only the scenery and the lifestyle; the social realities as well provide enough material for several volumes."⁷²

Adrian Rösch's alter ego depicted his life on the coffee plantation as entering into a new world. In a detailed manner, he described the social relations on the plantation beginning with a characterization of the finca owner. Next in the social hierarchy came the protagonist himself, followed by a mayordomo, the mestizo workers and the indigenous families who had already lived there before the finca foundation.⁷³

German authors generally described social hierarchies using the metaphor of a pyramid. On the top of it, there were the German employees, normally one administrator and, on large plantations an accountant as well. The next layer was formed by the "mayordomos" who were overseeing field work on the plantations. For the German administrators, they were the central contact persons with links to the foremen on the different parts of a plantation. At the lowest level of the pyramid, German authors situated the indigenous workforce, sometimes distinguishing between regular workers and harvest workers. They were characterized as an anonymous group without

⁶⁹ Schmolck, *Welthandel selbst erlebt*, 90–91.

⁷⁰ Ibid., 92.

⁷¹ Dieseldorff, *Der Kaffeebaum*, 36.

⁷² Weber, *Briefe eines Kaffee-Pflanzers*, 13.

⁷³ Ibid., 15–17.

individual attributes. Rösch included an element of racial hierarchization in his description, distinguishing between mestizos and indigenous workers, who also lived in different areas of the finca.

Frequently, German authors used a second metaphor to describe their relations with the indigenous workers: the metaphor of a father and his children. Erwin Paul Dieseldorff formulated the following as a guideline for plantation administrators:

"The administrator must seek to build a good relationship with his workers. They should not only perceive him as a strict patron but as an advisory and helpful friend. The Indian in the Alta Verapaz should be treated as a child. To gain authority, the administrator has to be resolute and vigorous; he must have definite views and avoid changing his mind several times. On the other hand, he has to be friendly and fair-minded to gain the heart of his people."⁷⁴

Karl Sapper shared his opinion and argued for a paternalistic treatment of plantation workers. He emphasized the need to learn the indigenous languages in order to avoid misunderstandings.⁷⁵ In his emigration guide he stated that courtesy can be omitted in the contact with indigenous people. Only tranquility and self-control are necessary.

Most of the German plantation owners had a negative perception of their workforce. They accused them of reluctance towards work, laziness and frequent robberies. In consequence, local population had to be forced or educated to work. Again, parallels exist between plantation owners' argumentation and colonial discourse, where education to work was a central part of the colonial civilizing mission. Besides, their ideas perfectly matched those of the Guatemalan elite concerning indigenous workers.⁷⁶

As there was a constant lack of workers on the plantations⁷⁷, their recruitment was an important topic for the plantation owners. Karl Sapper saw the "desire for freedom" of the indigenous workers as an obstacle.⁷⁸ To

⁷⁴ Dieseldorff, *Der Kaffeebaum*, 33.

⁷⁵ Sapper, *Mittel-Amerika*, 222–223.

⁷⁶ For the concept of civilizing missions in general, see Boris Barth and Jürgen Osterhammel, eds., *Zivilisierungsmissionen. Imperiale Weltverbesserung seit dem 18. Jahrhundert*, Historische Kulturwissenschaft 6 (Konstanz: UVK-Verl.-Ges., 2005); and for the German case Sebastian Conrad, *Deutsche Kolonialgeschichte* (München: Beck, 2008), 70–71.

⁷⁷ The lack of workers and payments in advance was also intensely debated in Chiapas. See Sarah Washbrook, "Enganche and Exports in Chiapas, Mexico: a Comparison of Plantation Labour in the Districts of Soconusco and Palenque, 1876–1911," *Journal of Latin American Studies* 30, no. 4 (2007): 797–825.

⁷⁸ Sapper, *Das nördliche Mittel-Amerika*, 223.

avoid the government's *mandamientos*, people frequently hid in the forests or crossed the borders to avoid continuous work on the plantations. After the Guatemalan government stopped the practice, plantation owners recruited their workers by making advance payments. This practice was vindicated by Helmuth Schmolck:

"The trick was that people always had debts. This system allowed the plantation to dispose always of workers. A worker could only leave if he received some money or was ransomed. It was a sort of peonage in disguise, perhaps necessary, because people otherwise would not work on the plantations."⁷⁹

Adrian Rösch's protagonist argued in a letter to his brother that the low wages on the plantations made low coffee prices in Europe possible.⁸⁰ This statement represents an exception and his perception of the workers on the plantation is a more positive one: He portrayed them as "nice guys", making no trouble unless they do not appear at work.⁸¹ Helmuth Schmolck also mentioned the low wages, but portrayed them as an advantage allowing the planters to make higher profits.⁸² The historian Wade Kit concluded in his study on Erwin Paul Dieseldorff that his extensive knowledge of indigenous culture and traditions was crucial for the control of his workers and distinguished him from other plantation owners.⁸³ Several German administrators learned indigenous languages but in general they omitted detailed descriptions of their contact and intercultural conflicts with the workers.

Local and Global Influences on the Plantations

Many of the coffee plantations were geographically isolated places: The distances to the next cities and villages were large. Rösch described the situation on fincas in the Alta Verapaz as desperate:

⁷⁹ Schmolck, *Welthandel selbst erlebt*, 78.

⁸⁰ Weber, *Briefe eines Kaffee-Pflanzers*, 32.

⁸¹ Ibid., 16.

⁸² Schmolck, *Welthandel selbst erlebt*, 88.

⁸³ Wade Alan Kit, "Costumbre, conflict and consensus: Kekchi-finquero discourse in the Alta Verapaz, 1880–1930" (Dissertation, Department of History, Tulane University, New Orleans, 1998), 75–97.

"However, the life on a coffee finca, especially if it is far away from a city or a village, is arduous und full of austerities. In many cases, during several months you have no company. The next neighbor lives perhaps several hours away, maybe a day's trip on bad roads. Frequently, there is little or nothing to do, which is especially bad when the weather is wet and cold. For weeks and months, one only hears the Indian language or, at best, Spanish spoken by an overseer."⁸⁴

Communication took place by travelling and through reciprocal visits, where plantation administrators and owners exchanged business news and rumors. In the 20th century, communication technology improved and even isolated fincas could communicate by telephone or radio. Some Germans subscribed to local newspapers as a source of information, although Adrian Rösch's protagonist criticized that they only spread government attitudes and led to uncertain rumors.⁸⁵

Local authorities were important for plantation administrators as they decided on the assignment of the workforce for the fincas. For this reason, Karl Sapper advised to be very diplomatic with local governors. However, he criticized the inefficiency and slowness of local authorities. Sometimes, he considered it necessary to pay bribes. In urgent cases, Sapper recommended the direct contact to the president.⁸⁶ Apparently, German finca owners had direct links into the circles of political power in Guatemala, which caused growing resentment among the Guatemalan population. Their dominant position in the coffee sector which increased during the coffee crisis and arrogant behavior resulted in conflicts. A Hamburg coffee firm complained in a letter to the German Foreign Office in 1902:

"Since Hamburg and Bremen trading houses had to accept in payment Guatemalan properties during the last years, a large part of Guatemalan coffee plantations is now in German hands [!]. It is probable that the Guatemalan government wants to avoid other plantations ending up in the hands of strangers. In addition, this development caused little by little a certain animosity against the German creditors, escalating in some places to xenophobia. Given the circumstances there are indications that the Guatemalan government secretly tries to prevent the acquisition of new plantations and the work on old plantations."⁸⁷

⁸⁴ Rösch, *Allerlei aus der Alta Verapaz*, 36–37.

⁸⁵ Weber, *Briefe eines Kaffee-Pflanzers*, 73.

⁸⁶ Sapper, *Das nördliche Mittel-Amerika*, 214.

⁸⁷ Abschrift einer Eingabe der Gebrüder Oetling ans Auswärtige Amt, 17.10.1902, Senatskommission für die Reichs- und auswärtigen Angelegenheiten 1628, Staatsarchiv Hamburg.

Social unrest and changes in political power worried the plantation owners, especially during harvest times.⁸⁸ Helmuth Schmolck considered local politics as irrelevant for his business but realized the growing opposition against President Manuel Estrada Cabrera.⁸⁹

On the global level, plantation administrators were concerned about overproduction and falling coffee prices. The expanding coffee economy experienced its first serious crisis in 1897/98. The high coffee prices during the 1880s stimulated coffee production in nearly all coffee producing countries, especially in Brazil, which resulted in an overproduction crisis. The price of Guatemalan coffee fell in one year from 32\$ (1896) to 14\$ per quintal (1897).⁹⁰ This coincided with a deep financial crisis of the Guatemalan government. For coffee producers it became more and more difficult to obtain credits for the harvests. Many producers had mortgaged their properties, which led to a concentration process in the coffee business. Many of the German plantation owners were on the winning side, enlarging their properties by buying up insolvent fincas. In the Alta Verapaz alone, German finca owners extended their possessions by 600 km².⁹¹

Adrian Rösch's protagonist wrote to his brother that Brazilian coffee production had been expanding for ten years. The enormous harvests were sold on the international market, so that world production exceeded world consumption.

"As nearly all coffee came together at four points—London, Hamburg, Le Havre, New York—the consequence was a dramatic fall of prices. This was observable everywhere in the world, where coffee is produced, and it was noticeable even in the most isolated, godforsaken nook. I will have to strain everything to pay the horrible loans on my mortgages and capital."⁹²

88 The protagonist of Adrian Rösch's novel described a local revolution with only few details.

He was glad that the revolt happened far away and did not occur in harvest times. See Weber, *Briefe eines Kaffee-Pflanzers*, 73.

89 Schmolck, *Welthandel selbst erlebt*, 142.

90 Wagner, *Historia del café de Guatemala*, 111.

91 Ibid., 139–142; Schoonover, *Germany in Central America*, 112–136.

92 Weber, *Briefe eines Kaffee-Pflanzers*, 70.

Conclusion

The Alta Verapaz is a case where a small group of European immigrants induced a profound environmental change by introducing coffee production to the region. They implemented new agricultural techniques suited for export agriculture. Their access to capital permitted them to construct large processing facilities and apply chemical fertilizers. In general, German plantation owners were not worried about deforestation or other ecological problems arising from the expanding coffee production. Volcanic soils produced high yields intensified by the use of natural fertilizer. Chemical fertilizers were only used sparingly because they required high investment. As land was still an abundant resource, plantation owners planted new fields when soils were degraded. Nature on the coffee plantations was seen as a resource used to generate profits for the plantation owners. Their accounts reflect the optimism during the introduction of a new export crop in a period of rising world market prices.

When the Germans arrived in Guatemala, they had little knowledge of tropical agriculture and coffee cultivation. During their first years, they endured a process of learning and adaptation. Nevertheless, the German authors were convinced of the superiority of their own culture and society. On the one hand, their texts include detailed descriptions of finca organization, nature, social life, processing, technology, and coffee harvests. On the other hand, there are subjects that were completely left out such as social conflicts, the political situation in Guatemala, business failures, and intercultural misunderstandings. For the German immigrants, the coffee plantations in Guatemala were bastions of order, human dominance and progress. They considered themselves as pioneers with the task to civilize nature and local population. As a result, they constructed plantations as safe and "civilized" spaces in a tropical environment, a symbol for progress and economic recovery. However, there was an ambivalence in their descriptions: On the one hand, German immigrants were fascinated by the beauty and the variety of tropical nature and they gave detailed descriptions in their books and letters. On the other hand, the tropics represented a danger and were considered as an inadequate place for Europeans. In consequence, the authors tried to prevent illusions about living and working in the tropics. The following generations of German immigrants could count on their support but also on growing assistance by the German government which founded research institutions on tropical agriculture at the end of the 19th century.

How the education and publications by those institutions contributed to the ecological transformations of tropical regions remains an interesting topic for further research. The German immigrants shared the idea of a necessary "civilization" of tropical nature with the Guatemalan elites. Whether they engaged in the debates on deforestation and how they perceived the first protection law would need to be investigated through a more detailed revision of Guatemalan sources. This research would contribute to the larger research field of knowledge transfer, perceptions of nature and the role of German immigrants in transforming the environment of agricultural regions in the Global South.

Divide and Cultivate: Plantations, Militarism and Environment in Portuguese Timor, 1860–1975

Chris Shepherd¹ and Andrew McWilliam

By the time Portuguese colonialism in East Timor drew to a close in 1974 and 1975, it was estimated that 90 percent of the half-island's vegetation had been modified by man.² About the Baucau and Viqueque regions, 'it is hard to recognise the distribution of natural vegetation today', wrote German geographer Joachim Metzner after a period of fieldwork in 1969 and 1970.³ Indeed, forest degradation lies at the heart of human modification of the environment in East Timor and deforestation was set to increase dramatically over the next quarter century under Indonesian control (1975–1999) at an estimated rate of 1 percent per year.⁴ In this chapter we explore the relationship between the environment and the plantation as it developed under Portuguese colonial rule from 1860 until the eve of the Indonesian invasion in 1975. We focus in particular on the period from 1890 to 1940 when various crops—in particular coffee and coconut—were imposed on the indigenous population across the whole territory in the interests of economic profit. We argue that plantation cultivation was pursued at the expense of the natural environment, indigenous sovereignty, and local agro-cultural forms that worked to regulate land use and distribute benefits.⁵

1 For the first author, the archival research that went into this chapter was possible due to support from the Australian Research Council in the form of an Australian Postdoctoral Fellowship (DP0773307-2008-2011).

2 J. K. Metzner, *Man and environment in Eastern Timor: a geocological analysis of the Baucau-Viqueque Area as a possible basis for regional planning*, Development Studies Centre, Monograph 8 (Canberra: The Australian National University, 1977).

3 Cited in A. McWilliam, "New Beginnings in East Timorese Forest Management," *Journal of Southeast Asian Studies* 34, no. 2 (2003): 311.

4 G. A. Bouma and H. T. Kobryn, "Change in vegetation cover in East Timor, 1989–1999," *Natural Resources Forum* 28 (2004): 1–12.

5 This is not to suppose that land and resources were distributed equally. On the question of equity in development see: C. J. Shepherd, "Mobilizing Local Knowledge and Asserting Culture. The Cultural Politics of *in situ* Conservation of Agricultural Biodiversity," *Current Anthropology* 51, no. 5 (2010): 629–654; C. J. Shepherd and A. McWilliam, "Ethnography, agency, and materiality: anthropological perspectives on rice development in East