Reports
from the United States of North America

on railroads, steamship travel, banks
and other public undertakings

by

Franz Anton Ritter von Gerstner

and

Description of a Journey through the United States of North America

by

Clara von Gerstner, née von Epplen-Härtenstein

Translated, with an introduction, by
Steven Rowan

Carte des États-Unis de l'Amérique gravée sur pierre par L. Bouffard 1836.

Frontispiece to Michel Chevalier, *Lettres sur l'Amerique du Nord* (Paris, 1836), lithograph by L. Bouffard, Courtesy of the Library of Congress Map Division, acquisition no. rr000040.jp2.

Translator's Preface

What follows contains a translation of the *Berichte aus den Vereinigten Staaten von Nordamerika*… [= *Reports from the United States of North America*] by Franz Anton Ritter von Gerstner, published in Leipzig in August 1839, and posted on the website of "austrian literature online." It is the companion piece to two other classics of contemporary travel literature, one of them Ritter von Gerstner's massive description of the transportation system of the United States published by F. A. von Gerstner's assistant, Ludwig Klein,[1] as well as the touching detailed travel narrative of his widow, Clara von Gerstner, *Beschreibung einer Reise durch die Vereinigten Staaten von Nordamerika* (Leipzig, 1842) [=*Description of a Journey through the United States of North America*]. A copy of this book, almost loved to pieces, is part of the rare book collection of the Saint Louis Mercantile Library at the University of Missouri-St. Louis, and is available online from Hathitrust. The two texts presented here will enable the proper telling of a remarkable if ultimately sad story, preserving and completing an account that is worth preserving for both a European and an American audience.

Clara von Gerstner, née von Epplen-Härtenstein, the widow of Franz Anton Ritter von Gerstner, a noted railroad engineer who died in 1840 in Philadelphia, Pennsylvania, while inspecting American railroads on what was generally seen as a mission on behalf of Tsar Nicholas I of Russia. Although the description of Frau von Gerstner is worth reading in its own right, it will also serve as a companion to her husband's survey of American transportation published posthumously as *Die innern Communicationen der Vereinigten Staaten von Nordamerika*, 2 vols. (Vienna: L. Förster's artistische Anstalt, 1842-1843), as well as to Michel Chevalier's earlier *Histoire et description des voies de communication aux États-Unis et des travaux d'art qui en dépendent*, 2 vols. (Paris: Librairie de Charles Gosselin, 1840-41, engraved plates 1843).[2]

This translation is based on two German sources: an original imprint copy in the Saint Louis Mercantile Library at the University of Missouri-St. Louis, and the online text supported by the Hathitrust Digital Library. I have also referred to the partial translations on South Carolina and of Alabama published in regional historical journals by Frederic Trautmann, as remarked in footnotes, but I looked at this resource only after completing my own translation. I also made use of some of Professor Trautmann's footnotes on local figures, as indicated there. The other

[1] *Die innern Communicationen der Vereinigten Staaten von Nordamerika*, 2 vols. (Vienna: L. Förster's artistische Anstalt, 1842-1843); English translation as *Early American Railroads: Franz Anton von Gerstner's* Die inneren Communicationen (1842-1843), ed. Frederick C. Gamst, trans. David J. Diephouse, John C. Decker (Stanford, CA: Stanford University Press, 1997). The original imprint gives Franz Anton Ritter von Gerstner as the author, but "composed, organized and edited by Ludwig Klein, Civil Engineer." Klein is not included on the title page of the Stanford University publication. The American translators and editors also treated Clara von Gerstner's account with very faint praise.

[2] English translation *History and Description of the Routes of Communication in the United States and the Works of Art that depend on them,* 2 vols., ed. Steven Rowan, Nick Frey, and Ron Goldfeder, trans. Steven Rowan, to appear as an on-demand publication of the Barriger National Railroad Library, The Saint Louis Mercantile Library at the University of Missouri-St. Louis.

biographical notes are chiefly from *Appleton's Cyclopedia of American Biography* (6 vols., 1889-99).

Clara von Gerstner's travel narrative was well-received at the time of its publication, and its presence in many libraries shows that it was widely purchased and read although never translated or republished in the United States at the time — which is surprising in view of the usual popularity of similar accounts in America. One major reason might be the fact that the author ended up accepting current arguments by Southern defenders of the institution of slavery.

At this moment, Clara von Gerstner's own story outside of what is contained in this memoir is almost totally obscure. The LDS record of her marriage with Franz Anton von Gerstner in Frankfurt am Main shortly before their departure for America is almost the only independent evidence on her life and ancestry, along with her own casual mention of the birth of her daughter Philadelphia (no date) in autumn, 1839, her husband's death on 12 April 1840, and her return from New York to Liverpool by packet sailing ship a month later.[3] All that remains is the completion of her revision of the text in May, 1841, and the book's printing in Leipzig in 1842.

The attached text is identical in pattern to the published book, with the sole exception of eliminating the summaries of the text at the start of each chapter, which largely recapitulate those in the table of contents. I indicate the original pagination by giving the page numbers in brackets [ ].

The detailed introduction to the English edition of Ritter von Gerstner's survey, "The Long Road to a Terminus in America: The Railroad Engineering Career of Franz Anton von Gerstner" by Frederick C. Gamst, provides a story of social advance in the Austrian Empire and its ambiguous end represented by a man whose career ended in failure as well as death.[4] Franz Anton's father, Franz Joseph Gerstner (1756-1832), had risen under the radical Holy Roman Emperor Joseph II (ruled 1780-90) and his successors to a unique height in Bohemia as a leading mathematician, engineer, and entrepreneurial educator. Beginning life as the son of a harness maker, he was raised to the hereditary nobility as a *Ritter* ("knight") for pioneering new techniques of surveying. In 1806, he launched the Polytechnic Institute of Prague, the first such institution in Central Europe. As an engineer, he promoted the building of a railroad instead of a canal to join the Danube and the Moldau (Vltava), potentially linking the North Sea with the Black Sea and the Mediterranean. His name as well as his coat of arms remained a reminder of his origin from a family close to the soil, since *Gerste* is German for barley, a major ingredient in beer.

Franz Anton von Gerstner (1796-1840) was raised in Prague and educated partly there as well as in the imperial capital of Vienna. When plans to join the Danube and Moldau were revived after the Congress of Vienna, he became the head of a project to construct a rail line from Budweis to Linz, modeled on the English

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[3] Church of Jesus Christ of Latter-Day Saints, Genealogical Society Deutschland Heiraten GS Film no. 341800, ref. ID p522 n227, 24 September 1838, Frankfurt am Main, marriage of Franz Anton von Gerstner, son of Franz Joseph von Gerstner (mother Gabriele von Mayersbach), to Clara Elisabetha von Epplen-Härtenstein, born 10 January 1813, father Friedrich von Epplen-Härtenstein (mother Elisabetha Grunen).

[4] *Early American Railroads*, pp. 1-23.

Stockton & Darlington Railroad. A visit to England was like a religious conversion to him, and in 1822 he intended to build a line that would be serviced by horses at first, but which would eventually use locomotives, meaning that it had to built heavier than would otherwise be the case. Receiving an Imperial commission to construct a railroad between Budweis and Mauthausen, he began a pattern that would be repeated in the course of his professional life: he built a line that was greatly over budget and tardy in completion. He had no talent in dealing with his workers, and there were repeated work delays and stoppages as a result. Regular freight service on Gerstner's northern end of the railroad began on 2 April 1829, but another director completed the line, to Linz, as a horse-drawn railroad in 1832.

Before completing his portion of the Bohemian line, Franz Anton von Gerstner had married his first wife, Josephine marquise de Lambolin, born in 1805, in St. Stephan's Cathedral in Vienna in 1825, but she died in 1835 in St. Petersburg, Russia, which had become his new center of action. This match might indicate that he was determined to reinforce his status as the member a relatively new noble line (his father had been the first ennobled): his wife was from a French émigré noble family that had found refuge in Austria in the era of the French Revolution and its Napoleonic aftermath. His second wife's descent from the noble family of von Epplen-Härtenstein, with long service to the princely family of Thurn und Taxis, hinted a similar strategy.[5]

With his railroad in the Austrian Empire in other hands, Franz Anton Ritter von Gerstner made further visits to Britain to reinforce his notions of how railroads were made in the homeland of the craft. He now turned his attentions to Russia, arriving in St. Petersburg in August 1834. He proposed a grandiose plan for railroads all over the Empire tied with a remunerative role for himself, but he sought to extend his projected line from St. Petersburg to Moscow (and eventually to Nizhny Novgorod [Gorky in the Soviet era]). In the end, the project developed much as the Budweis line, mired in cost overruns and labor problems. His construction took place in 1836 and 1837, interrupted by frequent visits to other railroad sites in Belgium and England. His railroad, opened on 30 October 1837, would never develop beyond the status of a demonstration, and it became a Sunday excursion line from St. Petersburg to the Tsar's residence at Zarskoe Selo. If his project had any long-term impact, it was his adoption of a wider gauge that would approximate that later adopted for Russian railroads.

F. A. von Gerstner's *Report*, the first of the two texts that follow, is a clear, comprehensible review of the lessons he felt he had learned from his inspection of American transportation. Like his strict contemporary Michel Chevalier, he argued that the American builders of railroads showed clear solutions to problems besetting European railway systems. The American locomotive and the American passenger car were, to him, advances over European designs, leading to a dramatic reduction in costs and improvement in safety. His long research in the American South on the use of wood for fuel over coke promised, in his eyes, promised dramatic savings. Above

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[5] See *Archiv für Frankfurts Geschichte und Kunst*, Neue Folge, vol. 8 (Frankfurt am Main: Frankfurter Verein für Geschichte und Landeskunde, 1882) p. 206: City of Frankfurt agreement of 2 February 1822 with Carl Alexander Prince of Thurn und Taxis: Friedrich von Epplen-Härtenstein was named the Frankfurt representative of Thurn und Taxis as *Hof- und Generalpostdirectionsrath*.

all, the energy and enterprise of American engineers was celebrated by Gerstner, as it was by Chevalier.

The principal monument of his visit to America would be the publication of his analysis of American railroads compiled from his research reports by his assistant Ludwig Klein and published in German in two volumes in 1842 and 1843. The circumstances of its compilation, without a narrative thread, has caused it to be regarded as a collection of data with little charm for the reader. The collection of reports (*Berichte*) published during his last full year of life, however, provides insight into every aspect of the ingredients of American enterprise, including financing and education. The lively style of the *Reports* is in drastic contrast with the rather deadly survey that his assistant Klein compiled and published in Germany after the author's death. Written for the popular press, the *Reports* provide a vision of the United States as a booming economy that had to be taken seriously by Europe. Although Gerstner would not live to see it, Americans such as George Washington Whistler would play a major supporting role in the modernization of the Russian economy.

Finally, the last of the ten *Reports*, composed during his seaside *Kur* in Cape May, New Jersey, included detailed pleas defending his work in Austria as well as in Russia. It appears that the Tsar had decided to commission his own review of American transportation, signaling that F. A. von Gerstner could no longer regard himself as the Tsar's agent in the United States.[6] He gave signs of settling down in Philadelphia as a permanent resident, although this was perhaps simply a sign that his European prospects had died. This probably contributed to his distress and accelerated the collapse of his health and a "terminus" in Philadelphia.

Gerstner, who still enjoyed status in America as a pioneer builder of railroads despite his twofold fiascos in Bohemia and Russia, had set out to make a grand tour of the booming railroads of the United States. Shortly before his departure, he married his second wife, Clara von Epplen-Härtenstein, the daughter of the representative of the Thurn und Taxis princely family's interests at Germany's General Post Office in Frankfurt am Main. Gerstner undertook this journey despite chronic poor health, and when he departed the Old World in 1838 he was fated never to return.

The travel diary of his young wife, recast as a travel narrative, is a worthy memorial of this last journey, deserving attention in its own right. This is although even the most recent scholarship tends to see Clara von Gerstner's popular and well-received account as a simple reflection of her engineer husband's interest in seemingly "non-feminine" subjects.[7] The only thorough study of German women's travel narratives in the period views Clara von Gerstner's account entirely in terms of her husband, but I would hold that the elective affinities (*Wahlbekanntschaften*)

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6 The manuscript report of Cols. Malenkov and Kraft, 1839-40, is preserved as *Opisanie v teknicheskom ostoshenii Seveoamerikankikh Shatov* in the library of St. Petersburg State Transportation University, partly published in *Zhurnal Putei Soobscheniy,* see R. M. Haywood, *Russia enters the Railway Age, 1842-1855* (Boulder, CO: Eastern European Monographs, 1998).

7 Irmgard Scheitler, *Gattung und Geschlecht*. *Reisebeschreibungen deutscher Frauen 1780-1850* (Tübingen: Max Niemeyer Verlag, 1999) 54, 116-17, 127, 136, 138, 142, 290.

between the two goes beyond mere mimicry. Her apparently lively interest in such subjects as the Tredegar Iron Works in Richmond reflects genuine involvement in technical processes [258-262]. Also, as a Catholic, she appeared fascinated by convents, churches, and charitable institutions. She also reflected the then-fashionable interest in American penitentiaries as instruments for correcting bad conduct famously recorded by Alexis de Tocqueville and Gustave de Beaumont, and more recently seized upon by Michel Foucault and his French intellectual entourage.

Since F. A. von Gerstner's tour of the United States was cut short by his chronic ill health, leading him back to Philadelphia and a seashore "cure" at Cape May, New Jersey, the part of the United States he actually saw in detail consisted of the region of the Erie Canal (in the dead of winter), the Mississippi and Ohio Rivers, the environs of Boston and Philadelphia, but mostly the slave-owning South. Here Clara von Gerstner had a real transformation of her previous feelings in encountering slavery and the economy of the "Deep South." She came to America with a preconceived horror of slavery, and the ubiquitous presence of Negroes as servants on a troubled Atlantic crossing in winter and in New York City was novel and disturbed her. When she first came to deal with slavery in the "Border South," she was offended by happening upon an auction of household goods that incidentally included a young female slave.

There is a brief moment when she visits a convent of black nuns in Baltimore, conversing with one of the nuns in French, and recording her fascination with their clothing and exotic appearance [237-239]. Then her attention shifts to a convent of white nuns, and she was charmed by experiencing a female community in an idyllic if sheltered world [240-243; 337-341].

But in Maryland and northern Virginia, she felt that she was viewing a slave regime in the process of dissolution. Slaves were being "sold south," slaveholding seemed to be dwindling, and the promise of resettlement of former slaves in Liberia promised to bring the institution to an end in a region where poor white people could be used to raise tobacco and other local crops. In response, it might be noted that the slaves themselves, chained together in "coffles" were led to the more severe discipline of the land of "King Cotton."

In Charleston, she encountered the leaders of the South still mobilized in a "commercial convention" in the aftermath of the Nullification Crisis of a few years before, and she heard the young Alexander Hamilton Stephens (future Vice President of the Confederacy) excoriating the gathering for their lack of substantial action [296]. Soon she would integrate this with the notion that the soils of cotton plantations produced noxious miasmas that only Negro workers could tolerate during the summer months. During this period of the year, when almost the entire planter class migrated to the North to escape contagion, slaves were left to the tender mercies of the equally marginal white "overseer class."[8]

The America Clara von Gerstner observed was a society in rapid and visible reorganization, with the remnants of the Native American tribes being moved to the

[8] "Most West Africans have complete resistance to *Plasmodium vivax* because their [Red Blood Cells] lack the Duffy blood group … many African Americans are resistant [to Malaria]": *The Merck Manual of Diagnosis and Therapy*, 18th edition (Whitehouse Station, NJ, 2006), p. 1577, explaining a racist interpretation without justifying it politically.

West, doomed to be pushed again ever further by advancing white farmers [108]. To her eyes, the Border South would soon have many fewer Negroes and would be inclined to abandon slavery [226], and only the Cotton South would remain as the core of probable secession.

But Clara also saw positive things about the South besides the beauty of its flowers and its trees draped with Spanish moss. She enjoyed Negro singing, and when dressed in their Sunday best she thought them delightful to observe. She came to the conclusion that white people in the North had done their best to segregate Negroes out of their lives, while people of the South interacted with them more openly and humanely [273]. She still felt that Negroes were incapable of more than marginal improvement, but in this way, she remained what she had always been, a European aristocrat in America viewing the lower classes from above and outside.

In the final phase of her visit, she sought to settle down and create a home for herself, her ailing husband, and her new daughter, whom she had had baptized with the name of her favorite American town, Philadelphia. We see her trying to hire servants and keep them subordinate, although it was difficult to get the kind of servants-for-life that she expected in her heart as a noble. She was distressed by the fact that the many newspapers she and her husband felt compelled to peruse in the morning came to the table only after they had been read by "the help" [446].

The death of Franz Anton Ritter von Gerstner on 12 April 1840 cut Clara von Gerstner's life in America short, and she departed for Europe soon after burying her beloved husband in Philadelphia, where local railroad enthusiasts have seen to the maintenance and eventual replacement of his stone marker. While she had come to America on the largest of seagoing steamships, she would return on a small sailing ship, a packet boat from Philadelphia to Liverpool, with a ticket that was half the price of steamer passage [455].

[Handwritten: "Gift of Eichler's heirs — 6 May 1893"]
[i]

REPORTS

from the

UNITED STATES

of

NORTH AMERICA

on railroads, steamship travel, banks and other
public enterprises

composed by

FRANZ ANTON RITTER VON GERSTNER

Member of the state assembly in the Kingdom of Bohemia; emeritus Professor of
Mathematics at the Imperial and Royal Polytechnic Institute in Vienna,
and member of several learned Societies

during his

VISIT IN NORTH AMERICA
in 1838 and 1839

Especially reprinted from German public newspapers.

Leipzig, August, 1839
Printed by C. P. Melzer

To be obtained through F. L. Herbag in Leipzig and available through all bookstores
on payment of delivery costs from Leipzig.

Translated from German by Steven Rowan, University of Missouri-St. Louis

[bleed-through traces of handwriting from p. i]

[ii]

Herr *Ritter von Gerstner*, noted for his edition of several writings and the construction of the first railroads in Austria and Russia, began a journey to the United States of North America in the autumn of 1838 for the purpose of becoming intimately acquainted with public enterprises there, particularly railroads, in order to publish a large work on these interesting subjects on his return. Motivated by the wish to keep the German public informed of useful things during his journey, he has composed some brief reports that have appeared occasionally in the *Preussische Staatszeitung*[9] and other public newspapers. Since it should be interesting to have the first ten reports, that make a whole on their own, published as a unit, these are distributed from Leipzig at no cost, as was earlier the case with his report on the railroad in St. Petersburg.

The larger work that Herr von Gerstner is working to edit in America will probably be delivered in 1840. Letters sent to Herr von Gerstner through the address of the house of "Reid Irving & Co." in London or "Maitland Kennedy & Co." in New York will be forwarded to his current location in America.

To understand the foreign measures, coins and weights in the report are as follows:

A dollar consists of 100 cents, =5 francs 33 centimes = 43 Prussian *Silbergroschen* = 2 *Gulden* 3 $^{1}/_{2}$ *Kreutzer* in twenties.

An American ton = 2,000 English pounds = 1939 Prussian or Rhenish pounds.

An English mile = 1760 yards @ 3 feet = 5280 English feet = 1 $^{1}/_{2}$ *werst* = 1,610 meters.

A geographic or German mile = 4.633 English miles = 7 Russian *werst*.

A geographic or German square mile = 21.465 English square mile = 49 square *werst*.

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[9] The *Allgemeine Preussische Staatszeitung* was the official voice of the Prussian government from 1819, popularly known as the *Kreuzzeitung* after the 1848 revolution, to refer to the "Iron Cross" on the masthead.

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[1]

First Report

Boston, 15 January 1839

The rapid increase of prosperity of the United States of North America has claimed ever more public attention, so that I had long harbored the desire to visit this remarkable land. The long era of sailing ships held me back, as it did so many others, and what was still seen a short time ago as utterly impossible, a steamship passage to America, was placed beyond doubt in 1838 by the safe and rapid voyages of four English steamships. I departed the Old World on 27 October 1838 from Bristol with the steamship *Great Western* and arrived on 15 November in the New World, in New York. After a week there, I took a steamship to Albany on the Hudson River, and from there went to Buffalo on Lake Erie, to see the canal leading between the two cities as well as to visit the railroads. I then went to the eastern cities, visiting the railroads starting from Boston, and many other institutions of this remarkable country. My purpose was essentially promoted by the good reception I received everywhere, since even without letters of introduction anyone can receive information through routine publicity that does not exist in Europe. Every general enterprise in the New World is described annually in thorough reports to the participants and ordinarily printed and distributed in many copies. Railroad companies have to make annual reports to the individual states, from which they receive their privilege (the *charter*), and these reports are published in many copies and distributed by the states in Massachusetts, Virginia, etc., to inform the public. There can be no doubt of the precision of these reports because, when they go to the states, they are declared under oath as correct by the directors; further, there is no objection to making the books of a public enterprise available to anyone.

There are predominantly three conditions the United States has to thank for their prosperity. The *schools*, which spread a general useful education, and that everyone is made capable of judging and estimating his undertakings; the *banks*, 800 in number, which easily provide everyone a currency measured to his wealth, and placing him in the position to participate in speculations of every sort; finally *railroads, canals, and steamship transportation*, which facilitate movement in this enormous land in a manner that no one may estimate who has not seen it, but only have an incomplete concept. I begin my report in reverse order, speaking first of canals and railroads, then later thoroughly on schools and banks.

The Erie Canal in the state of New York

With the exception of a few unimportant canals and railroads, all communications of this type only arose in the last twenty years. The chief impulse to investing in these *internal improvements* was the result of the Erie Canal. The purpose of this canal was to join the fertile states of Michigan, Indiana, Illinois and Ohio, as well as the western portion of New York to the Hudson River, hence with New York, the primary trading place of the United States. The canal goes from Albany on the Hudson to Buffalo on Lake Erie, and measures 363 English miles, but with its side canals 640 miles; along this line there are 394 locks, 72 aqueducts and

1,085 bridges; the main canal is 40 feet wide, 4 feet deep and with simple [2] locks; side-canals have smaller dimensions. Work was begun on 4 July 1817, and the mainline of 363 miles was opened in October 1825. The construction costs for the main canal and the later side-canals amounted to $12 million or 17,100,000 Prussian *Thaler*, largely raised by the state of New York as loans; but because at the first there were fears that tolls would not cover the interest on the capital, they levied a tax on all auctions, on salt, and on steamships, and placed the proceeds in the Canal Fund. From the time when the canal was being partially used, the annual income for tolls was as follows:

	In 1821	$2,200
	1822	44,487
	1823	119,988
	1824	289,329
	1825	521,344
	1826	839,925
	1827	849,932
	1828	786,237
	1829	763,528
	1830	990,843
1 Jan. to 30 Sept.	1831	700,788
1 Oct. 1831 to 30 Sept.	1832	1,059,006
1832	1833	1,317,258
1833	1834	1,305,573
1834	1835	1,395,573
1835	1836	1,504,384
1836	1837	1,233,649
1837	1838	1,484,602
		$15,204,470

The annual costs for collection of tolls and for repairs ordinarily amounted to a third of the income.

These figures show that the clear profit of this canal paid off the entire building fund, so that the state, having extended its credit for an investment of such a great work, not only promoted the prosperity of the land but also created a source of significant annual income.

The canal is currently traveled by 2,500 boats, on which 12,000 men are employed. The rapid development of the western states, however, has so increased the traffic of the canal that the government saw itself compelled to widen the canal from 40 to 70 feet, and deepen it from 4 to 7 feet. Since the locks also have to be doubled, as well as all viaducts, the cost of rebuilding the canal rose to $15 or $20 million, and it is hoped that in five or six years the entire work will be completed.

Besides the widening of the canal, at the same time two side canals of 186 miles length will also be built at state expense with an expenditure of $6,200,000;

within a few years the total length of the main canal and eight side canals will amount to 826 English miles.

No country in the world has built a canal of such length, carried out in a few years with such an enormous result in its functioning.

Railroads along the Erie Canal

Other than goods and wares, passengers were also carried on the canal in their own boats. Because these never sufficed for the ever-increasing traffic, within a few years corporations were formed to build a railroad in the valley of the canal. This railroad consisted of the following [3] segments, all connected, each however belonging to a company of its own:

1) From Albany to Schenectady, operating for six years	10 English miles
2) From Schenectady to Utica, operating for two years	78
3) From Utica to Syracuse, substructure complete, lacking rails	52 3/4
4) From Syracuse to Auburn, operating half a year	25 3/4
5) From Auburn to Rochester, under construction	78
6) From Rochester to Batavia, operating a year	32
7) From Batavia to Buffalo, construction starts in 1839	36
	318 1/2 English miles

The shareholders of these railroads are mostly landowners and artisans of the area in question, or merchants who pursue trade there. The profit both classes derive from the investment in the railroad is much more important than the dividends from shares, so that as a result only the shares of two companies are traded on exchanges, while all other shareholders are keeping their shares.

What is remarkable with these and all other American railroads is that the *cities* that lie along them are cut in half by them, and branches of the railroads often pass through active streets of these cities; in busy streets, however, only horsepower is allowed. Since snow covers the entire area in the winter, and the railroads often pass through clearances, there was consideration of developing effective devices to clear snow, and *there is no stopping the railroad in the winter*. They travel railroads day and night, in fact the latter by preference, so that the mail gets through without interruption. There is also a special wagon set aside for the mail, a traveling post office; this is a heated room with a mail-sorting chest, before which sits a postal official, and during the journey he distributes the letters received into twenty or more niches, from which he encloses the mail for a particular destination in a leather bag before arrival, passing this on, needing no more than two minutes.[10]

[10] Also mentioned by Clara von Gerstner, *Beschreibung einer Reise* (Leipzig, 1842), p. 59. See below.

The cost of these railroads varies a great deal depending on the hindrance presented by the terrain. Further, most of the share companies, particularly those consisting of landowners, receive *a certain sum* for the location of the railroad, *depending on the traffic*, set in advance, and it is a matter for the engineers working with this amount. The Americans prefer a mediocre railroad where travel is no faster than $1^1/_2$ to 2 German miles an hour, to a road where you can get no more than half-way in an hour; in America all such investments, down to the last detail, are adjusted to local relations and needs, never according to a general pattern as in the Old World. The planning of a railroad here always lasts a few years. Hence every railroad presents special peculiarities, and whoever understands how to judge them correctly can learn more than in any other country in the world. In keeping with this you grasp that with these seven railroads the average cost per English mile is $5,000 to $72,000, or 33,200 to 478,125 Prussian *Thaler* per German mile, while the rails are everywhere of the same weight so that the lines can be traveled with locomotives.

Other railroads in the state of New York

Other than the railroads mentioned, there are the following in operation in the state of New York:

From Schenectady to Saratoga	23 English miles
From Troy to Ballston	24
From Buffalo to Niagara	22
[4] From Niagara to Lockport	24
From Ithaca to Oswego	29
From Hudson to West Stockbridge	33
From Brooklyn to Hicksville	27
and other smaller railroads	about 70

Under construction:

From New York direct to Lake Erie	463 English miles
From New York parallel to the Hudson to Albany, chiefly for winter use, when steamship travel ceases	150
From Catskill to Canajoharie	68
From Albany to West Stockbridge	40

The total of these has 403 miles currently in operation and 908 miles being built that will be completed in 3 or 4 years.

To support these enterprises, the state of New York has approved the following loans:

1) To the company building the 483-mile-long railroad from New York to Lake Erie, a promised loan of	$3,000,000
2) The Ithaca & Oswego Railroad	300,000
3) the railroad from Auburn to Syracuse	200,000
4) the railroad from Catskill to Canajoharie	300,000
5) Also the Delaware & Hudson Canal	800,000

$4,600,000

A large part of these loans have already been paid, and the rest follow in keeping with the progress of construction.

The total costs of the canals and railroads in the state of New York already opened or under construction run to $62 million or 89 million Prussian *Thaler*, while the total population of this state in the last census of 1830 was 1,918,608 souls, and must be $2^1/_2$ million souls now. Each head thus bears a burden of 35 *Thaler* 18 *Silbergroschen* Prussian currency for railroads and canals.

Railroads in the state of Massachusetts

The most solid railroads, complying most completely with European construction, are laid in the state of Massachusetts, specifically:

From Boston to Worcester	44 English miles
From Boston to Providence	41
From Providence to Stonington	47
From Boston to Lowell	26
From Lowell to Nashua	14
From the Lowell-line to Haverhill	17
From Boston to Salem	13
From the Providence-line to Taunton	11

Under construction are:

From Salem to Newburyport	21
From Worcester to West Stockbridge	117
From Worcester to Norwich	69

In all 411 miles, of which 213 miles are in operation.

The state of Massachusetts has approved the following loans for these railroads:

[5] 1) For the railroad from Worcester to West Stockbridge the state took a third of the shares and approved a loan of $2,100,000

2) For the railroad from Worcester to Norwich 400,000

3) For the railroad from Boston to Newburyport 590,000

4) For the Andover & Haverhill Railroad 50,000

$3,140,000

At the last census in 1830 this state had only 610,000 souls, and now about 700,000 souls; compared with the scale of the loans, each head bears $4.50, which

has been loaned for the investment in railroads. All the loans of this state were contracted in England, the last loan at 5% at 10% above its nominal value.

Comparison of the Railroad from Boston to Lake Erie with that from St. Petersburg to Moscow and Kolumna

I cannot resist inserting a remarkable comparison here. The railroad from Boston to via Albany to Buffalo on Lake Erie will be entirely ended in two or three years, measuring 519 $^1/_2$ English miles or 775 [Russian] *werst*. Boston, Albany, and Buffalo lay almost in a straight line, as do St. Petersburg, Moscow and Kolomna. The connection of the latter three cities through a railroad continuing to the Oka would also be precisely 774 $^1/_2$ *werst*, if it had the same length as the highway. The purpose of the American railroad is to join the western, fertile states with the seaport in Boston; the purpose of the Russian railroad is connecting of the no-less fertile Volga region and the center of the great empire with the Residence City and seaport of St. Petersburg. In America, they began this enormous railroad in 1832 with the ten-mile stretch from Albany to Schenectady; in Russia, the beginning was made with the equally long stretch from St. Petersburg to Zarskoe-Selo. The railroad in America was made by private persons with the support of the government, and matched an equal investment in Russia, where the greatest monuments of the time were carried out by Peter the Great and his successors.

Second Report

Philadelphia, 22 February 1839

Finances of the state of New York

Among the 26 states forming the Union, New York is the richest and most populated, even though its area is exceeded by eight other states. The area of New York is 46,200 English or 2,150 geographic [German] square miles, and its population was in the last census:

Year	Souls	Total population of the US
1790	340,120	3,929,827
1800	586,756	5,305,925
1810	959,949	7,239,814
1820	1,372,812	9,638,131
1830	1,918,608	12,866,929

[6] In my first Report I showed that the state of New York provided the chief impulse for the building of all railroads and canals by commencing construction of the Erie Canal, which together with side-canals measures 826 English miles, and completed the most difficult and largest part of all work within eight years. On these canals, currently, the annual agricultural products and merchant goods with a value of $22 million, weighing 700,000 tons, are transported. The tolls have long since paid off the financial costs of the main canal, and they now contribute a considerable

surplus to the state treasury. The country along the canal rose five times in value, and one town arose after another, such as Rochester, which currently has 30,000 prosperous residents, while in 1812 there were only a few hunters' huts visible in the area. Only one such example was needed to conjure up enterprises of canals and railroads in the entire Union such as Europe still has no concept.

In 1838 the legislature of the state of New York named a commission to investigate the finances of the state and the wealth of its occupants, and to report whether the state had the capital to invest in further canals and railroads (*internal improvements*). The report of this commission, as well as the annual report of the chief of state finances, have appeared and contain the following information:

The *state government* costs about $400,000 a year, of which the governor receives $4,000, the chancellor $2,500, the secretary of state $2,500, and the head of finances also $2.500, the other officials with much lower salaries; the greatest part of the remaining expenditures are for the legislature and the courts. Through 1826 a tax to cover expenses was raised from all real and personal properties in the state; however, since that time (13 years), these taxes have ceased, and the expenses of state administration have been covered entirely from a tax on public auctions and from salt.

The debts of the state of New York as of 1 January 1837 stand at $977,532 of old debt, and $3,555,224 debts for new canals, altogether $4,532,756, against which the excess of canal income, after deducting the costs of improvements and repairs, amounts to $1,107,871 a year. This income, figured at 5%, equals a capital of $22,157,742, and it amounts, after subtracting the other state debts, to a productive property of the state of New York of $17,624,986.

Besides this, the state had on 30 September 1838 a fund of $1,929,707 to support elementary debts, and a fund of $268,093 to support higher institutions of learning; finally in 1837 the state received from Congress after the payment of the total remaining public debt of $42 million a proportional payment of $4,014,520, which has been deposited at interest.

To maintain the roads, welfare institutions, schools, illumination, etc., in the cities and districts, a tax on total real and personal property is raised, and the latter annually estimated by its own commissions. This real and personal wealth was

In 1820	$255,552,365
1830	316,118,296[11]
1838	627,544,784

and the total tax raised ran to $2,860,476 in 1838.

If the population of the state in 1838 is assumed to be 2 $^1/_2$ million, then there is a *wealth* of $251 or 360 Prussian *Thaler* per head, which may be seen as actually much higher if it is assumed that when it is a matter of taxation, wealth is always reported as lower than actuality. In 1838 the income from this tax amounted to $1.14 or 1 Prussian *Thaler* 19 *Silbergroschen* per head.

[11] First three figures of this number difficult to read in the original.

Among the positive signs was the proposal of the commission established in New York that over the next ten years $4 million, or in all $40 million [7] (57 $^{1}/_{2}$ million Prussian *Thaler*) be invested in railroads and canals.

The most expensive railroad in the United States

The general opinion in Europe is that spread that American railroads are all unsound, laid with weak rails, making sharp turns and severe inclines; on planning they only have their eyes on cheap construction, and they could not serve as a model for Europe in any case. In my first report I have already expressed my opinion of American railroads, and after currently closely inspecting 24 railroads in the last three months, whose total length amounts to over 150 German miles, pulled by locomotives, and looked at the accounts of operation, I do not hesitate to repeat that the local system of railroads, in a climate similar to Germany and used both summer and winter, appears to me to be more worthy of imitation in Germany and Russia than the English. In every case, an engineer may learn much more to distinguish the good from the bad in the many tests that are made here over every aspect of construction. There, where it is necessary, the Americans will spare no money investing in a railroad, best shown by placing a railroad *within the city of New York*. This city lies on an island that is eight miles long from its harbor to the Harlem River, but is ordinarily not more than two miles wide. The lower or southern part of the city currently holds a population of 300,000 souls, and since it grows at the annual rate of 15,000 souls a year, requiring 800 to 1,000 houses, more and more is always being built toward the north. The owners of the land where the new houses were to be built associated themselves eight years ago and subscribed the capital for a railroad beginning in the liveliest portion, near City Hall, passing at first through several streets, then through vacant land to the final houses on the Harlem River in the 133rd Street of New York. The railroad has two tracks throughout, running for five miles in an entirely straight line at an advantageous level. To extend it, a tunnel had to be run through very hard rock and a bridge with iron struts and four wooden arches, each spanning 175 feet, built. The rails of this railroad currently weigh 15 pounds per yard, and the investment just to the end of 1838 was already $1,060,000, and after completion of the eight-mile line, costs will be no less than $1,200,000. With this railroad, a German mile costs a million Prussian *Thaler*, and costs of replacing the rails included, which, like many lines in Massachusetts, will probably be done with 58 pounds per yard. This remarkable railroad, the Harlem Railroad, was used last year by 800,000 people, replacing an omnibus within the city of New York, where for half the distance horsepower is used, for half the length locomotive power. The experience of this railroad shows for certain that, in America, where it is necessary, money is not spared. How intensely railroad investment is used is shown by the number of locomotives built in the country in the last few years.

Steamboats, Locomotives and Steam Engines in the United States

The Secretary of the Treasury recently made an interesting report to the House of Representatives. This report ran to 416 printed pages, based on official surveys through the summer of 1838. According to this there were in the United States:

Steamboats built since 1807	1300
Of these lost due to accidents	200
Lost due to long-term use	240
Currently in use	800
[8] Tonnage of all steamboats	155,473
Horsepower of steamboat engines	57,619

The largest steamboat is the *Natchez* of 800 tons and 300 horsepower. Uses primarily wood as fuel.

Although most steamboats have two engines, the certification of every steamboat shows only one engine, so that 800 steamboats with 800 engines.

In addition, locomotives on the railroads	350 engines
Steam engines in manufacturing	1,860 engines
Total	3,010 engines

According to documentation appearing in England, in 1836 there were only 600 steamships with a content of 67,969 tons. In France the number is still much less.

The 360 locomotives cited went with 54 railroads. On the railroad from Philadelphia to Columbia, 82 English miles long, there was the largest number, 34 locomotives.

The following table is from the printed report:

Years	Number of locomotives		Total
	Imported from England	Made in America	
1831	1	0	1
1832	8	3	11
1833	13	4	17
1834	11	22	33
1835	19	36	55
1836	12	81	93
1837	20	76	96
1838	0	44	44
Total	84	206	350

This remarkable table gives the best proof of the ease with which the Americans responded to a great demand in their country; in 1831, the first

locomotive was imported from England, since the Americans had no alternative; within seven years, however, the English were forced out of the market, and now 21 factories make locomotives. Two of these machines have already been exported to Austria and one to Braunschweig, and the day before yesterday the first machine by *William Norris* in Philadelphia was shipped to England; nine other machines will soon go there, and on the Birmingham & Gloucester Railroad they will show British mechanics how far the Americans have gone. Truly there could be no greater triumph for the mechanics here than 10 machines being ordered for England.

Mr. William Norris in Philadelphia has made 73 machines by 20 February, Mr. Baldwin in Philadelphia 121 locomotives in the same period; each of them employing 250 workers in their establishments, and they are so equipped to be able to deliver a machine [-times][12] a week. The price of a locomotive in both shops is $7,000 to $8,000, depending on the size of the machine.

In the above document of the Secretary of the Treasury, Mr. Norris only appears with 36 and Mr. Baldwin with 91 machines, since the statement reaches no further than to the middle of 1838; the former has since produced 31 machines and the latter 27 machines in America. Since other manufacturers have also delivered several new machines, you may accept that currently at least 425 locomotives are in operation, of which 84 came from England, and the others all from this country. The Americans have already competed so well in the sailing ship trade that currently only American [9] packet-ships travel between the two countries, and the Americans have expanded steamship travel in their country to such an extent as no country in the world can claim; the Americans will certainly make improvements in the manufacture of locomotives that will provide Europe with many, good machines.

Third Report

Wilmington, North Carolina, 31 March 1839

The Postal System, Delivery of Mail on Steamships and Railroads

The postal system is an important part of administration in the United States conceded to the Federal Government; there the principle is accepted that every surplus of income over expenditure is to be applied to opening new postal connections; the Federal Government hence does not receive any increase in state income from this branch of public service. The entire postal system is under the Postmaster General, a member of the cabinet of the President of the United States; in keeping with the example of other officials he receives only the moderate salary of $6,000.

The Postmaster General names on his own authority all postmasters and their helpers and removes them as he pleases. Postmasters do not receive a salary but rather a percentage of the monetary income, whose maximum is up to $2,000 a year. The carrying of the mail is partly bestowed on private contractors of stagecoaches on the main roads, partly contracted with railroads and steamship companies; on less-popular roads there is a mounted postal delivery on two-wheeled mail carts, also by

[12] Reading in the original unclear.

contract. The transportation of persons, small packets or other objects other than mail is left to private industry, and there are never privileged postal coaches. The length of the roads on which mail is transported is, according to the published report of the Postmaster General 134,818 English miles, the number of post offices is 12,519, and in the last three years the total number of miles of postal transport was as follows:

Year	Delivery of the Mail for the whole year			
	By Road	By horse or in two-wheeled carts	By railroad and steamship	Total English miles
1836	17,408,820	8,291,504	1,878,290	27,578,620
1837	18,804,700	11,999,282	1,793,024	32,597,006
1838	20,593,192	11,573,918	2,413,092	34,580,202

In 1838 the carriage of mail was contracted with 1,947 contractors or companies, and the cost of this carriage was:

Year 1838	Annual Carriage Eng. miles	Annual cost of carriage Dollars	Cost of carriage per German mile in Prussian *Silbergroschen*
On roads	20,593,192	1,880,792	18 $^{1}/_{3}$
By horse or cart	11,573,918	831,028	14 $^{1}/_{3}$
By railroad or steamship	2,413,092	410,488	34
Total	34,580,202	3,131,308	18

[10] These tables show most clearly the enormous extension of the postal system here, and the rise of shipping on railroads and steamships. In 1832 the annual shipping of mail on railroads and steamships was only 499,301 English miles, and six years later it was 2,413,092, five times more.

Since the state looks upon railroads as private property, every contract for the shipping of mail on them are concluded by free approval of both parties; Congress until now has simply ruled that the maximum costs by rail should be 25% *more* than by road, where it travels so much more slowly. But now the cost of sending the *western mail* between Baltimore and Cincinnati is $190 per mile of distance, for which competitors must ship once a day in both directions. The addition of 25% gives the price of $237.50, which most railroads have paid up to now. This makes 32 $^{1}/_{2}$¢ for a single item sent an English mile, or 2 *Thaler* 5 *Silbergroschen* for simply transporting a single German mile, or 1,577 *Thaler* per year for a German mile of length, a payment that, considering the uniformly higher prices for Germany could be half of the result here. The railroad companies here are not happy with this amount and declare that they do not wish to continue to carry the mail; as a result, in the session this year, Congress empowered the Postmaster General to raise this price to $300 per year per mile. This would be 1,992 *Thaler* per German mile per year,

and since transport goes in both directions, a single transporting per German mile would be 2 *Thaler* 22 *Silbergroschen*.

It should be mentioned in this context that large mail [loads], weighing 2,000 to 3,000 pounds, are transported, while the postal coach usually carries smaller amounts of mail. The high price paid to the railroads shows adequately how important the transport of mail is regarded there.

Incidentally, the railroad companies are obligated to hold their posted times precisely, for they lose their payment for an entire day if the mail arrives even a few minutes later than the set time.

Operation of Railroads in Winter

A large portion of American railroads is located in the northern states, where canals are frozen over a full four months every year, and where snow falls to the depth of several feet. Since railroads often pass through long, deep excavations, their operations are hindered by snow. For five to six years attempts have been made with various devices without satisfactory result, until snow-clearing devices were introduced in the last two winters whose function corresponds entirely to the need. These devices clear the snow from the railroad and cut and sweep away the ice that forms on the surface of the snow. If only a few inches have fallen, the device is placed in front of the locomotive, and the train will leave on time. If the height of snow is greater, then a separate locomotive goes a half-hour before the train with its own device to clear the tracks. On the railroad from Schenectady to Utica several snow patches were three or four feet high; they sent two and on one occasion three of these devices bound together to clear the track of snow. In this way, they have managed to eliminate the hindrance of snow completely and keep a precise schedule.[13]

Further protection is demanded for the locomotive itself to prevent the freezing of pumps and suction pipes, and to protect the engine driver from the cold. When the last trouble occurred, the entire machine was provided with a roof, and the sides were closed in by a strong tent wall, so that only the smokestack in front was visible, and two large windows were placed to oversee the track; the roof passes over a part of the tender, completely preventing the entry of cold air. The locomotive driver can see his entire machine as well as the track, and the whole machine is protected from cold air and snow. Travelers [11] are in long eight-wheeled cars, each with fifty to 60 comfortable seats, with a stove to heat the car comfortably, making it a place where dismounting is unnecessary, eminently suited for travel with children. At the end of each car there is a small bridge by which you may move from one car to another and stage a visit with friends during the journey. Some cars have small separate family rooms and a maid to serve travelers. In other cars, there are buffets with refreshments that are provided by an attendant. Finally, it has gone so far that 42 beds can be carried in such a car so as to sleep pleasantly at night. The beds can be put away during the day and made into seats. Then a railroad car becomes like a

[13] Detailed illustration of the snowplow on the Boston & Lowell Railroad in *Early American Railroads*, Plate 11 (only image of running stock in the publication!).

steamship, aboard which, as the Americans say, all the comforts of a ship, but without seasickness you may have a pleasant journey, no matter how long it may be.

The longest Railroad connection in the United States

In my second report, I described the most expensive railroad, costing a million Prussian *Thaler* per German mile; now I come to the longest railroad connection, where you see that American railroads are not short, not without connection, nor are they built without enjoyable goals. Rather it is the case that connections are being made connecting the farthest points of the country, especially for businessmen. The railroad that must be seen as the longest in the world goes from Boston in the state of Massachusetts to Greensboro in the state of Georgia, *consisting of the following parts*:

From	To	Link	A	B	C	D	E
Boston	Providence	Rail	42	55	11	1,000,000	38,005
Providence	Stonington	Rail	47 1/2	58	6	2,500,000	52,632
Stonington	New York	Boat	130	---	----	---------	-----
New York	N. Brunswick	Rail	31	38	7	1,752,200	56,522
N. Brunsw.	Trenton	Rail	27 1/2	41	4	497,800	18,102
Trenton	Philadelphia	Rail	30	13	4	400.000	13,333
Philadelphia	Wilmington (D)	Rail	28	---		500,000	17,857
Wilmingt.	Havre de Grace	Rail	35	35	14[14]	800,000	22,857
Havre	Baltimore	Rail	36	40		950,000	26,390
Baltimore	Washington	Rail	39	40	4	2,040,330	52,310
Washington	Aquia Creek	Boat	60	---	---	----------	-------
Aquia Ck	Fredericksb.	Coach	13	---	---	----------	-------
Fredericksb.	Richmond	Rail	61 1/2	10 1/2	12	1,200,000	19,512
Richmond	Petersburg	Rail	22 1/2	9 1/2	5	700,000	31.111
Petersburg	Weldon	Rail	60	9 1/2	12	760,267	12,771
Weldon	Wilmingt.(NC)	Rail	160	12	10	1,360,000	8,500
Wilmington	Charleston	Boat	160	---	---	----------	--------
Charleston	Augusta	Rail	136	25 1/2	27	2,000,000	14,706
Augusta	Greensboro	Rail	84	17	10	1,176,000	14,000
			1,203				

A = Length in English miles; B = Weight of rails per yard, in pounds;
C = Number of locomotives; D = Construction costs for the whole, in dollars;
E = Construction costs per English mile, in dollars.

In 1839 a railroad will be built between Aquia Creek and Fredericksburg; between Weldon and Wilmington only 103 miles are in use, in the meantime the rest of the line is being built and is to open in any case before the end of 1839. So, in this line of 1,203 miles a length of 853 miles will be by railroad and 350 miles on steamships. [12] Departures on this entire line are connected with one another, and you may make the entire journey in five days or 120 hours, at 10 English miles an hour. This includes all halts for breakfast, midday meal and evening meal, then a ten-

[14] Locomotives serve the whole distance from Philadelphia to Baltimore.

hour stop in New York; as soon as the two railroad stretches mentioned are complete, the journey will be completed in a hundred hours, or 12 miles per hour, including all stops. This speed is very important for such a long journey, including five night journeys, and if the railroad journeys did not lose so much time involving 13 different companies, transfers to different cars, and the transfer of baggage, a speed of 15 English miles or 3 German miles, including all halts, would be possible.

The Americans have not rested with the 1,203 miles of railroad and steamship connections given above, and a competitive line between Stonington and Weldon is being laid, consisting of the following segments:

From	To	Link	A	B	C	D	E
Stonington	Greenport	boat	25	---	---	----	-----
Greenport	New York	Rail	94	21	10	2,033,850	21,636
New York	Amboy	boat	25	---	---	---------	-----
Amboy	Phila.	Rail	61	41	12	2.101,500	34,450
Phila.	Elktown	Rail	44	---	---	865,712	19,675
Elktown	Somerset C.	Rail	118	$9^1/_2$	8	1,024,378	8,681
Somerset C.	Portsmouth	boat	85	---	---	----------	----
Portsmouth	Weldon	Rail	78	$9^1/_2$	7	850,000	10,807

A= Length in English miles; B = Weight of rails per yard, in pounds;
C = Number of locomotives; D = Construction costs for the whole, in dollars;
E = Construction costs per English mile, in dollars.

The railroad from Greenport to New York is not yet finished, so that the steamship from Stonington still goes directly to New York; the railroad from Elktown to Somerset Cove is also still being built.

If you compare this line with that from Stonington and Weldon, the first consists of $383^1/_2$ miles of railroad and 190 miles on a steamship. but the second consists of 395 miles of railroad and 135 miles by steamship.

The line of 1,203 miles in length given above will be expanded at both ends; a line a hundred miles in length from Boston to Portland, Maine, is being built and will be completed in two years. The railroad from Greensboro to Montgomery, 210 miles, is also being built, and will be finished in three years at the latest. From Montgomery, you go by steamboat on the Alabama River to Mobile, and from there by steamboat to New Orleans. In three years, you will be able to make the journey from Portland to New Orleans in eight days; six years ago, this demanded forty days by land; steamship travel along the coast has been given up due to the perils on the Cape. New Orleans lies $13\ ^2/_3°$ to the south and $19\ ^3/_4°$ westward, while the distance by a straight line is over 1,400 miles. This entire connection measures 1,195 miles by railroad and 885 miles by steamship, or at least 2,080 miles, which is certainly the largest connection of this sort in the world, and will remain so for a long time.

Length and financial cost of all Railroads currently in operation

In the connecting lines described above from Boston to Greensboro, Georgia, and the competing line from Stonington to Weldon there are 19 railroads built by as many various companies. The total length of railroads amounts to 1,191 English miles, and their financial cost $24,252,325; the cost per mile depends on the difficulty of terrain, the weight of the rails, the number of locomotives used, cars, etc. You may see at once that no average price may be established to tell us the financial cost of railroads in America or in other lands: the average price, which here is $20,363 per English mile, only serves to show us how much the Americans have invested in railroads to date.

Since the Union consists of 26 independent, sovereign states, each with its own legislation, and stands little connected with the other states other than through trade, it was impossible for me to make an entirely precise list of all railroads in operation. But since I have traveled more than 2,000 English miles on railroads in the last five months, and have received reliable reports on the others, so I can now give the length of all railroads currently in operation with some precision; this length is 3,000 English miles, with a bank cost of these railroads of $20,000 a mile, making the sum of $60 million. The railroads are undertaken by about a hundred stock companies and several state governments. The number of all locomotives running on these lines is about 425, or one locomotive for every seven miles of single track.

Length of Railroads to be opened in the course of 1839

Of the railroads already operating several are being extended and others being constructed are opened section by section. I only accept those for which the money is already available and are likely to be completed by the end of 1839, a length of 1,100 English miles. Hence in a single year the Americans are opening 240 German miles or 1,650 *werst* of railroad. This length equals the distance from St. Petersburg via Moscow to Odessa and is more than the distance from the Prussian-Russian border at Memel via Berlin and Leipzig to the Dutch border on the Rhine.

The capital that was applied until the end of 1839 in developing 4,100 English miles of railroads, at $20,000 a mile, was $82 million. If we add to this the railroads still being built but not yet opened, only $8 million, this gives us $90 million or 129 million Prussian *Thaler* or 427 $^{1}/_{2}$ million Rubles. With the exception of a few short lines, the construction of American railroads only started in 1830; so, ignoring the financial crisis of 1837 and 1838, the enormous sum mentioned above was raised from a young state whose population in the last census of 1830 consisted of 12,860,680 persons, but which might be 16 million now! — It is known that the length of all railroads in the rest of the world is only 1,000 English miles; hence the Americans must be seen as the nation that grasped that railroads are nothing other than "*very good roads*," and that through their introduction the two greatest internal enemies of an extended realm, *space and time*, may be conquered with success.

Fourth Report

Augusta, Georgia, 15 April 1839

Transport costs of travelers and goods on American Railroads

The journey on the combination of railroads and steamships described in my Third Report, from Boston to Greensboro, Georgia, costs $66.25 for the entire distance of 1,203 English miles. After the construction of the two rail connections lacking, where postal coaches are used, this will decline to $60. This is 5¢ per English mile, or 10 *Silbergroschen* per German mile or 16 Kopecks per *werst*. On American roads you will pay an average of 6 $^{1}/_{4}$ per English mile for a postal coach, which proceeds at only 4 English miles an hour, including stops. According to this, by traveling on the railroad you save a fifth of the costs and two-thirds of the time.

Goods that travel on American railroads consist of manufactured wares and drugs, cotton, tobacco and rice, flour and grain, then stone coal, firewood, hay and other country products. Valuable goods per English mile an American ton (2,000 pounds), pay 7 $^{1}/_{2}$¢. A reduced rate is $^{3}/_{4}$ *Silbergroschen* per hundredweight and German mile, or four-tenths of a Kopeck per *pud* and *werst*. The less valuable objects are taken much more cheaply.

Numbers of persons and Tons

American railroads are, as we have already seen, paths joining the various states, so they are used primarily by businessmen. It is true that the number of travelers increases in the summer, when many families make entertaining journeys or visit the baths, but in general the difference in numbers of travelers between summer and winter is much smaller than is the case in Europe. Americans are a notoriously active, enterprising people, able to calculate properly the value of time, and there are no unoccupied persons here and no leisure class. Further, since the population in relation to area is so much smaller than in Europe, it necessarily follows that *the number of travelers on the railroads here must also be much smaller than in Europe*. After the studies that I have made about the operation of a great number of railroads on the spot, the number of travelers, considering the entire length of the line, amounts to an average of only 35,000.

The transport of goods and agricultural products does not take place only along the seacoast or on the large internal lakes lying in the north of the Union, but to by far the greatest extent on the extensive navigable rivers, with which Providence has so greatly blessed this country. In my Second Report, I explained that currently 800 steamboats are underway in the United States; I now simply wish to add that most of them travel on the rivers, after travelers have long since abandoned steamship travel along the seacoast in favor of railroads, so that many boats which earlier serving the coastwise trade have abandoned it. The connection between rivers in America is provided by canals, whose length was already described in the Third Report as amounting to 3,300 miles, from a report made three years ago. A very large traffic takes place on these canals. Only a small portion of the goods is left to

be transported by rail. According to my study only about 15,000 tons are carried by railroad, or 300,000 hundredweights at 100 English pounds.

[15] I must remark expressly here that these numbers only represent *current traffic*. This traffic is, however, as everything else in America, seized by continual growth. There are railroads where traffic and income increase annually by 25%, and I believe I am not wrong when I put the *annual average rise* at 10%.

Gross income, Operating costs and Interest on Bank Capital

According to what has been assumed, the annual gross income of American railroads per English mile:

From 35,000 travelers @ 5¢	$1,750
From 15,000 tons goods @ 7 $^1/_2$¢	1,125
Transport of mail and other income	200
	$3,075

When compared with the bank capital of $20,363 per mile, it follows that the annual gross income is 15% of the investment costs.

The operating costs of American railroads are relatively low. Specifically, if all costs of whatever variety are distributed among the number of passengers and goods, there is the following average result with every railroad I have studied:

Transporting a passenger @ 2 $^1/_2$ ¢ per mile, for 35,000 passengers:	$875
Transport of a ton of goods @ 6 $^1/_2$ ¢ per mile for 15,000 tons:	975
Transport of mail and investment in other sources at half	100
	$1,950

If these expenses are deducted from the gross income of $3,075, then $1,125 remains for the net income per English mile of the railroad. This is paid as interest from $20,363 at an average rate of 5 $^1/_2$ %.

I note expressly that this is only an average accounting from the railroads so far studied by me, of which some give 10%, others no dividend at all; my further travel on the railroads here will probably lead to a modification, although not a significant one.

The interest rate of 5 $^1/_2$ % would not be very adequate to Americans, who know so well how to make money, except that most of the railroads here were undertaken by landowners and merchants of the area in question; these add to the dividend the usefulness of easing transportation and figure that increased traffic will also increase the value of the railroad and must necessarily increase continually. A portion of the railroads in the South and West are built by state governments, and a large portion of the capital was finally covered by loans that were mostly obtained in England at 5%. These are the reasons why so many railroads have been built in North America and even more will be built in the future, until the enormous area of

the Union is covered by a railroad network through which all important points of the country are joined together.

The reason for the low financial costs of American Railroads

In my Third Report the construction costs for 19 railroads is given, which run from $8,500 to $56,500, averaging, however, at $20,363 per English mile; in this figure is included the land, the construction of the railroad including buildings, the purchase of locomotives and cars, then the entire costs of management. Salaries in America are much higher than in Europe; an ordinary worker receives a dollar for daily pay, a carpenter $2, a mason $2.25; wood for building is on average more expensive than on the Continent of [16] Europe; rails are obtained from England and imported duty-free; only for locomotives, on wheels and axles the duty is 20% of value. On the whole would anyone assume *that the construction costs would be twice what they are in Germany and Russia*. Where is the secret of the inexpensive construction of American railroads? — Since it was to answer this question that and the raising of operating costs of railroads that led me to America, and I have occupied myself for the last five months with this question, I believe I can give an adequate solution to this mystery in what follows:

1) Every project of an American railroad is composed by one or several engineers, confirmed by reports by several engineers, and after the most careful possible local investigation of every line of the railroad. *As a rule, the planning of the project takes two to three years, or a time equal to the construction itself.* Since I have traveled over all the European railroads several times, I can unfortunately assert that such useful research and basic projects are done by none of them as it is done here. In Europe, they avoid the costs of advanced planning, and they have so little patience to wait two or three years to conceive of a project and await all advance investigation that they always start construction as soon as possible, and they want to open a portion at first, while further construction loses its zeal. The simple result of this is that there is almost *no railroad in Europe where great errors are not made in the original tracing*, and at the end of such construction they usually see at last that *they could have saved hundreds of thousands if they had spent a few thousand more for preparatory work.*

2) In constructing every railroad in America, a construction engineer, who leads the building, with an annual salary of $3,000 to $5,000, and in addition a consulting engineer is always hired, who spends perhaps a week every three or four months at a railroad, who also receives a salary that is at least $3,000, with the best engineers making $5,000 a year. Since this engineer is always leading several undertakings at once, his services are richly compensated, but the company gains much more. I know of no company in Germany that has decided to have a consulting engineer investigating three or four railroads, each

of a week, and to pay him a salary of $5,000 or 7,000 *Thaler*; often it is the cheapest engineer, who has had no experience, who is chosen, and he pays for his training at enormous cost. In fact, his choice depends on whether the engineer is a citizen of the country or not. In America, in contrast, there is no reference to his baptismal certificate, and it is only his personal service, primarily experience, that is regarded.

3) On American railroads inclines normally reach 30 feet in an English mile, or 1:176, and curves with a diameter of 2,000 foot, and all railroad lines are *undulating*, by which a large portion of embanking and very high bridges are reduced as much as possible. They use many more *inclined planes* and tunnels only rarely. If the back of a mountain must be crossed, inclines of up to 90 feet a mile are accepted. On the railroad from Baltimore to York there is an incline of 83 $^{1}/_{2}$ feet per mile or 1:63 on a length of two miles, and the locomotives pull four freight cars, of which each is loaded with 7 tons or 14,000 English pounds. On the Greenville & Roanoke Railroad there is an incline of 93 $^{1}/_{2}$ feet per mile or 1:56 on 9,100 feet length, on which locomotives are also used. If the terrain calls for it, curves of 600-feet diameter are used, which *the use of American locomotives and cars of their own construction* is without hindrance.

4) Salaries for workers are certainly very high in America, but nowhere are as many *mechanical devices* used as here. In building the railroad from Utica to Syracuse I saw the establishment of long bridges through swamps using a machine where the piles were placed by a machine that drove two piles at once, which then sawed them off at the proper height. Seven men were needed to work the machine, and 55 piles were placed in one day. In building the railroad from Worcester to Springfield, a steam excavating machine was used, digging the earth with steam power and dumping into railroad cars as the machine moved slowly forward. The work of the machine moved 16,000 cubic feet in a day. Many more useful devices are being used here, but there is no room here to describe them.

5) Since all of North America is crossed by many large rivers, the railroads here have many more *bridges* than is the case in Europe. The American entrepreneurial spirit has also much to recommend in this as well, and bridges are being made in entirely new constructions whose costs are very low. On the railroad from Richmond to Petersburg in Virginia a bridge was built of 2,859 feet in length across the James River with two masonry piers on land and eight pillars in the middle. The greatest distance middle to middle of two of these piers is 160 feet. The wooden horizontal structure of the bridge, with the same length as the bridge, rests on all the piers. It is built of planks three

inches thick and 12 inches long. The height of the bridge above the water is 60 feet, and yet the bridge only costs $115,000 or 165,000 Prussian *Thaler*; the building of the bridge began in December 1836, and the bridge was opened on 5 September 1838. Bridges of such size are plentiful in America, and they are built for amounts that, related to the costs of labor and materials, are very low. The greater part of the bridge is only of wood and has dry buttress walls.[15]

6) The superstructure of all railroads in America is adjusted to its operation, and costs more or less depending on that. In the certification in my Third Report there are railroads where the rails weigh 58 pounds, and others where they only weigh 9 $^{1}/_{2}$ pounds per yard. Several companies do not have the money to use strong rails, so they lay weaker rails at the outset and change these for stronger rails with the increase of traffic. Only light machines may be used on weak rails.

7) The buildings of railroads here are built strictly for need and erected with the greatest economy. The number of locomotives, passenger and freight cars is also much lower than with railroads in Europe with the same traffic. Here locomotives are continually working forward, as also is the case with the entire people, and there are no machines in reserve.

To summarize what has been said, the economy of American railroads rests primarily on their practical sense that is present in performance. If the terrain is more propitious for many railroads than is the case in Germany, with the lower wages that prevail in our Fatherland, it would certainly be possible to build railroads as cheaply as in America if the same *practical sense* prevailed with us. In Russia, where the terrain is much more positive, there is no doubt that you could build great rail lines on which there would not be much traffic for $16,000 to $20,000 per English mile, or 50,000 to 60,000 Rubles per *werst*.

[18] Reasons for the low operating costs of American Railroads

With their lower traffic and high wages, if they were run the European way, they certainly would still be useful; it is hence important to also learn the reasons for the low operating costs that prevail here. They are as follows:

1) The administration of all railroads, without exception, is much simpler here and oriented differently than is the case with the railroads in England and on the Continent of Europe. The board of the company has unrestricted full power, determines the annual dividend on its own, and advises shareholders only in the single case when the charter of

[15] See engraved plate XIX, figures 1-6, of the Richmond Bridge in the "Atlas" to Michel Chevalier, *Histoire et description des routes de communication aux États-Unis et des travaux d'art qui en dépendent* (Paris: Librairie de Charles Gosselin, 1843). It was a "lattice bridge," and it failed.

the company changes and for that reason is altered by the government. So there can be no intervention by the shareholders, neither inside nor outside the general assembly; the shareholders alone elect all directors annually anew; further the board issues a printed report every year, and so they are subject to the judgment of the public opinion, which always speaks without restraint. The board almost always passes the actual control of business to one individual with almost unrestricted power. The person so designated receives according to the size and income of the enterprise a salary from $2,000 to $5,000, and he is "the living principle of the railroad" in the full sense of the word. There is also a cashier with a salary of from $1,000 or $1,500, and occasionally also a clerk paid some hundreds of dollars. These individuals perform with their intelligence, integrity and activity the same work that in Europe is done by a three-person staff. The same principle is found in all other individuals who control the operations of the railroad: each of them is very well paid but also works very hard. You must truly be astonished when you are traveling on all of these railroads to find no one on the railroad, so few persons in the stations, and yet so much order in the operation.

2) The speed of travel is in most railroads only 15 miles per hour when transporting passengers and 8 to 12 miles per hour when transporting freight. There certainly are railroads where passenger trains go 25 miles per hour, but these are exceptions. On the other hand, all railroads pass into the interior of towns or through them; so the loss of time that arises from using omnibuses at the end of the track is largely avoided. The reduction of speed on the railroad necessarily causes an extremely important, too-little remarked result, which is the *reduction of repairs to the track, the locomotives and the cars*. With a speed of 24 to 30 English miles an hour, the locomotives and cars, particularly on the usual gauge of 4 feet 8 $^{1}/_{2}$ inches in all its parts, are destroyed through even the smallest imperfection of the rails, and they in turn destroy the track. The Americans discovered this very early and remained fixed on the speed of 15 English or 3 German miles an hour. The immediate result of this is that the total maintenance cost of an English mile of track, including oversight, workers' wages and materials, on average only $500, that is, the cost of a worker and $200 for materials, annually. You take the annual wage of a worker in Germany to be 100 *Thaler* per German mile or 700 Rubles per *werst* for the annual maintenance cost of a railroad with simple rails in Russia.

3) The construction of locomotives and tenders is more efficient here than in England. The locomotives rest on two real driving wheels behind and forward one four-wheeled [19] *truck* on a swivel, which is always turned in the direction of the turn of the rails. So, you could look upon

every locomotive as four-wheeled with a movable axle, although they rest on six wheels, and thus have the advantages of a six-wheeled car. The crank axle, the most expensive part, most inclined to breaking, is ordinarily replaced in locomotives by an outside connection; the locomotives finally have different equipment depending on whether it is to carry passengers or freight, and depending on whether the railroad has small or large inclines; its weight is also proportional to the strength of the rails. The price of such a locomotive with tender is $6,500 to $8,500, depending on its power and weight.

The tenders of the locomotives are made with eight wheels, and they carry enough wood and water that they can go from 40 to 60 miles without halting. The pressure of the wheels on the rails is relatively less than with the English four-wheeled tenders; but the greatest advantage is that the trucks of an eight-wheeled tender moves with the turns and unevenness of the track. From this description, you may see that the locomotive and tender, whose movement is so damaging to the track in the English construction, has a much gentler movement in America, accepting the turns and unevenness of the track.

4) The same quality is possessed by American passenger and freight cars. By continual tests and alterations, they have come so far with building them in the last year (1838) that now all four-wheeled passenger and freight cars have been removed and only eight-wheeled cars are now used.[16] Like the tenders, these rest on two trucks and their movement is extraordinarily soft, even when the track varies at the time of thawing early in the year. An eight-wheeled car has never left the track, which was common with four-wheeled cars, often particularly so at sharp curves. Even when two trains collide, eight-wheeled cars are damaged by the enormous impact, but never, as was so often the case with four-wheeled cars, shattered and travelers injured or killed. The introduction of the eight-wheeled car is the sole reason they can carry passenger cars running on *plate rails* of 2 to 2 $^1/_2$ inch width and $^1/_2$ to $^3/_4$ inch thick [iron strips] at 15 or more miles an hour speed without the unpleasant swaying of the cars as on solid rails. Both the rails and the car are considerably relieved, and the repair of cars as well as of locomotives is much less than in Europe. These repairs make up a large part of the costs of European railroads. The introduction of American locomotives and cars would thus be a great advantage. The price of an eight-wheeled passenger car with 50 seats varies from $1,500 to $2,400, depending on elegance and internal furnishing. The price of an eight-wheeled freight car is $750. The sea-freight prices of the Americans are notoriously the lowest and cannot

[16] See engraved Plate V, figures 3-8, of the passenger car with eight wheels, Michel Chevalier, "Atlas" to *Histoire et description des routes de communication aux États-Unis* (Paris: Gosselin, 1843).

be significant, since the cars are broken down into parts and only assembled on the spot.

The price of an entire train, consisting of a snow-clearing device, a locomotive with the necessary parts, four eight-wheeled passenger cars, each with 50 seats, and an eight-wheeled freight or baggage car, is $16,000 to $20,000, depending on the size and weight of the machines and the elegance of the cars. For this average price of 25,800 Prussian *Thaler* a train would be delivered aboard a seagoing ship, and you must add commission charges and freight costs. In my view, it would be the greatest advantage for every railroad in Europe to have one such train as soon as possible; but to those railroads currently being built I would advise with utter conviction that they get all their locomotives [20] and tenders from here, and if it is cheaper, to build the cars locally on their model.

5) With American locomotives firewood is used almost everywhere, and coal is rarely used to stoke. In Europe, wood was tested, but because of the streaming sparks, burning clothes of passengers and goods, it was given up. The same attempts were made on all lines with great persistence, and at least twenty various spark-catchers have been invented, of which a few introduced last year filled the need so well that it only requires a little care to use wood without offense; here as in Germany wood is three to four times cheaper than coal or coke.

6) A significant reduction of operational cost of American railroads comes from the fact that it is in all of its parts entirely suited and practical. I have already seen that tracks have been laid even in the liveliest streets of the largest cities, such as New York, Philadelphia, and Baltimore; on the border of these cities the locomotive is separated from the train and horses are placed in teams, four can pull an eight-wheeled passenger car. Along the tracks in the city sit the large warehouses, and side-lines run, often 20 and 30 along a street. These side-lines have 50- to 60-foot diameter turns, and after the car passes the rail is covered by a special construction. Through this institution the merchant receives his goods delivered to his house. Travelers come into the center of the cities, and they depart from the same point. The turntables are made in England of iron; here they are of wood, cost much less, and are so made that a locomotive and tender can be moved around by one or two men. Several similar operations arose on the tracks here, fulfilling needs throughout and always reducing operating costs.

This dispute shows that it lies entirely in the hands of the railroad board to reduce the operating costs in Europe as has been the case in the United States.

Railroads with light rails nailed on wood

It may be seen from the Third Report that in a large part of American railroads *plate rails*, nailed on wood, 2 to 2 $^{1}/_{2}$ inches wide and $^{1}/_{2}$ to $^{5}/_{8}$-inch thickness are used. The use of these rails contributes essentially to reducing the building costs of railroads; only in Europe the opinion is widespread that the repairs of such railroads is very expensive, and they are destroyed in a few years if locomotives are used on them. As long as they used English locomotives in America with fixed parallel axes and four-wheel cars with the same axes, there was continual destruction of the track, as well as to the locomotive and cars, but results changed when the track with *plate rails* had eight-wheeled locomotives as described above. It is a remarkable fact, proved through experience, that the use of a track with plate rails of 2 $^{1}/_{2}$ inches wide and $^{5}/_{8}$ inch-thickness with the special wooden basis of these rails cost no more than the operation of a railroad with solid rails of 40 to 50 pounds weight per yard, if the speed on the plate rails is only 12 or 15 miles, on solid rails, however, 20 to 25 miles per hour. The greater speed on the solid rails increases the repairs of the locomotive and cars that it entirely balances the maintenance and renewal costs of a track with plate rails. I have confirmed this surprising result through careful study of the operational accounts [21] of American railroads, and I am entirely convinced that the introduction of well-constructed and carefully-maintained tracks with plate rails in many places in Germany and Russia corresponded entirely to their purpose. If traffic on a railroad is so great that daily from hour to hour trains cross it, then I would advise equipping a railroad with solid rails, — but not because the operating costs of such a railroad would be less, but chiefly because the time is not available to remove a wooden rail with its iron surface and put in another. [Hand marks this paragraph in ink, "!!!"]

Convinced that only the introduction of the American construction of locomotives and cars, proved by experience, to the railroads of the Continent of Europe could give it great expansion, during my residence here I wish to make this method of caring for machines, cars and other objects from North America useful, and I remark on conclusion that letters sent to me in London to Messrs. Reid, Irving & Co., or direct to New York to messrs. Maitland, Kennedy & Co. will come to me.

Fifth Report

Macon, Georgia, 1 May 1838

Legal Conditions for the Construction of Railroads

Every state belonging to the American Union is in itself independent and sovereign in that, while the common tie of the federal government in Washington only includes a few administrative branches, actual legislation and government is entirely left to the individual states. So, in the 23 states of the Union where railroads exist, we find thoroughly various legislation and support of these works, but the following points may be accepted as existing in most of the states.

1) *The solution using land and buildings*, both for the railroad itself as well as for the stations, is either arranged by free negotiation, or regulated by financers if the two parties cannot agree. The financers are expressly directed to judge not simply in terms of damages but rather in terms of the benefit that the landowner will receive through the creation of the railroad. Two years ago, when the railroad bridge over the Roanoke was built at Gaston, the owner of a crossing already in use demanded a compensation of $25,000, because this would be equal to his loss; the financers determined, however, that the value of the lands of the same landowners would be increased by $20,000, and that he had to be satisfied with $5,000. In many further cases a landowner was moved to concede land to the railroad for nothing, and in the case of woodland to concede the construction wood on it, because his profit would rise as high or higher than the value of the land surrendered. In Europe, financers I know never consider the benefit that comes to the landowner from a railroad or any other road, and it is in fact the clear, simple sense of the Americans to pass such a law.

2) *The path and incline of the railroad*. In every state of the Union the railroad company itself has the right to determine the course of the track, its profile and so on. In [22] charters normally only the end-point of the line is given, seldom one or two middle-points. The stock company or its board have complete freedom, and the engineers are responsible to the shareholders and the public to establish the best line, and not to allow themselves to become convinced, as happens often in France, that a plan that is confirmed by higher authorities is to be seen as the authorities' plan and hence no more that of the board or the engineers.

3) All *rails* needed to build a railroad may be imported without duty, according to an act of Congress passed several years ago. It is true that rails have been produced at several American ironworks, but their price is much higher that those produced in England, which are preferred.

4) The officials, conductors, engine drivers and other individuals needed to operate the railroad are freed *from military service* (the militia) in most states.

5) *Charters* of railroads are issued *without cost*; only in some few special circumstances does a percentage of the income have to be paid to the state as a tax; in most states railroads are totally *without tax*.

6) Some *charters* bestow *exclusive privileges* that no second railroad may be built within a certain distance from the conceded railroad for 20, even 50 years. Every such railroad remains for all coming time the *property of the shareholders*.

7) The *prices* of passage for passengers and goods are always set in a very liberal manner, and in no way may the state demand that troops, property belonging to the state, mail, etc., carried at a lower price than other passengers and goods.

8) Any damage to the railroad or removal of any object belonging to the railroad is severely punished, but when the damage (for example, the removal of rails) might endanger the life of travelers, this will be expressly punished according to the established laws as *criminal deeds*.

9) In some states, the right of the state to close a railroad is reserved, but in this case the shareholders are assured to receive a cash payment of their capital and 10% interest, figured from the day of first payment.

Subscription of stock by the State

Besides the general privileges described, direct means are applied in those railroads where traffic is not adequate for private investment to make a profit. In this case the state promises in its *charter* to buy a portion of the shares if the other shares are covered by subscription. The landowners and merchants of the area in question take a portion of the shares, and the state takes the rest. In Virginia, the law is that the state takes $^{2}/_{5}$ of the shares when private persons pay for the other $^{3}/_{5}$, with no investigation of the usefulness of the railroad, no presentation of the plans, etc., taking place; only the fact that $^{3}/_{5}$ of the shares *entirely alone* leads to the state purchasing $^{2}/_{5}$ of the shares. Virginia already has 335 English miles of railroad in full operation, for which $5 million has been applied, and at the last census in 1830 there were only 741,548 whites and 469,757 blacks, while the area of the state is 3,100 geographic [German] square miles. Because Negroes are not permitted to leave their homes except when accompanying their master, then a mere 239 whites per geographic mile are accounted as the traveling public. Since, as the previous report shows, by far the greatest part of profit for railroads in North America derives from passenger travel, [23] as a result, with the small population in Virginia no railroads would be undertaken if the state were not so liberal with its investments.

Loans from the State

In those states where banks make no major profits because of their excessive number, or where the government does not tolerate their increase, railroad companies are permitted to borrow from the state if they need. Ordinarily the charter will state that the company first has to pay $100,000, while the company's *state scrips* will guarantee their repayment of interest and capital in the amount of $50,000 placed on sale; if the company raise another $100,000 from its own means, it will receive another $50,000, and so on. With other railroads taken over by shareholders, and over half has been completed, but ceases to build because of a lack of money, the state will approve a loan in order to complete the railroad. In such a case, the railroad is leased by the state and its income must be used to cover the interest owed. Such state loans are raised in America in some cases, but the greatest part is raised in England; [24] the ordinary interest rate is 5%, and *state scrips* are ordinarily taken at par, even at 110 instead of 100 in London. Hence the Americans are building a portion of their railroads with British gold; every year they pay the interest out of income, and the company also enjoys the advantage of better communication.

Debts of the United States

It is known that the federal government of the United States paid off its total debt from wartime, and in 1837, from the surplus of income over outgo, about $42 million, has paid about $37 $^{1}/_{2}$ million to the various states. Since then the federal government has issued Treasury Bonds, but these were only cashed in during economic declines. The individual states of the Union, for their part, have taken considerable loans for canals, railroads and roads, then for banks. The smallest part of these loans were made for roads, since the Americans have given up building roads once they learned of a superior variety of road, namely railroads. The next table shows the precise state debts as they existed at the start of 1838:

State	Year[17]	Purpose	% of loan	Amount Specific purpose dollars	Total dollars
Maine	1830	Hospitals, element. schools	5, 53/4, 6	55,976	554,976
Mass.	1837	Railroads	5	4,290,000	4,290,000
NY	1823	Canals	6	548,000	
		same	5	11,968,674.41	
		Hudson-Delaware	5	800,000	
		Railroad loan	$4^{1}/_{2}$, 5	3,787,700	
		River traffic	5	10,000	
		General debt fund	5	586,532.43	
		Astor bonds	5	561,500	
18,262,406.84					
Penns.	1821	Canals and rail	5	24,140.003	
24,140,003.32					
Maryld.	1824	Med, University	5	30,000	
		Penitentiary	5	97,947.30	
		Tobacco inspection	5	78,000	
		B & O RR, Ches. & Ohio Canal, B. & Susq. RR loans	5, 6	8,219,000	
		Washington's Monument	5	10,000	
		Cost of uprisings	5	77,033	
8,511,980.73					
Virginia	1820	Canals, roads, RR	5, 6	4,129,700	4,129,700
S. Carol.	1820	Canals, roads	6	1,550,000	
		Jefferson's heirs	6	10,000	
[25]		Cinc.-Charleston RR	5	1,500,000	
		Rebuild Charleston	5	2,000,000'	
		Revolution debt	3	193,770.12	
		5,753,770.12			
Georgia	1838	Railroads	5	2,000,000	2,000,000
Alabama	1823	Banks	5	7,800,000	
		Railroads	5	3,000,000	10,800,000
Mississ.	1831	Banks	5	7,000,000	

[17] The year in which the emission began.

Louis.	1824	Banks	5	18,950,000	
		Railroads	6	500,000	
		NO Drainage Soc.	5	50,000	
		Jefferson's heirs	6	10,000	
		Hospitals	5	125,000	
		Capitol	5	100,000	19,735,000
Tenn.	1833	Banks	5, 6	3,000,000	
		Roads	5	118,166.66	
		Railroads and roads	5	3,730,000	
		River improvements	5	300,000	
7,148.000.66					
Kent.	1834	Banks	5, 6	2,000,000	
		Canals, roads, railroads	5	1,185,000	3,185,000
Ohio	1825	Canals, railroads	6	6,101,000	6,101,000
Indiana	1832	Banks	5	1,390,000	
		Canals	5	8,000,000	
		Railroads	5	2,600,000	
		Highways	5	1,150,000	
		River traffic	5	50,000	13,190,000
Illinois	1831	State debt	6	100,000	
		Banks	6	5,675,000	
		Canals, roads, railroads	6	2,704,000	8,479,000
Mo.	1837	Banks	5	2,500,000	2,500,000
Mich.	1836	Conflict with Ohio		100,000	
		Canals, roads, railroads	6	5,000,000	
		Railroad loans	6	120,000	
		Penitentiary		20,000	
		University		100,000	5,340,000
Arkans.	1836	Banks	5	3,000,000	3,000,000
					$154,121,003.67

The debts of the state of New York appear far greater here than is given in my Second Report because the income capital from the Erie Canal has been put out to interest in the meantime, since the bonds are only payable in future years; the canal debt may therefore be seen as paid.

We see from this table that 19 states of the Union have assumed debts since 1820

For railroads, canals and roads	$98,001,244.39
For Banks	51,315,000.00
For other objects	4,804,759.28
	$154,121,003.67

Concerning the loans retired, part of these were loaned again and had to be repaid at the time of maturity. The amount that was approved by legislatures last winter, particularly for railroads, amounted to no less than $16 million, so the public debt of the states for internal improvements runs to about $114 million or 163 million Prussian *Thaler*, of which by far the greater part was already used, and the rest will be used in one or two years. Only the smallest part of state papers are found in the hands of Americans; by far the greatest part are either in England, or in other places in Europe. As a result, the United States annually pays $5 million as interest on their

debt for railroads, canals and roads, and this interest, which is constantly growing, will certainly be increased over the next several years. There is certainly no American who thinks his country will be impoverished if it annually pays such a large payment in interest, or that during a depression the capital will have to be repaid. Every American on the contrary, is convinced that the internal communications of the country will increase prosperity to such a degree that not only the interest, but also the capital will be won back clear before Europe's depression, that then the investment in the communication of this land will remain behind as a pure gain. May this view also win entry into the European Continent!

Sixth Report

New Orleans, Louisiana, 20 May 1839

Banks in the state of Louisiana

In my last Report, I mentioned that the state of Georgia had granted 25-year Bank privileges to three companies with the condition that they would build 500 English miles of railroads in the main lines of traffic, that 182 miles of these were already in operation, and that the other stretches would be completed within the next 18 months. The legal interest rate in Georgia is 8%, and private persons would never have undertaken such great railroads if they had not found the security of such a good interest for their funds.

In the state of Louisiana, money is lacking despite its cotton and sugar production being even greater, and the legal interest here is 10%, but private persons who speculate with some intelligence earn 15 to 20%; where was anyone to find money for public investments, which with the low population were in no position to give a large profit. And yet in the last six to eight years very large investments have been carried out, almost all of them supported by bank privileges.

a) The canal from New Orleans to Lake Pontchartrain.

On 5 May 1831, the state of Louisiana granted a charter to form a company under the name of *New Orleans Canal and Banking Co*.; the company was to invest $4 million or 40,000 shares at $100 and construct a canal from the interior of the city of New Orleans straight through the Cypress Swamps to Lake Pontchartrain, but to use the remaining portion of the capital for banking. The canal was to achieve a surface of 60 feet in width and such a depth [27] that ships drawing six feet in depth could travel it; within the city of New Orleans there was to be a basin, and on Lake Pontchartrain a sufficiently strong harbor; construction was to begin within a year and be completed within six years, or the charter would be invalid. The company could charge no more than 37 $^1/_2$¢ per ton of ship content traveling the canal, and within 35 years after issuance of the charter the entire ownership of the canal and a road running parallel to the canal should pass to the state of Louisiana, in compensation for which the company would be entirely free of tax according to the privilege.

The construction of this canal, of great importance to New Orleans, was combined with great difficulties, since the Cypress Swamps through which the canal led was extremely unhealthy for everyone. In 1833, when cholera broke out, 6,000 of the Irish who worked on the excavations were buried. Although the entire length of the canal only measured six miles, the construction lasted from November 1831 to 27 December, when the first ship passed through. The entire expense of the undertaking already cost $1,250,00, and since they wanted to expand the canal to 120 feet in width to make it usable by steamships, the total cost had risen to almost $2,000,000. The income in toll amounted to:

1836	$8,843.76
1837	$13,227.24
1838 for canal toll	$18,275.84
1839 for road toll	3,109.70

From this income, the costs of maintenance are to be deducted, which are very significant, since a carpenter or mason here receives $3 a day (4 *Thaler* 9 *Silber-groschen* Prussian) and the common laborer receives half that. — The company could not have survived without the bank privilege.

b) Waterworks of the city of New Orleans.

On 1 April 1833, the state of Louisiana issued a charter to a share company with a capital of $3 million; this company was obligated to provide the city of New Orleans with water, build the works and areas necessary for this, and to apply the balance of the capital to a *Commercial Bank*; the company was required to invest at least $100,000 per year until the larger part of the city and suburbs was provided with water. Payments from private persons receiving water were to be such that the company would receive at the most 15% pure profit in the first five years and 10% in the following years. After 35 years the city government in New Orleans can receive the waterworks and attachments by purchase after assessment of the price and five years later, or in any case within fifty years of issuing the charter, the banking privilege is ended.

In keeping with this charter, the company has built a great reservoir in which the water from the Mississippi is raised by steam-power and guided through pipes, currently 23 English miles in length, into the city and into the houses. A family of six persons pays $20 a year; for every person over six $2 a year is paid; two children under 15 years are figured as a single person. A hotel pays $50 a year and 3% of the rent. For a horse $3 is paid, $3 for a wagon, for a bath in a private house $5, for a bath in a public house $14 a year, and so on. Presently not even a fourth of the city is provided with water, and yet the investment is already $900,000. The income or rent of water in 1837 was only $8,000, and only $17,000 in 1838; for the current year they estimate it at $25,000. In no case can the company have undertaken this operation if the bank privilege had not assured the income of shares.

c) Gas Lighting in the city of New Orleans

Gas lighting was repeatedly attempted in New Orleans by private persons, but it only [28] took regular form when a company, New Orleans Gaslight and Banking Co., on 1 April 1835, received a banking privilege; the capital of this company consisted of $6 million, of which only a third was bought; of this $450,000 was used for the gasworks and 12 miles of principal pipes, then 40 miles of auxiliary pipes, providing 3,500 gaslights. The company laid the pipes to the house doors, and the owner paid for installation within the house. There is a gasometer in each house, and they pay $7 for a thousand cubic feet of gas. The coal that creates the gas comes from Pittsburgh, 2,000 miles away via the Ohio and Mississippi, costing per bushel of 84 pounds only 18¢. The income of gas lighting is much greater than that of the two companies mentioned earlier.

d) American Exchange Hotel in New Orleans

The population of the city of New Orleans consists of 25,000 Frenchmen, 20,000 Americans, and 30,000 slaves, making 75,000 inhabitants. In the winter 10,000 to 15,000 visitors come, partly due to the mild climate, partly to do business here; but in the summer a large part of the inhabitants of the city depart, to avoid the dominant fevers, Even a few years ago there was general complaint over the lack of good hotels, for who would establish such in a city from which the greater part of the inhabitants depart, only to return in October. So on 26 January 1836 the state of Louisiana issued a charter for the *Exchange and Banking Co*., whose capital consisted of $2 million. This company was obligated to build a hotel costing at least $300,0000, and also to pay for the purchase of the building lot. The shareholders, entirely Americans, did in fact build a hotel that looks more like a royal palace than a hotel, costing $650,000. This hotel is leased for $30,000, but the maintenance costs of such a building and its furnishing was so great that the company could never have covered it if they were not supported by a twenty-year banking privilege.

e) French Exchange Hotel in New Orleans

In New Orleans, the French always are in a sort of opposition to the Americans, and so the former obtained on 9 February 1836 a charter to form a company with the title *Improvement and Banking Co*.; the capital for this undertaking consists of $2 million, with which a large hotel along with an exchange was built in the French part of the city, and also three steamships for travel to the environs of New Orleans were purchased, but the remnant of the capital for bank business. The privilege of the bank is for 25 years. — The company built the hotel in the most grandiose style with an expenditure of $920,000, and invested $90,000 in the steamships. The rich return from the banking business along with massive profit from the hotel, the exchange, and the steamships provide a profit with which the shareholders are entirely satisfied.

f) Railroads with Banks

The state of Louisiana bestowed banking privileges on the Carrollton & Atchafalaya Railroad, so that the company founded its first railroad with a capital of $3 million, and its second railroad for $2 million.

g) Real-Estate Banks in Louisiana

Landowners (sugar and cotton planters) in Louisiana were previously in a very difficult situation in that the operation of their plantations demanded significant capital that only came at the end of the year. The plantings are entirely carried out with Negroes, since white workers cannot tolerate the climate; but the price of a Negro between 20 and 30 is $1,500 to $2,000; at a public auction in Alabama, which I personally observed, even $400 to $500 were offered for ten-year-old Negro women. Provisions, specifically grain, beef and fowl, are almost never produced in the Southern states; they come from the Western states, 2,000 to 3,000 miles away, and are very expensive as a result. Hence, if a planter had no significant capital of his own, he had to [29] borrow money and pay excessive interest for it, since the legal interest rate in Louisiana, as remarked above, is 10%. Then the state decided to privilege *Real Estate* or *Property Banks*, whereby the shareholder presents not cash but mortgages on their real estate, for which 5% loans are obtained in Europe under the state's guarantee. The shareholders now have the right to make loans with the same bank for half of the nominal value of their mortgages at 6 $^1/_2$%; the dividends of the shares are not paid out annually, however, but added to the capital and only paid in several years. So eventually three *Property Banks* arose, specifically the *Consolidated Association* with a state loan of $2 $^1/_2$ million, the *Union Bank* with a state loan of $7 million, and the *Citizens Bank* with a state loan of $6 million, the last of which could be elevated to double that. The state loans for the first two banks were negotiated in London, the loan for the Citizens Bank, however, in Amsterdam. Since the system of the *Property Banks* is seen as excellent, and also likely to be imitated in Europe primarily, I will provide in what follows an excerpt of the statutes of the Citizens Bank, which was the last to be erected and in its charter reflects the experience of the other two *Property Banks*.

The charter on which the Citizens Bank currently rests is of 30 January 1836. — 1) The bank is founded on mortgaged real estate valued at $14,400,000 as well as $12,000,000 or $100 for every $120 of mortgaged real estate. What is mortgaged are cultivated lands, slaves, houses and building lots in cities if they produce rents; no more than a fifth of mortgaged real estate may consist of uncultivated lands. The value of lands will only be accepted for their cash value at sale, and the purchase title precisely examined before its mortgaging. — 2) The bank's directors may loan on their mortgaged lands worth $14,000,000 the sum of $12,000,000 or according to the proportion of $120 real estate the sum of $100, and the state of Louisiana guarantees the payment of interest and capital in five equal series repaid within 14, 23, 41, and 50 years figured from 1 February 1836. — 3) The bank performs all the business of a bank in the United States, which is to say it issues notes and exchanges, it buys and sells domestic and foreign exchange or other notes of payment, it loans money on real estate, it buys and sells all varieties of official paper as well as precious metals, but the loans, discounts, and other payments never total exceed double the

amount of the effective capital of the bank. — 4) The discounts of the bank may be no more than 6% for exchanges that fall due within 124 days, 7% for exchanges that fall due in more than 124 days, and finally 6 $^{1}/_{2}$% for loans on real estate. — 5) The state of Louisiana is empowered to borrow from the bank $500,000 at 5% interest for the same period as is the case with shareholders of the bank. — 6) Since all shareholders of this bank have deposited real estate with the bank, they are protected by mortgaging their shares to borrow half of the amount from the bank; they must always repay 20% at least a year before the periods indicated in No. 2. If all the shareholders of the bank make use of that right, the bank has to loan the shareholders $7,200,000 to these shareholders at $6^{1}/_{2}$% on their real estate, then the bank must use the remnant of $4,800,000 for other business. — 7) Private persons who are not shareholders may borrow money on real estate for 10 years, but must repay every year the tenth part of their capital. — Persons constructing buildings may borrow half the value of the value of the lot and the building, but they have to pay 7% and a commission fee of 1%. — 9) The smallest note the bank may issue is for $5. — 10) Every shareholder may sell his shares as he wishes, but the buyer must provide security in real estate that the majority of the directors recognize as adequate. — 11) During the 50-year existence of the charter the bank is subject to no state or local taxes. — 12) The state names six and the shareholders six of the directors. On the first Monday in February of each year all the directors are elected new. The president, who has the detailed leadership of the bank, receives a salary, but not the directors. — 13) After the bank has paid the 5% interest of the loan negotiated in Holland and all other loans and all other expenses of their [30] operations, the clear profit shall be distributed in the following ways: the state of Louisiana receives for its guarantee of the loan a sixth of the entire clear profit, if all $12 million, and a twelfth of the profits, if only $6 million is included; this portion of the profit will be used for elementary schools in the state. The annual profits of the shareholders as long as they participate, will be repaid to the first series of the loan; then the shareholders receive a fifth of the profit and the rest will be assigned to their capital until the second series of loans is repaid, etc. After the repayment of the last series within the fifty years, the shareholders receive the entire unassigned profit.

The advantage of this bank for the planters in Louisiana is so great that already positive results have appeared everywhere, and in a few years the position of planters, who had been largely in the hands of usurers, has improved more and substantially. The shares still do not produce dividends, since their profits are ascribed to the shares, but currently they stand, in the third year of operation, at 120 instead of 100; whoever sells a share receives an increase of 20%.

Seventh Report

Louisville, Kentucky, 5 June 1839

The Banking System in the United States

Banks have achieved such extension and importance in the United States, in fact they cleave so closely to life here that not a day passes when they are not discussed, and where there are few newspapers here that do not deal with the banking system or report on existing banks. You could believe that the United States could not continue without banks or without credit, and they ask how so many populous, well-built communities could have arisen in so few years, where impenetrable forests in the western states are now cultivated, where swampy lands along the Mississippi have been turned into the finest sugar and cotton plantations, how this general and visible prosperity has arisen, you normally receive the response, "We thank our banks or our credit system, for credit is the first element of the prosperity of the Union!"

In Philadelphia, I visited a wagon-builder who was generally known for his intelligence, but who had still not accumulated any property because he concentrated everything in a continual effort to improve the construction of railroad cars.

"Could you handle a large order?" I asked the man.

— "Oh yes, I get an order for $20,000 and even much more, and on delivery of the cars I only ask for a payment in the form of an exchange in a bill of exchange dated in six months."

— "But how can you ask for this without cash?" I objected.

— "Nothing is easier than this," was the answer, "As soon as I make a contract, I go to a large wood depot and seek all the wood and boards I need; the wood dealer gives in response to my simple showing of the contract credit for at least eight months within which time I will carry out the order. In the same way I get the iron, leather, brass, and whatever else I need on credit for eight months. Then I also need cash to pay my workers every week; I make out a bill of exchange that one or two friends endorse and then sell to the bank; so go quietly to work, and after I have paid for the delivery of the cars with bills of exchange for six months, then I settle with the wood dealer and all the others, and I pay them with the bills of exchange I have received. [31] The wood dealer himself," the man continued, "has certainly not paid for his stock yet, he receives the wood from the interior of the country from people who own forests, who have already received credit before they began cutting down trees; the same is the case with the iron dealer and all the others who have extended me credit, which they themselves have not yet paid for, and the first producers have already received significant credit. It goes that way with all business here, we do everything on credit; whoever has learned something and is active and law-abiding, gets credit and money to carry out every business. Sometimes it happens that the speculation fails and the entrepreneur goes bankrupt, then he makes an agreement with his creditors, gives them what he has, and starts over again new. There are people who have gone bankrupt four or five times in their lives, and each time they can start new and always find credit because they are known as active and law-

abiding people; many of these have a considerable wealth at the end of their lives, others remain poor. The banks and other creditors easily tolerate a few losses because the scale of their business is so great that on the whole they make large profits. That is the way it is in the New World; in the Old World, they say, everything is set on a solid footing, and for that reason a young, capable man has no support if he lacks cash, so for that little can be undertaken, because only those who are entirely secure and certain receive acceptance; only experience will show that one often goes wrong, and although the scale of business is relatively unimportant, the profit from business of a businessman in the Old World is also much less than here, and the general prosperity of the country must be much less than in the New World where a hard-working, unprejudiced, mutually supporting people is the case."

These are the words of the wagon-builder in Philadelphia; a half-year has passed since, and every day I recall his words and every day there is somehow confirmation of their truth. But the American credit system is such an enormous structure, functioning differently in the 26 sovereign states, as with every good thing, there is so much misuse included with it, that it requires a great deal of time, discussion with many experienced persons, and thorough reflection for you to operate correctly according to its rule and to determine how far it might be applied to our European conditions. It is the same with railroads; the Americans have completed 3,000 English miles in ten years, making in each case experiments and changes. There is no construction of railroads, there is no banking system that has not been attempted and tested, and since almost all banks distribute annual reports like the railroads, you also find that there is a school for banking here that no other country can offer.

In my last two Reports. I have already spoken of some banks built in the states of Georgia and Louisiana; this Report will contain a short history and exposition of the expansion of banks in America; in my later Reports the foundation and administration of banks in the individual states will be shown.

The National Bank or Bank of the United States

The Americans already had some banks at the time when they were English colonists, but when they had freed themselves from English patronage they became more enterprising, they needed more credit, and hence their banks proliferated. Each of the states issued charters according to their views, through which incorporated companies were entitled to place notes in circulation in the regions of these states. People soon felt that there was need of a point of concentration to establish a uniform currency, and in 1791 a national bank, called the United States Bank, was erected that had its privilege from Congress and hence could function in the entire region of the Union. The capital of this bank consisted of $10 million, of which the [32] federal government invested a fifth; the charter was issued for twenty years. Since most of the state banks only had the capital of a few hundred thousand dollars, the national bank not only had the greatest business, but quickly obtained a control over all state banks, so that if one of these banks had put too many notes in circulation or had entered a unsure speculation, the national bank denied it all credit and no longer accepted its notes or sent them to the bank for payment in cash. The national bank thus obtained great power over the monetary relations of the Union, a

great protest arose over its monopoly, and after the end of the privilege period of twenty years, in 1811, its charter was not extended.

In 1812 the war between the United States and England broke out; as a natural result of this the credit and undertakings diminished, the public rushed to the banks to exchange their notes for cash, and soon most banks ceased their payments in specie. When peace was concluded in 1815, the Union counted over two hundred banks, whose notes varied in acceptance according to their credit from 20% to 50% loss in specie; a large number of private persons issued small obligations or notes that circulated in the neighborhood. The country was inundated by paper of all varieties; gold and silver had vanished.

Congress debated for a long time how the general confusion was to be remedied, and found no other solution than to establish a national bank in 1815 with a twenty-year privilege; the capital of the bank consisted of $35 million or 350,000 shares of $100, of which again the federal government had a fifth of the shares. The bank was led by 25 directors, of which the federal government named five; the directors elected from their number a president, who was salaried, but the directors had no salary. The chief bank was in Philadelphia and 25 branch banks were located in the most important cities of the Union. The main bank stood in communication with the first houses in England and France, particularly since Mr. Nicholas Biddle held the presidency with such care that everyone, friend or foe of the bank, recognized.

The federal government used this bank to receive its incomes, chiefly customs and the sale of lands, at various points of the country from state collectors, to guard them, and when necessary to pay them out. The bank paid all pensions from the Revolutionary War, they paid the interest and capital of the national debt, and lastly they kept the surplus revenue of $20 to $30 million. The bank paid the federal government no interest for the money it kept, but they also made all payments at every point of the Union without any provision. In this way, the state lost the interest on its cash reserves, but it also saved an entire horde of individual deposits, saved all transport costs that had been very large twenty years earlier due to the lack of communications, finally the federal government, so long as it served as the national bank, had no complaints about even the smallest loss of money.

The confidence of private persons toward this bank was no smaller; whoever had cash deposited it in the bank or one of its 25 branches. An account was opened for him, and the bank paid his orders on sight. They eventually found it comfortable that the entire moneyed part of the public used the national bank or its branches, or would also give another bank bills of exchange and cause this bank to make all payments. The bank did not charge for these acts, but it would also not pay interest on the money deposited with it. They were freed from the worry about depositing money, which with the mass of notes in America, often under par, is no easy business. they were freed from any concern about money payments, and finally there was no peril due to mishandling of money. Merchants and private persons found this institution so comfortable that it continued, and often a counting house or household had barely $50, since all the money passed through the hands of the bank.[18]

[18] Michel Chevalier, *Lettres sur l'Amérique du Nord* (3d ed.), note 13, "De la Banque des États-Unis," vol. 1, pp. 259-281 (Brussels: Société belge de librairie, 1838) for a survey of the bank, its bills, and its branches.

[33] According to the charter the national bank could loan the federal government at the most $500,000 and the governments of the individual states at the most $50,000. The national bank issued notes that were received as cash in the entire Union by private and public officials, but on presentation at any time to be exchanged at once for gold or silver. The smallest notes were for five dollars. The national bank accepted merchants' notes of exchange with two endorsements, whose expiration was no more than four months; they made advances on the official paper of states and other public institutions and dealt in gold and silver; according to the charter the bank could not sell or buy any official funds, and it could only hold real estate that were pledged to it for payment and fell due at non-payment. The interest rate for a discount was set at 6%, and since the bank always had a large supply of cash in its cellars, the dividend of bank shares also was only 7%.

The national bank, which was founded a second time in 1816, began on 1 January 1817, and already on 20 February 1817 the state banks in the larger cities of the Union began to exchange notes for specie. Those banks that could not do this lost all credit and had to liquidate their business. In 1819 complete order was restored and the national bank had control in its hands of all state banks. For the second time the cry arose about a monopoly, and when the President of the United States, General Jackson, began to see the national bank as a power in the state with which his democratic ideas were not compatible, he withdrew in 1834 not only the deposited money of the federal government, but he imposed his veto on the renewal of the privilege passed by Congress. After the bank repaid the deposited money, they reduced their exchange, restricted its business, and a trade crisis was upon them. After the termination of the charter of the national bank on 3 March 1836, the banks in the individual states extended their business disproportionally and there resulted a general crisis, from which the country has not yet recovered today.

The shareholders of the earlier national bank turned to the state of Pennsylvania and on 18 February received a bank privilege for thirty years, for which the bank had fulfill the following conditions: $2,500,000 had to be paid to the state in cash; over twenty years an annual $100,000 had to be paid to the state, and it also had to subscribe $675,000 to various canals, railroads and roads; finally the bank was obligated to loan the state $6 million, for which the bank should receive either 4% obligations at par or 5% obligations at the rate of 110. Despite these heavy conditions, the bank, whose capital was at least $35 million, made good business, and although its notes only had legal tender status in the state of Pennsylvania, they were still accepted in all other states, usually with a fee of one or a few percentages.

Banks of the individual States

The charters for banks are given with great liberality in most of the states of the Union; in some states, they are given without fee, in others for a certain payment or percentage of the profit for 20 to 25 years. The issuance of notes and their relation to cash is ordinarily left to the banks alone. Most banks have a large number of shareholders, but there are some cases where banks are erected with only a few participants. Ordinarily the state government reserved the right to review the bank's situation through its own commission, and the banks have annual statements to

publish. The president, cashier and other officers are always salaried, but the directors receive no compensation. There is an annual general assembly where the report is read aloud to the shareholders and the dividends are made public by the directors. Shareholders elect the directors and remove those with whom they are dissatisfied. Those banks offering the most security are chosen by the federal government or the state governments for depositing and paying state funds, which earlier was only done by the national bank.

[34] With this variety of bank systems there must also be the most varied of results, and since the president and directors of all banks are primarily dedicated to producing the largest possible dividends, you may grasp the fact that they dare many actions that would not have been undertaken on calmer reconsideration. Some banks have cash on hand for up to 50% of their notes issued; other banks put double, even twenty times more notes in circulation than they have cash in the cellar; when new business emerges, new notes are issued, and when it comes to pay, then private persons create new debts; this was the situation since the national bank was left on its own on 3 March 1836. The banks operated like a new free colony, where everyone was on his own and could deal as he wishes; necessarily disorder and finally anarchy breaks out. On 3 March 1837 all the banks in New York, after mutual agreement, ceased payment in gold and silver; within a few weeks the other banks in the Union had to follow, and only at the end of 1838 did cash payment eventually return. The dispute whether a third national bank should be erected continues, and it has largely occupied Congress in its last session. The so-called Democratic Party in America continually agitates the *farmers* and *mechanics* (the men in the countryside and the artisan class) and tells them what losses they have endured with repeated bank failures and the suspension of specie payments. The opposition party, called *Whigs* here, appeals to the same farmers and mechanics, that agriculture receives loans from banks to buy and cultivate landed property, which otherwise would remain worthless, that the enterprising artisan receives money either from the banks or long-term credit from merchants, that finally the mason and carpenter and every other artisan owes his daily pay of $2 to $3 only to the credit system, so that many and extensive banks are irreplaceable for the Union and that a national bank is extremely important for this. The coming election of the President of the United States will show which party has the upper hand.

Number and Operation of Banks in the United States

To give my readers a clearer view of the extent and activity of the banks in America there follows an extract from two reports that the Secretary of the Treasury presented to Congress on 8 January and 7 July 1838:

Date	No. of Banks	Capital	Deposits	Banknotes circulating	Loans & deposits on 1 January	Cash on hand
1/1/1811	89	$52,601,601		$28,100,000		$15,400,000
1/1/1815	208	82,259,590		45,500,000		17,000,000
1/1/1816	246	89,822,422		68,000,000		19,000,000
1/1/1820	308	137,110,611	35,950,470	44,863,344		19,820,240
1/1/1830	330	145,192,268	55,559,928	61,323,898	200,451,214	22,114,917
1/1/1834	506	200,005,944	75,666,986	94,839,570	324,119,499	
1/1/1835	558	231,256,337	83,081,365	103,692,495	365,163,834	43,937,625
1/1/1836	567	251,875,292	115,104,440	140,301,038	457,506,080	40,019,594
1/1/1837	634	290,772,091	127,397,185	149,185,890	525,115,702	37,915,340
1/1/1838	675	317,636,778	84,691,184	116,138.910	485,631,867	35,184,112

Since 1 January 1838 banks have multiplied once more, and the capital at this point is no less than $350 million or 502 Prussian *Thaler*.

How great a difference exists between these enormous amounts and the insignificant capital that the few banks on the European Continent, particularly in Germany, have. The Austrian state counts 34 million active residents, and a single bank is supposed to suffice for this enormous country from the Russian border to Dalmatia! A single bank is supposed to enliven the circulation of money, supposed to provide impetus to its trade and agriculture! How much good could be accomplished, how much prosperity of the enormous realm be raised, if now, when the privilege of this bank runs out in the near future, at least in every land that makes up this state, had a bank of its own as well as a great national bank, and if its statutes rested on the broad experience that has been made in Europe and America.

EIGHTH REPORT

New Albany, Indiana, 15 June 1839

Steamboat travel in the United States

In my Second Report, I have already given a brief excerpt from a printed document that the Secretary of the Treasury sent to the Congress on 13 December 1838 concerning steamboats. locomotives and steam engines in the United States. Since that time in my research I have come into possession of many, significant data dealing with the scope, the significance and improvement of steamship transportation here during the last few years. What follows is a short extraction of it:

1) History and expansion of steamship transportation.

Fulton, a North American, the inventor of steamship transportation, built the first steamship in 1807 and placed it on the Hudson River in order to perform regular voyages between New York and Albany. These voyages of 145 English miles then lasted 33 hours. The success of this steamship made it possible that after that time more and more such ships were built in America.

Until that time barks on the Ohio and Mississippi traveled partly with sails, partly with oars and poles; from Cincinnati to New Orleans (1,600 English miles)

such barks took five weeks to go downstream and about 80 to 90 days upstream, demanding nine men to go downstream and 24 to 32 men to go upstream. In March 1811 the first steamboat, *New Orleans*, built by Fulton in Pittsburgh on the Ohio, was launched, starting in December of the same year to make regular voyages between Natchez and New Orleans. Three days were needed for the 300 mile-stretch downstream and eight days upstream. Within a year the boat was making only 13 voyages up and 13 voyages returning, or 7,800 English miles a year. A traveler paid $18 going downstream and $25 upstream.

Fulton built many more steamboats in the United States, and he went to Europe to introduce his important invention there as well. He received no support in England, and when he proposed steamship transportation in Paris, he was laughed to scorn by the French, and Napoleon declared him an adventurer. The preconceived prejudice of the public in England and in all of Europe was so great against an American invention, or simply a new application of the power of steam, was such that five years were demanded to overcome this prejudice; for it was only in 1812 that *Bell* in Glasgow, Scotland, built the first steamship. Now steamship travel did indeed eventually grow [36] in Europe, but until today it has never had the expansion it has in the United States.

On 6 May 1817, the first steamship *Enterprise* traveled upstream on the Mississippi and the Ohio from New Orleans to Louisville, and returned there on 30 May, in 25 days. Since voyages of barks had previously taken three months, the citizens of Louisville were so entranced that they carried Captain *Shreve* around the city in triumph and gave him a public banquet. Steamships now multiplied continuously on the western and southwestern waters, and their number was already 234 in 1834, climbing to 400 in 1838. In 1831 400 steamships and 421 flatboats passed through the Louisville & Portland Canal, with a total tonnage of 76,323 tons. In 1837 1501 steamships and only 165 flatboats passed the same canal, holding 242,374 tons.

In 1818 the first steamship entered the great northwestern seas, in 1835 there were 25 steamboats underway there, in 1838 the number was already 70. In 1834 88 new steamships were built in the United State, in 1837 (three years later), 134 new steamships were completed. The largest wharfs for steamships are in New York, Philadelphia and Baltimore, then Louisville, New Albany, Cincinnati, and Pittsburgh.

In all, in the summer of 1838 there were about 800 steamships operating in the United States; the largest number of these was in the state of New York, at 140.

Travel on steamships parallel to the seacoast has, as I already remarked in my earlier reports, largely ceased due to the construction of railroads in the interior of the country, and after the completion of the railroad network will surely largely cease entirely, as steamship travel on the rivers increases; its improvement in the last two to three years has gone so far, reducing traffic of sailboats and rowing boats so much that not only merchandise goods without exception, but also almost all provisions, specifically grain, maize, flour, meat, etc., certainly going upstream as well as downstream, are carried by steamships. Freight prices are nearly identical to rowing boats and sailing boats, and goods arrive much faster, hence much less bothered by deterioration than was the case with the boats that traveled much more

slowly. On the Ohio coal is hauled to Cincinnati, 250 miles downstream by steamboat, or actually coal-boats are towed by steamships down the river, and then the empty boats brought back by steam power, so that the freight is brought more cheaply. In any case this contributes to the surprising result of the high daily wage for shippers and all workers, just the crews of steamboats earn a great deal, and the sole cause is entirely the improvement of steamship travel that Americans have achieved results that has taken place neither in England nor anywhere in Europe.

Americans boast that no country on the globe has such a system of navigable rivers that is found here in the Southern and Southwestern states; they assert that the length of the Mississippi, including the Ohio and all the other rivers entering the Mississippi, creates a navigable stretch of 100,000 English miles, or more than 20,000 German miles! — I would not guarantee this number, but the Mississippi alone below 30º [North latitude] is navigated by steamships over a distance of 2,100 English miles to St. Anthony's Falls at 45º, and the number of rivers emptying into the Mississippi that may also be traveled by steamships is truly so large that a European, who is used to our short journeys, can see at a glance the scale of the steamship-system here. Four to five steamships depart every day from New Orleans for Pittsburgh, more than 2,000 miles away, and as many return daily. Such a journey is equal to more than 400 German miles, that is two thirds of the distance from England [37] to New York, and yet this is seen as a perfectly ordinary thing for which no one needs more than a few hours to prepare.

2) Construction of steamboats and the engines used on them.

The steamships in America and the engines used by them are of three entirely different constructions: those on the *eastern waters*, including the seacoast from Boston to Charleston and all the rivers emptying there, need condensation engines with large, vertical-standing cylinders making long strokes; the largest boats usually go no deeper than 5 to 7 feet into the water, and they have a speed of 10 to 15 English miles an hour. On the Hudson River, the distance from New York to Albany, 145 miles, is achieved, going against the current in 11 to 12 hours, and downstream in 9 hours, including stops at 15 to 20 places to load and unload passengers. During the actual traveling it makes four German miles going downstream and three going upstream. On 23 November 1838, I went with the steamship *North America* from New York to Albany; since half the river was covered with ice the next day, much floating ice was already to be seen. The boat set out at 5 o'clock from New York and arrived in Albany the following morning at 7 o'clock. Even including all stops, we made more than 10 English miles per hour going upstream. The length of the ship was 200 feet, its greatest width 26 feet; it had two decks, of which the lower, on which the engine rested, lay about two feet above the waterline; on the upper deck there is a large dining hall with some beds brought in for the men, and nearby a second hall for the ladies. The dining hall is covered with a platform on which people pass the day; in the summer, a tent is spread. We were 320 persons (*Cabin Passengers*) on board, which dined in two divisions in the evening before going to bed, but many beds had to be set up in the dining hall. Since there was still sufficient room left, you may win a sufficient idea of the colossal nature of such a

swimming structure. Two steam engines with cylinders 52 inches drive the paddlewheels 22 feet in diameter. The steam here has a pressure, as with all other engines in the Eastern Waters, averaging 15 pounds a square inch, and the stroke in these machines is 8 to 10 feet; the steam ordinarily streams in when the cylinder is a third or half through the stroke and then cut off, continuing through its expansion. For the entire journey of 145 miles 25 to 39 cords of soft wood are required, each cord of 128 cubic feet. The *North America* travels loaded six feet deep in the water, but there are passenger boats on other rivers in the eastern states that travel loaded 24 to 30 inches deep, moving against strong current.

The steamship in the West, or the *"Western Waters,"* are all built very flat and ordinarily travel loaded 5 feet into the water, although many others are only 30 to 36 inches deep. Where the water is 30 inches or less, just the machine and its wood fuel and cabins for the crew are used, and then two or three boats loaded with goods are hauled behind. The passenger boats again have two decks, of which the upper deck is for the *Cabin Passengers*. On the elegant ships there is a large dining hall decorated in all possible splendor and luxury, with an attached salon for the ladies. Around this salon and often around the dining hall are small rooms (*State rooms*), each with two beds. Outside of the dining room and the ladies' salons is a gallery to which a door leads from each *State room*. Such a ship supplies a European with a grandiose, utterly new vision. All steamships on the *western waters* have high-pressure engines with a steam pressure of 60 to 100 pounds a square inch. There ordinarily are two engines, each driving a paddle-wheel. The cylinders of the engines lie horizontally, their stroke distance measures 8 to 10 feet, and the steam is usually cut off at $^{5}/_{8}$ of the stroke, continuing the rest of the stroke through expansion. The expelled steam is used to heat up the water pumped out of the river.

The third type of steamship is found on the Great Lakes in the north and northwest of the Union; these ships ordinarily are much deeper as the others, and some are condensation and some high-pressure engines.

[38] **3) Improvement of steamship travel since its introduction in the United States.**

Improvement of steamship travel is best shown by comparing earlier and contemporary performance, and the prices earlier and currently charged for passengers and goods.

In 1818 cabin passengers on steamships from New Orleans to Louisville for the river stretch of 1,450 English miles paid $120 upstream and $70 downstream; the journey upstream took 20 days, that downstream 10 days. Currently cabin passengers in the most elegant steamboats pay $50 for passage upstream, $40 for passage downstream, and the first journey is done in 6 days, the second in 4 days. Included in these prices is support for the traveler, which according to the richness of the food and drink on the steamboat will not be less than $2 a day per person. In keeping with this, on the most elegant steamboat the median between the journey upstream and downstream without food is 2.41¢ a mile. The less elegant boats carry *cabin passengers* for $30 in 8 days upstream, and for $25 downstream in 5 days, which

after subtracting $1.50 for daily feeding leaves a passenger merely 1.22¢ per mile as the average between upstream and downstream.

On board these steamships on the lower deck are found what is called *Deck Passengers*, who supply their own food, and for this journey of 1,450 miles they pay $8; however, if they help hauling wood, they only pay $5. In this case they pay only 0.55¢ a mile.

Before the introduction of steamship transporting goods was done on sailboats, which carried as much as 150 tons; in 1817 the freight price per pound from New Orleans to Louisville 7¢ to 8¢; in 1819 steamships started to carry goods, and they reduced the price to 4¢ per pound. Currently the freight price for 100 pounds from New Orleans to Louisville, depending on the classification of goods and the season, 33¢ to a maximum of $1.50. The average comes to $62^1/_2$¢ for the 1,450 English miles-long distance. This gives 0.86¢ per ton and per mile.

In 1819 the first steamship, *General Pike*, was launched that traveled once a week between Cincinnati and Louisville, 150 English miles, 18 hours downstream, 40 hours upstream. A cabin passenger then paid $12 for the journey. Currently steamboats have become so numerous that at least six boats go down and as many up. On the most elegant boat, such as the *Pike* and the *Franklin*, you pay $4 and travel including all support in 15 hours upstream, and 11 hours downstream; but often this journey takes 12 hours up and 11 hours down, in which latter case 4 German miles are covered every hour. If you subtract $1 for food, $3 remain for the travel, or 2¢ per mile. Deck passengers, who help with loading wood, pay $1 or $^2/_3$¢ per mile, and must feed themselves. Goods pay on the average 15¢ per 100 pounds or 2¢ per ton per mile.

From Cincinnati to St. Louis the journey goes 538 miles down the Ohio and 192 miles up the Mississippi, 750 miles in all. You make the journey to St. Louis or from there in return in 4 days. A *Cabin Passenger* pays $12, of which at least $4.70 must be deducted for the inexpensive food on the whole journey; for the travel itself there remains 1¢ a mile. The *deck passengers* pay $4 without food, which gives incidentally $^1/_2$¢ a mile. Goods pay on average 50¢ per 100 pounds or 1.37¢ per ton per mile.

You pay on the most elegant steamboats on the Hudson River $3 for the stretch of 145 miles from New York to Albany; this results in 2¢ per passenger per mile; food is paid separately. On less elegant steamboats travelers are carried for a dollar and at this moment even 50¢, which gives a mere $^1/_2$¢ per mile.

According to the data given above, it can be taken as an average that *Cabin Passengers* on American rivers, in keeping with the elegance of the ship pay between $2^1/_2$¢ to 1¢ (food not included), but Deck Passengers pay only an average of $^1/_2$¢ per mile; both travel on the average between upstream and downstream 12 miles an hour. Goods traveling on the same steamship pay on average $1^1/_3$ ¢ per ton per mile. The highest price of $2\ ^1/_2$¢ per traveler gives 5 Prussian *Silbergroschen* per German mile, but 7.9 Kopecks Ass. per *werst*; the lowest price of 1¢ per English mile gives 2 Prussian *Silbergroschen* per German mile, or 3.2 Kopecks Ass. for the *werst*. The freight price of $1\ ^1/_3$ ¢ per ton per mile gives 0.137 Prussian *Silbergroschen* for 100 Rhenish pounds and a German mile, or 0.076 Kopecks Assignat per *pud* and per *werst*.

These surprising results, which no one ever asserts, arise simply from the continuing improvement in the construction of steamships and of the steam engines themselves. It is notorious among the 800 steamships currently operating no two are built exactly the same; steam engines, although subject to the same principles of steam power, still are different from English machines in almost all of their parts. As recently as three years ago you needed eight days to go from New Orleans to Louisville, while today only six days are needed. The most remarkable fact is that a ship of 400 tons required 360 cords of wood at 128 cubic feet, and that today that same amount of wood is needed, but while 20 years ago the ship needed three weeks, it today needs only six days for the same journey.

4) Increase of salaries and the prices of all things needed for steamships in recent years.

The most surprising thing in American steamship travel is that the prices for them continually dropped, while the salaries and all things needed rose from year to year in the same period.

Twenty years ago, the captain of a steamship received an annual salary of $1,000, and now they receive $2,000 for the best boats. Every ship has two stearsmen (pilots), who change over every four hours; in 1822, each of them received $60 a month, but from there the price rose until he earned $300 a year in 1838, and this price is now paid to the pilots on the good steamboats. Every steamboat has two engineers, who also change every four hours; in 1822 their pay was only $40 a month and rose eventually as a result of great demand to $100 and even $150. The stokers and ordinary workers only received $14 twenty years ago, and now they receive $30 to $40 a month. The entire crew also receives very good support on the steamship as well as the specified pay.

The provisions that are needed to support travelers on steamships have risen in price by 33% in the last five years.

Steamships on the Western Waters required about the same wood that was entirely worthless 20 years ago, but eventually climbed to $1.75 and $2.00 a cord on the Ohio and Mississippi in 1834. Currently the same wood has risen to $2.25 to $3.50 a cord; so in five years prices have risen nearly 50%.

5) Cost of building steamships

Steamships on the Western rivers, whose manner of construction could be introduced to our European rivers with many advantages, are built, as noted above, largely in Louisville, [40] Cincinnati, and Pittsburgh. Normally the hull of the ship is built by their own ship-carpenters; the engine is delivered from a factory; and on the ship, specialized joiners build the cabins and other furnishings. Three classes of workers are thus required with whom specialized contracts are made, but there are also some individuals who contract and take over the construction of the ship and its entire furnishing. Since the prices vary for the solidness and elegance of the ships, I will describe the financing costs of individual ships that I know best.

The two steamboats *Pike* and *Franklin* travel between Cincinnati and Louisville, carrying the mail; every day one of them is going upstream and the other downstream. The steamboat *Franklin* is 183 feet long on its deck, and its greatest width is 25 feet, the depth or actually the height from the bottom to the first deck (the hole), where the goods lie, measures $6^1/_2$ feet. The contents of the ship is 200 tons. There are 42 cabins (*State rooms*) on the upper deck, each with two beds, making 84 beds, but there are also beds placed on the floor of the dining room, so that 150 persons could sleep on the ship. The steamship has two engines, with steam pressure at 80 pounds per square inch; the diameter of the horizontal steam cylinders is 25 $^1/_2$ inches, the stroke is 7 feet; steam shuts off at $^5/_8$ of a stroke, and the remaining $^3/_8$ works through expansion. The diameter of the two paddle wheels is 22 feet, their width 11 feet, the height of the blades 22 inches; the paddle wheels make 28 rotations a minute; the connecting rod of the crank and the piston measures 23 feet. There are six boilers of wrought iron, each 23 feet long and 40 inches in diameter; in each boiler, there are two heat channels of 15 inches in diameter.

Normally this steamship transports 125 passengers, of which half are in the cabins and the other half on the lower deck; further the ship normally transports 25 tons of goods. With this load, it has a draft of 6 feet deep. It was built in 1836 and cost:

The hull at $25 per ton	$5,000
Two steam engines	12,000
Carpentry of cabins	4,000
Drapery, mirrors, beds, furnishings	9,000
Total	$30,000

The ship is, as said, among the most solid and elegant; other steamships of the same dimension cost $5,000 to $6,000 less.

Among the steamships of a larger size that only travel between New Orleans and Louisville, the *Sultana* and the *Ambassador* are especially loved by the public; the *Ambassador* is 215 feet long on its deck and 35 feet wide. Its capacity is 450 tons. There are 44 *State rooms* on its upper deck, each with two beds, but as many beds can be opened on the deck. Each of the two steam engines has a horizontal cylinder with a 25-inch diameter and a stroke of 8 feet: the steam operates with a pressure of 90 pounds per square inch, and it ceases at $^5/_8$ of the stroke. The diameter of both paddle-wheels is 22 feet and their width 12 feet. The steamship ordinarily carries 200 tons of goods upstream and 300 tons downstream, then 100 *cabin* passengers, distinguished from 150 *deck-passengers*. It runs 5 feet deep unloaded, 7 feet with a load. Its hull cost $12,0000, the engines $17,000, the fine carpentry and the rest of the extremely elegant construction, with furnishings, $31,000, altogether $60,000. It must be remarked, however, that important and expensive alterations were performed during construction, so that today it would not cost more than $50,000.

Informed persons who are most interested assume that the average cost of a steamship in the eastern waters is $45,000 to $50,000, on the western waters

according to a specific accounting an average of $23,000, and on the [41] northern lakes an average price between the others, or $35,000. According to this the average cost of steamships in use in 1838:

351	ships on the eastern waters	@ $47,500	$16,672,500
385	on the western waters	@ $23,500	9,047,500
64	on the Lakes	@ $35,000	2,240,000
800	ships on average	@ $34,950	$27,000,000

Because since the introduction of steamships 1,300 have been built, the total capital that the Americans have applied to steamboat travel is $45,435,000. By far the greatest part of this capital was applied in the last five years.

6) Costs of operating steamships

These consist if the payment of the crew, the cost of wood fuel, the cost of caring for the *cabin passengers* and crew, then for covering repairs.

Above under no. 4 I have mentioned the extraordinary rise of salaries that has taken place in recent years; the cause of this rise lies particularly in the significant multiplication of steamships and the shortage of usable persons, then in the rise of all prices in the United States. The crew of the *Franklin* costs as follows per month:

1 captain and two clerks	$200
2 pilots	$200
2 engineers and 2 assistants	$250
2 mates	$80
1 ship's carpenter	$30
2 cooks	$85
1 steward and 6 waiters	$140
1 cabin maid	$20
10 stokers at the boilers	$200
9 ordinary laborers	$190
38 persons	$1320
Monthly 785 cords of wood and some tons of coal	$1775
Provisions for 62 cabin passengers and 38 crew, Total 100 persons	$1400
Total without repairs	$4495

or $4,500 a month. The ship made a daily journey of 150 miles in nine months, hence 40,500 miles a year; in the other three months, it cannot be used due to the

lack of water depth; during this time it is newly caulked, painted, and all necessary repairs made. The last of these does not exceed $3,000 a year with a new ship of this size. In addition, there is the cost for general wear, which is very important. The wood of which ships are built here swells so much due to the climate that a ship seldom lasts more than six or seven years; even ships of the first rank are only used for four years and then sold; the new owner continues to use it for a few years, but these journeys are no longer entirely safe. For this reason, they figure 25% of the construction cost as the average deterioration; so the ship has a value at the end of the first year of $22,500. In the second year there is another reduction of 25% for wear from the $22,500, or $5625, but repairs in the second year take so much more, that those for general wear again drops to $10,500 a year. So, in the third and fourth year of use, when the ship is only worth $9,492, it will be sold.

[42] So we have the following expenses through the year of the steamship *Franklin*:

During 9 months of operation @$4,500	$40,500
During the other 3 months pay and support for the captain and two clerks, since they are retained, the others released	1,000
For repairs and general annual usage	10,500
Insurance 7 to 9% annually for $^3/_4$ of worth, since steamships may only be insured to this level	1,350
Various smaller costs	1,150
Total	$54,500
Less expenses for passenger support and service	$14,000
Remaining for the actual journeys	$40,500

Since the ship makes a daily journey of 150 miles, or 40,500 miles in all, each mile of the steamship costs precisely a dollar.

In contrast, the ship receives an average for each journey:

From 62 cabin passengers @$4	$248
From 63 deck passengers @$1	63
125 persons per journey, average	
For 25 tons of goods @$3	75
For transport of mail per journey	4
	$300

The payment of $4 for transporting the mail 150 miles is unusually small, because the public normally prefers mail boats for punctuality and security, so the owners of steamships take the transport of mail at the lowest possible prices.

An income of $300 a day produces $105,300 in nine months, which when compared with the payment of $54,500 makes an annual profit of $50,800. Since the steamship Franklin only cost $30,000, you can see what enormous profit those steamboats with a good number of passengers make in the United States.

The steamship *Ambassador*, whose tonnage is more than twice that of the *Franklin*, began its travel in late autumn 1837 and made four journeys in this year from Louisville to New Orleans at 1,450 miles, and four return journeys, altogether 11,600 miles. The costs of operation were $8,500, or $25,500 for three months, $2.29 for each mile. In 1838 the *Ambassador* made ten journeys to New Orleans and ten returns or 29,000 miles, *so every mile cost $2*. The payment of the crew on this ship, due to its larger size and long journeys of 1,450 miles, was much more than on the *Franklin*. The costs of the crew on the *Ambassador* per month was:

	1 captain received per year	$2,000
	1 first clerk received per year	1,200
	1 second clerk $50 a month, then 8 months	400
	1 person on the buffet, $45 a month, then 8 months	300
	2 pilots, each $300, then 8 months	4,800
[43]	2 engineers, each $400, but he must pay his assistant, both 8 months	2,400
	2 mates, one $75, one $50, both continuing for 8 months	1,000
	1 ship's carpenter, $60, continuing for 8 months	480
	2 cooks, one at $50, one at $30, then for 8 months	640
	1 chief cellarer at $85 and 6 aides at $25, all 7 continuing for 8 months	1,880
	1 chambermaid at $25 and 4 washers at $20	360
	16 stokers at $35, continuing for 8 months	5,600
	8 ordinary laborers at $25, continuing for 8 months	1600
	48 men cost in operating year	$22,720

Since the crew, besides significant pay, are also fed and housed on the ship, it can be seen that the expense is much greater than on any steamship in Europe. The cost of $2 a mile includes the cost of feeding the travelers, but no addition is made for deterioration. Since these two sums roughly balance, you may say that with other large and elegant ships of 400 to 500 tons the expense for each mile is $2. In 1838 the Ambassador carried 100 cabin passengers, paying $50 for upstream travel and $40 for downstream, then 150 deck passengers, who partly pay $5, partly $8; finally, there were usually 200 tons of goods upstream and 300 tons downstream. The income for a journey of 1,450 miles often reached $7,500, while the costs for the same journey was only $2,900, leaving a very large profit. On the journeys in 1839

through the month of June there were only 65 cabin passengers, but despite that the ship will have a better return later.

The steamships *Franklin* and *Ambassador* belong, as I said, to the most elegant, hence having the highest prices; more cheaply built, less elegant steamships with lower-paid crews travel more cheaply, and there are many steamboats of 200 and lower capacity whose expenses are just 50¢ for every mile traveled. If this boat finds only 34 travelers paying 1 $^{1}/_{2}$¢ per mile, operating costs are covered. If there are fewer travelers, or the operating costs higher, the price for travel rises.

The steamboats between Wilmington, North Carolina, and Charleston, South Carolina, which go a hundred miles along the seacoast, made 297 voyages in all from 1 June 1838 to 1 February 1839, carrying 4,071 passengers the whole distance and 1,235 only part of the way; on average, there were only 18 passengers per voyage, and yet the company had a profit, since the travelers paid 5¢ a mile, and the ship also carried goods and mail. They in fact figured that a mile traveling with this steamship after deductions for feeding the travelers, not including the ship's deterioration, cost only 54¢, so that 11 travelers would cover the operating costs of this steamship.

The steamboat *Champion*, 240 tons content, which travels between Pensacola and Mobile, also along the seacoast, plies a distance of 98 miles every day, and has with care of the travelers $100 current costs. Each traveler pays $10, or nearly 10¢ a mile, and the average daily number of passengers is 10, so the income equals the expenses.

[44] 7) **Comparison of freight costs on steamships with those on the railroad.**

When you compare the total annual operating expenses of the American railroads with the number of miles that all the trains travel annually, then an average result shows that the moving of a railroad train one English mile costs a dollar, exactly what it costs to move a steamship of 200 to 300 tons a mile. It is certainly a remarkable result that *the travel of a steamship 200 feet in length costs precisely what a railroad train of the same length costs*, although the speed on the railroad is somewhat faster, that is, 12 to 15 miles per hour, compared to the steamship, which on the Mississippi or the Ohio only makes an average of 12 miles an hour. If these steamships carried a hundred travelers and more, they could carry a traveler without difficulty for 2¢ a mile, while on average the traveler pays 5¢ a mile on the railroad. But if there are fewer travelers on the steamship, as we have seen, prices must rise up to 10¢ a mile. On American railroads, there are only 40 travelers on a train, so you must set the price at 5¢ a mile in order receive a gross income of $2 for every mile. Everything depends, then, on the number of travelers; if it is large, then the steamship and railroad pay well; if it is small, then both will fail.

Steamship travel has in every case an advantage that competition and opposition is stimulated in that hundreds of ships, belonging to various owners, can travel the same river. On railroads the perils are too great if you admit opposition; so only the cars of *one* company travel, who have a sort of monopoly. The competition of American steamships has made it possible to move travelers for $^{1}/_{2}$¢ a mile, and these low prices have certainly and solely caused a great increase of travelers, in that

you often make a detour of a few hundred miles to then continue a journey further on the Mississippi. It is inconceivable that low prices have not been tried on any railroad in America; up to now there have simply been few competitive lines, such as between New York and Philadelphia.

But there is one situation where the railroad has the advantage over steamship travel, whether the travelers are many or few. This will occur in a few years with two large railroads that are being built in America now. The first railroad goes from New Orleans to Nashville; it is currently 20 miles long across a swamp of hitherto unknown depth, on which the entire railroad floats, and which is distinct from all railroads before it in this regard. The length of this railroad will reach from New Orleans to Havannah on the Tennessee River 434 English miles away, while the length of the Mississippi and Tennessee to Havannah is more than three times as far. A second railroad of 156 miles in length will go from Montgomery to Pensacola in opposition to the three-times longer steamship journey in the Alabama River between Montgomery and Mobile. In both cases the three-times shorter railroad will be preferred by the public if you have to pay three or four-times more for the miles of distance.

8) Explosions of steamships and their causes.

In the official report of the Secretary of the Treasury of 13 December 1838 it is said that since the introduction of steamship travel until summer, 1838, over twenty years, 200 steamships with about 2,000 passengers have wrecked; this was annually 13 steamships and 100 travelers who lost their lives. Even if this does not seem very important for a state with currently 10 million residents, in that a much larger number have died on roads, still the explosion of steamships that are always described in full horror in all the newspapers, the general opinion – not in America — but in Europe, [45] is most agitated. Here everyone is able to establish the quality of a ship and its journeys, and always finds reliable boats; as a rule, the boats with higher prices are more reliable than the cheap boats, with a little foresight and somewhat larger expenditure you may undertake entirely safe journeys on American steamboats that have already traveled thousands of miles. In the meantime, it is necessary to explore the causes of explosions more closely.

a. Most accidents occur on the Mississippi and Ohio, where steamships ordinarily travel day and night without interruption. The length of these journeys are over 400 miles, travelled with stops to take on wood, for ten days upstream and six or seven days downstream. The steam engine is often kept running on the first journey for 240 hours without interruption, and in this period the boiler is continually heated, which also often happens in factories and now with steamship travel between England and America. Here is an entirely different matter; Pittsburgh lies 10 $^{1}/_{2}$ ° further north than New Orleans, so good health is demanded to deal with the enormous temperature difference that exists in those two cities, and it is understandable that engineers who are with the engines are so overcome by the heat that

they cannot oversee engines properly anymore, and so explosions happen.

b) The banks of the Mississippi and the adjoining Missouri are being continually broken off by the water, tearing away whole stretches of the primeval forest, and the trees taken down, trunks of hardwood, 60 to 100 feet long and several feet thick, continually fall in and sink with their roots to a point where the upper portion of the trunk remains at an angle to the river, and often not visible from the surface. They call these *snags* or *sawyers*, and there are entire islands of derelict trees, although many have been destroyed by special machines, but still they remain in great numbers. If a steamship moving upstream with a speed of 10 to 12 miles per hour strikes such a sawyer or snag, it will be penetrated and sunk in an instant.

c) Americans are known as the most enterprising people in the world, who proudly say of themselves, *"We go always ahead."* The Democrats here do not want to be set back by any of their fellow citizens; on the contrary, everyone wants to rush ahead of the others. If two steamboats come near one another, immediately all the passengers demand of the captain that there be a race, and now begin races without measure or goal. The boiler, which is capable of a pressure of at most a hundred pounds a square inch, has the steam put up to 150, even 200 pounds. And often it is pressed so hard that the contest ends in explosion. On the least of boilers signs are screwed on, as in Europe, that melt at a certain temperature, *Races* are a known source of most explosions, and yet they continue to happen. The life of an American is actually a continual race, why should he fear one on a steamship so much?

d) So as not to lose more time, wood is only taken on every twelve hours, which for large ships requires 30 cords or 3,840 cubic feet. Since it is often hardwood that is needed, the weight that is placed quickly and only on one end, 1,800 hundredweight, and the ship often leans against the flat shore. Loading wood takes about an hour, during which the steam is kept up continually, so that the ship can then depart. Out of neglect it happens that no water is being pumped into the boiler, the steam escapes through the vent, and only hot air remains, and then when water is pumped in, the boiler explodes. Although it is known that many explosions take place after loading wood on [46] departure, at this time careless Americans always linger on the front part of the ship, where the explosion causes the most injury.

e) It often happens in travel at night that a ship going 20 miles an hour downstream encounters a ship going 10 miles an hour upstream in a river-bend, upon which the weaker ship sinks.

f) I have already remarked that there are always two pilots who switch every four hours, but that each of them must make the entire journey of more than 400 German miles from New Orleans to Pittsburgh. Taking onboard new pilots from time to time has not occurred to anyone here. The natural result of this is that the pilots do not know such a long, continually changing portion of the river, and run up on a sandbank. An engineer, to get off the sandbank, gives more steam than is wise, and the ship is subjected to an explosion,

When the cause of all the accidents of the steamships here is sought, you see that it is entirely due to carelessness and lack of understanding. The enormous increase of steamship travel has so much tested the abilities of engineers and mates that capable persons no longer suffice; those who are ignorant, unaware of danger, often guide ships, and you must marvel that many more disasters do not occur. None of the reasons that produce explosions would take place in Europe. Particularly the noted "thoughtfulness" of my German countrymen would have sufficed to avoid accidents. It is regrettable that steamship travel developed for five full years before they even attempted to do anything in Europe. It would be even more to complain if now, here where such rich experience has been collected over twenty years with an investment of $45,000,000, and brought steamship travel to such a high degree of perfection, that Europe would still delay beginning its own construction. May our German steamship companies compare the material in this report with the salaries and other prices in Europe, may they estimate the freight prices for persons and goods with their own prices, and so communicate the advantages that can come to them through introducing this system.

Ninth Report

Cincinnati, Ohio, 25 June 1839

Railroads in Belgium: Comparison with North American Railroads

In my earlier eight Reports, I have given a concentrated description of American as well as a general view of American banks and of steam ship travel. I believe that it would be of interest to the public on the Continent of Europe to more closely compare the constructed or projected railroads there with American railroads, and to learn the improvements that the American System makes advisable for European railroads. In this Report, I will deal with the Belgian railroads, which I have traversed four times, in a brief outline and compare them with American railroads; in my next Report, I will give a brief outline of the railroads in Germany and Russia and present a few suggestions for their advancement.

[47] **1) History, length and construction costs of the Belgian Railroads**.

The railroads that have been established or planned so far in England and on the Continent of Europe have only the purpose of connecting the most important points with one another; their location has only a secondary, local interest. The notion that railroads are to be regarded *as large-scale military routes*, that they could provide the chief mode of communication in the entire country, that they thus should be built with means that are only at the command of an entire nation, no one in Europe declared before 1834, and is still doubted and denied by influential persons. Belgium, united with Holland since 1815, was unique in Europe for its fine roads and splendid canals; the latter were mostly placed in the flat land without locks and served not only to transport goods, but also to carry travelers, particularly from the lower classes that used canal boats in greater number than in any other country in the world. Who could have dared to place railroads in competition with and parallel to such perfected canals and roads?

In 1830 Belgium separated from Holland, choosing through the national representatives a ruler of its own ruler. King *Leopold I* quickly grasped that the country needed "work" for its own pacification; a series of wise laws encouraged the nation to useful and productive undertakings, and everyone having talent and desire found work and profit in the country, which, cut off from all its neighbors, was reduced to relying on itself. But to win public opinion to itself, the new government need a *great national effort* that posterity would ever regard with amazement. The days of the Egyptian pyramids, Roman triumphal arches and French war monuments were past; it must be a useful monument, a monument of peace and enlightenment, to remind them of these crucial years for the Belgians. The king had the entire country measured by capable engineers, the necessary plans and decorations were designed, and on 1 May 1834 the law appeared to *lay a network of railroads throughout the entire kingdom and to carry it out at the cost of the state*. It should lead to the sea at two points, specifically Antwerp and Ostende, at two points it should also reach France, and Prussia at one point.

In the rest of Europe, they learned of the enormous undertaking that a young state of only four million inhabitants, not yet recognized by the Nordic sovereigns, intended to undertake, and only a few could grasp the great results this huge project would have for the autonomy of the nation, for its internal unification, and for its trade and industry. The first matter was the chief goal of the grand project, the promotion of trade and industry its by-product, although the majority, having only material interests in mind, saw the second as their chief goal.

King Leopold found powerful support in the serving minister of public works, Monsieur de Theux, and his successor Monsieur Nothomb; engineers were enthused to promote it as much as possible, and in four years they had accomplished much more than had been expected. The enlightened minister, Nothomb, reported annually to the houses of parliament, and he had other special reports printed on the progress of the railroads in which the European public found a rich source of information that was sought in vain in any other reports or works; Europe must thank the king, who was the first to bring such a grand idea to completion, as well as his enlightened

ministers, who led the effort so efficiently and published their experiences with the greatest liberality.

The limited space of this presentation does not permit a detailed extract from the accounts of Minister Nothomb and the Belgian engineers; so I will just make a brief summary that shows the result in figures, comparing them with American railroads. The following table shows the individual rail lines that were opened [48] until the end of 1838, and their lengths in meters; in order to compare them directly with American railroads their lengths are also given in English miles.

Railroads		Opened	Length	
from	to		in meters	in English miles
Brussels	Mecheln	5 May 1835	20,300	12.6
Mecheln	Antwerp	3 May 1836	23,500	14.6
Mecheln	Termonde	2 January 1837	26,700	16.5
Mecheln	Louvain	10 Sept. 1837	23,750	14.7
Louvain	Tirlemont	22 Sept. 1837	17,750	11.0
Tirlemont	Waremme	2 April 1838	27,200	16.8
Waremme	Ans	2 April 1838	18,900	11,7
Ghent	Bruges	12 August 1838	44,500	27.6
Bruges	Ostende	28 August 1838	23,500	14.6
			250,600	150.0

According to the report Minister Nothumb made to the House of Representatives on 26 November 1838, these ten sections, including buildings, locomotives and cars, cost 34 million francs, so that a French league of 4,000 meters cost 530,000 francs and an English mile $41,300. The line from Brussels to Antwerp, 27 $^{1}/_{2}$ miles long, has two tracks, the rest only a single track; the rails weigh 45 English pounds per yard. In contrast, a large number of the buildings remain to be built, work remains to be done on the line, cars for freight, etc., are still lacking. When it is complete, an English mile of a single track will cost no less than $45,000.

2) Ticket prices on the Belgian railroads; speed of travel.

Four classes of cars are carried on Belgian railroads, differing according to their elegance and comfort, but on the same train traveling at the same speed; the reductions of the ticket prices are:

In the Berliners $2\ ^{1}/_{2}$ ¢[19] a mile
Diligents 2¢
Chars à bancs $1\ ^{1}/_{2}$ ¢
Wagons $^{4}/_{5}$ ¢
Each traveler with 20 kilograms or 44 English pounds baggage.

The trains make a speed of 17 English miles an hour, including stops; without stops 20 to 25 English miles.

[19] Recall that $1 = 100 American cents = 533 French centimes.

3) Traffic and Gross Revenue of Belgian Railroads.

Belgian railroads are used by a much greater number of passengers than is the case with any other railroads. The transportation of goods only began in 1838 between Brussels and Antwerp. The following table shows a summary of individual travel.

[49]

Periods of time	A	B	C	D	E
5/5/'35 to 5/2/'36	563,201	11.6	6,536,754	359,394	5.5
5/3/'36 to 12/31/'36	729,545	20.2	14,718,709	734,736	5.0
1/1 to12/31/'37	1,384,577	17.2	23,838,436	1,416,983	5.9
1/1 to 10.31/'38	1,921,619	22.8	43,887,864	2,580,384	5.9
in 3 years 6 months	4,598,942	19.35	88,981,763	5,100,497	5.7

In addition, there was a gross income of 44,148 francs for freight.

A=Total of travelers; B=Average distance traveled per passenger, in miles; C=Number of travelers per English mile; D=Gross Revenue, in francs; E=From all travelers, in francs;
F= From one traveler per mile, in centimes.

In 1837 30,857 soldiers were among the travelers, for which in keeping with an agreement with the War Ministry only half was paid. In 1838 the entire number of travelers, according to the *Moniteur belge*, rose to 2,238,303, including 56,618 soldiers, and the gross income amounted to 3,100,833.40 francs. Since the average distance a traveler went in the first half of 1838 does not appear in the Minister's report, the income from a traveler per mile was presumed to be the same as 1837, producing an average distance of 22 $^{4}/_{5}$ miles.

To show how the various classes of cars were used by the traveling public, we provide the number of travelers for each class and the resulting income for the last year from 1 January to 31 December 1837. Specifically, in this period the following traveled:

17,503 passengers	I. Class and paid	69,322.65 francs
215,893	II. Class	702,502.70
604,935	III. Class	1,033,953.05
1,343,354	IV. Class	1,087,790.45
56,618 soldiers		45,248.88
For excessive baggage and goods		162,015.40
2,238,303 passengers		3,100,833.40 francs

These figures demonstrate that the Belgian Railroad is used chiefly by the lower classes of the population.

4) **Operating expenses of Belgian Railroads.**

The accounts for the operation of Belgian railroads contain a precise distinction of all expenditures; the first main division contains the costs for maintaining the line itself and policing it; the second division contains the transportation expenses, specifically combustible, locomotive driver and stoker, repairs of locomotive and cars, their lubrication, then costs for conductors, bearers and packers; finally the third division contains general management costs, specifically the fare-collecting personnel and control officials, printing costs, office costs, etc. (In the Belgian accounts the conductors are in the third category, although they should be included in transport costs.) The following table contains the precise summary of operating expenses:

[50]

Period	A	B	C	D
5/5/ to 12/31/1835	50,584.10	105,967.88	12,220.84	168,772.73
1836	132,637.41	261,778.30	36,719.96	431,135.67
1837	345,824.53	664,940.46	144,766.92	1,155,471.91
1/1 to 10/31/1838	377,822.58	1,959,180.71	182,186.48	1,619,189.77
3yrs., 6 mos.	906,868.53	2,091,867.35	375,834.20	3,374,570.68

A=Maintenance and policing of the line; B=Transport costs; C=General management costs; D= Total.

Since this table was composed after 3 $^{1}/_{2}$ years of operation, these figures may be seen as the result of long-term experience.

5) Costs of Repairs of Locomotives and Cars.

The transportation costs in the previous table appear in the report of the Minister under the following rubrics:

Actual transportation costs	954,408.60 francs
Costs of conductors	56,916.97
Costs of bearers and packers	43,569.14
Costs of uniforms	4,286.60
	1,059,180.71 francs

In the first large sum is contained the costs for:

Masters in repair shops with	32,177.54 francs
Workers with	187,463.61
Costs of chief shop in Mecheln	54,868.72
Materials for repairs	87,965.66
	362,475.53 francs

The last costs account for 34 $^{1}/_{5}$ % of general transport costs, which is certainly a great deal. It is my conviction that the repair costs for locomotives

and cars would be significantly reduced if American locomotives and eight-wheeled passenger and freight cars of American construction were used.

6) Costs of transporting a passenger one English mile.

Since the precise accounting is only available to the end of 1837, the expense of moving a passenger one English mile can only be figured for this period. According to the previous table the expenditures from 5 May 1835 to the end of December 1837 for:

Maintenance and policing of the line	529,045.95 francs
Actual transport costs	1,032,686.64
General management costs	193,647.72
	1,755,380.31 francs

In addition, during this time according to table no. 3 the number of passengers was 45,093,899; so for the transport of a passenger an English mile:

[51]Of costs for policing, maintaining the line	1.17 centime
actual transport costs	2.29
general management costs	0.43
	3.89 centimes

These operating costs are extremely low and are higher with any other railroad. For a railroad between St. Petersburg and Moscow of 630 *werst* or 420 English miles the transport costs in this measure would be only 16.33 francs, or 14 Rubles 60 Kopecks.

7) Cost of transporting an entire train an English mile.

The distances which all locomotives and their trains traveled on the Belgian railroad was:

From 5 May 1835 to 2 May 1836	14,810 leagues
3 May 1836 to 31 December 1836	24,825
1 January to 31 December 1837	61,592
	104,227 leagues

Since a Belgian league is 5,000 meters, 314,506 English miles were covered by the trains from 5 May 1835 to the end of December 1837. According to table no. 4 the costs during this period of two years and 8 months:

For maintaining the lines	529,045.95 francs
transport costs	1,032,686.64
general management costs	193,647.72
	1,755,380.31 francs

Since in this time the trains traveled 314,506 miles, so for every mile that the train completed:

For maintaining the lines	1.68 francs
actual transport costs	3.28
general management costs	0.62
	5.58 francs

Moving a train one English mile hence costs 5 francs 58 centimes, or $1.05, which comes very close to that of American railroads.

8) Number of passengers on one train.

From Table no. 2 above we see that the number of passengers from 5 May 1835 to 31 December 1837, when reduced to a single figure, amounts to 45,093,899. During the same period the locomotives traveled 314,506 English miles, so the average number of passengers in a train is 143.

If you compare this with 5.58 francs, the cost of moving a train one English mile, then you again receive 3.89 centimes as the cost of moving a passenger one English mile.

9) Comparison of the gross income with the surplus left after paying costs.

The following table contains the comparison of the annual gross income, the annual cost of operation and the surplus as taken from the report of Minister Nothomb on 26 November 1838. The annual surplus is added, deriving from every 100 francs:

[52]

Period	A	B	C	D
5/5 to 12/31/1835	268,997.50	168,772.73	100,224.77	37.26
1836	825,132.85	431,135.67	393,997.18	47.75
1837	1,416,982.94	1,155,471.91	261,511.03	18.46
1/1 to 10/31/’38	2,633,532.21	1,619,891.77	1,014,342.44	38.52
3 years 6 months	5,144,645.50	3,374,570.08	1,770,075.42	34.41

A=Gross income; B=Operating costs; C=Surplus of income over costs;
D= Of 100 francs of gross income there remains after costs.

So, on average from 3 $^{1}/_{2}$ years of operation only 34.41 francs remains from 100 francs of gross income; but since all the locomotives and cars are new, and no allowance is made for their deterioration, a surplus of only 30 francs per 100 will remain; this surplus is applied to interest and retirement of the building capital.

10) Gross revenue per mile of railroad length.

The public in Europe is almost universally of the opinion that only short railroads, particularly between populous cities, repay their interest, but that branches of a railroad leading to distant, less populous areas, are in no position to be profitable. I have shown in my earlier Reports that Americans have a different view, since they look upon railroads as the great military roads of the country; we will now see what results have been delivered by the operation of the Belgian railroads in this respect.

The following table holds the explanation on this:

Period	A	B	C	D
5/5 to 12/31/'35	1	12.6	268,997.50	32,333.75
1836	2	22.3	852,132.85	38,212.23
1837	6	56.1	1,416,982.94	25,258.16
1/1 to 12/31/'38	10	118.1	2,633,532.21	26,638.34
3 years, 6 mo.	—	53.1	5,144,645.50	27,735.98

A=Number of opened sections; B=Average length of opened railroad; C=Gross income during the period; D=Average gross income per mile of railroad.

In the second column for 1835 is only the railroad then opened between Brussels and Mecheln, with 12.6 miles. In 1836 this 12.6 miles was used for 365 days and the second section from Mecheln to Antwerp used for 243 days. If each distance is multiplied by the number of days and divided by 365, then the average length is 22.3 miles that was in operation in 1836. In the same way, this length was figured for the following years. The last rubric of the table shows that the average income per mile, when it had the attraction of novelty, and only 12.6 miles were open, produced 32,333.75 francs, and that this income in the third and fourth year, when the line was no longer used by the curious but mostly by business people, and where the opened length was far greater, still earned 26,600 francs a year per mile. This number must invariably become greater in the following years, since already in 1838 four new sections were opened on which larger traffic only developed gradually; further [53] then comes the transportation of goods, which was 850,000 francs for 159 miles, or 5.346 francs per mile annually; the gross revenue of the Belgian railroads will also as a result produce about 32,000 francs a year per mile. That later the growth of population and business traffic will also increase this 32,000 francs is obvious. The result of the Belgian railroads goes to prove that large railroads have the same advantages as smaller ones, only excepting special circumstance.

It would be entirely false when calculating the building of a large complex of railroads, roads, or canals, if the income of the mainline and then of each branch line were accounted separately and judged accordingly. When a branch line is opened, the income of the mainline is increased, because persons and goods go from the branch to the mainline. The correct way to account in a great complex of railroad, road or canal system consists in comparing the total of miles on the mainline together with all branches with the total income, and figure the annual average income per mile from that. Once the operating cost is deducted, then the surplus, compared with the building capital per mile, how high the latter has paid for itself.

11) Budget for the Operation of the Belgian Railroads in 1839.

We have already seen that the gross income of the Belgian railroads is 32,000 francs per mile, which with a length of 159 miles would produce 5,088,000 francs a year. From this after paying all expenses 34.41 centimes remains per 100 francs gross income, so that the entire surplus will be 1,750,780 francs, for which the Minister in his budget after deducting for other purposes 1,700,000 francs. This surplus is exactly 5% of the total building capital of 34 million francs; since this 5% is needed for interest and amortization, so the Belgian railroads have fulfilled their obligation to sustain themselves without being a burden on the state treasury.

12) Increasing the income from the mail and road tolls.

Objections are still raised against railroads because their introduction was supposed to reduce both road tolls and mail, in that the roads are used less, and many take their letters with them for themselves on the train; both appear to have been feared in Belgium. Minister Nothomb declared in the Senate on 27 January 1838 that mail in 1837 had increased by 262,373 francs and street tolls by 110,000 francs over 1836, in that although the tolls for roads running parallel to the railroad fell, but on the side roads, where travelers passed to the railroad, rose by much more. The income from mail also had to rise as a result of the increase of business.

13) Comparison of Belgian Railroads with those of the United States.

According to the table under No. 3 the number of passengers who took the Belgian railroads in 3 $^{1}/_{2}$ years, when reduced to a mile of railroad, was 88,981,763, so an average for a year was 25,423,361. Since the average length of the line in use was 53.1 miles, this makes 478,783 travelers. *The Belgian railroads are thus traveled by almost 500,000 persons a year*. We now make the following summary:

a) *Building costs*. Per English mile of single-track railroad along with buildings, locomotives and cars, $20,000 in North America, but $41,300 in Belgium, or more than twice as much.
b) *Freight prices*. On the American railroads a passenger pays on average 5¢ [54] a mile, on Belgian railroads only 1¢ of five times less. Goods pay on American railroads an average of 7 $^1/_2$¢ per ton and per mile.
c) *Speed*. On American railroads passengers normally travel at 12 to 15 miles per hour, but on Belgian railroads at 17 miles per hour, including stops, and 20 to 25 miles per hour without figuring the stops.
d) *Traffic*. On American railroads on average 35,000 persons and 15,000 tons of goods travel per year, on Belgian railroads so far 478,783 passengers, and freight traffic has only begun.
e) Gross income. On American railroads on average per English mile are earned:

From 35,000 passengers at 5¢	$1,750
15,000 tons goods at 7 $^1/_2$¢	1,125
Transport of mail and various	200
	$3,075

On Belgian railroads the gross income per English mile of 478,783 passengers and freight annually 32,000 francs or $6,003.75.
f) *Costs to transport a train one English mile*. These costs amount on American railroads an average of $1, but with the Belgian about $1.05, so the costs in the two countries are about equal.
g) *Number of persons on a train*. In Belgium, each train over the last 3$^1/_2$ years carries an average of 143 persons; in American passenger trains there are usually only 40 passengers present.
h) *Number of trains in a year*. If you divide 35,000 passengers by 40, you receive 875, which is the number of passenger trains that travel annually over the American railroads. If you divide 478,783 by 143, you receive 3,348, the number of trains that travel over Belgian railroads with passengers. Since trains travel so much faster, it was necessary to have rails weighing 45 pounds a yard, while the same are much lighter in America.
i) *Cost of transporting a passenger an English mile*. In Belgium it costs 0.73¢, but in America 2 $^1/_2$¢ or 3 $^1/_2$ times more. The reason for this is that American trains hold 3 $^1/_2$ times fewer persons, and the expenditure per train and mile are the same in both countries. It is a matter of indifference to a locomotive whether it carries 143 or 40 persons.
k) *Annual operating costs of railroads*. On American railroads these costs are annual:

Transport of 35,000 passengers at 2 $^1/_2$ ¢	$875
Transport of 15,000 tons of goods at 6 $^1/_2$¢	975
Carrying of mail, etc.	100
	$1,950

or $62.41 of $100 gross income.

On Belgian railroads operating costs per $100 gross income is $65.59, annually per mile $3,937.86.

l) *Interest on building capital*. On American railroads the annual average gross income per English mile is $3,075, the annual operating costs $1,950, [55] so that $1,125 remain, which meet the bank costs on $20,000 with an interest of 5 $^1/_2$%.

On the Belgian railroads the annual average gross income per English mile is $6,003.75, the cost of operation $3,937.86, so that $2,065.89 remain to pay interest on the bank capital of $41,300, which equals 5%.

14) General Remarks.

The comparison of the results of the Belgian railroads with those in America speaks obviously to the advantages of the former. The low prices on the Belgian railroads at the outset raised the number of passengers to a level found nowhere else, and it has injected a liveliness in the traffic that is to be found nowhere else. While the high price for the best level of cars produces a significant profit, the price for the lowest level of cars are set so low that they almost cover only the actual cost. Hence Belgian railroads have become an extremely popular, grand institution that must attract the applause of the people and every educated person in the land. Belgian railroads have given the government reductions for military transport whose importance has been very great in recent years. The Belgian railroads are in tune with the great idea of their founding and only cover the interest on their capital and amortization, but the state treasury has its gains through the increase of traffic in all consumption taxes, in road tolls, with the mail; the most important profit, however, is what the great founder of these railroads wanted, which is that the nation should come together in close contact, and unite themselves like a great family, in which the current election slogan, "*L'union fait la force*" [= "Unity makes power"] becomes truth.

Tenth Report

Cape May, New Jersey, 29 July 1839

My last Report from Cincinnati contains a narrative of the Belgian railroads and a comparison with those in North America. In the current Report, there is a narrative of the progress of railroads in the other parts of Europe and a comparison with the railroads here.

1. Railroads in Austria.

The first railroad that was built for traffic in passengers and goods is that between the Moldau and the Danube, or *from Budweis to Linz*. The decreeing of this took place in the negotiation of the plenipotentiaries of the ten Elbe-bank-states, gathering as a result of the Congress of Vienna act in 1819 in Dresden, concluding with a convention to regulate shipping on the Elbe. Free shipping on the Elbe began in 1821, and the Dresden Commission turned before its conclusion to the Austrian government with the request to regulate ship travel on the Moldau [Vltava] to Budweis, and from there to the Danube to place a canal or a railroad so that in this way goods could pass from Hamburg to the Danube, and in return. In 1822 I was asked by the man who was then president of the court's [56] commercial office to place me at the head of the enterprise, and I immediately made the detailed local investigations on the spot. I then went to England, to inform myself of the best plan to lead a railroad over the mountains between the Moldau and the Danube, which had a height on the one side of over 1,000 feet and 1,500 on the other. The English engineers were then entirely convinced that every railroad in the area of mountains had to be divided into horizontal or nearly-horizontal stretches, between which there should be steep flat inclines that would be surmounted by *stationary steam engines*. I told them that I understood a railroad both according to the main principles of its plan and as being in its purpose only *a very good artificial road*, and so in no way could I accept inclined planes; but my views were not approved by anyone in England.

I returned from England in November 1822, undertook the necessary leveling over the following two years, and on 7 September 1824 received from His Majesty Emperor Francis I a personal privilege to build and operate a railroad between the Moldau and the Danube. In March 1825, I organized a joint-share company and leaded and completed by the end of 1828 the construction of the first 39 English miles from Budweis to the crest of the mountain. The principle in establishing this section was not to have any sharper incline than 1:120, or 44 feet per English mile, and no smaller diameter than 600 Austrian or 622 English feet, further not to retreat from any height once achieved. Since the railroad was primarily intended for the transport of salt, the superstructure was of flat straps (*plate rails*) nailed on wood, and the accepted maximum of incline was so that the cars could go downhill on the straps by themselves. In autumn 1828 the section of 39 miles was opened, and operated with horsepower as originally assumed.

As clearly as the principles of this construction must appear to anyone, as much as the success of the journey corresponded to all expectations, proposals were made to change them, and accepted by the direction of the company without further

investigation. I declared once again in a memorandum appearing in February 1829 the reasons to keep my principles of construction, and I also proposed using light locomotives for transporting, but the direction paid it no heed and permitted continued construction, in which I had no more part, from the crest to Linz according to a plan where inclines of 1:46 or 115 feet per English mile were found in large sections, great heights already achieved abandoned, and frequent turns of a diameter of 60 feet taken. In 1832 the entire railroad of 80 English miles was opened, used since then by summer and winter, although the region there is annually inundated with high snow. The company had earlier made a contract for the transport of salt and mercantile goods according to which they paid to the leaser 3 *Kreuzer* of Convention coin per hundredweight and sold off the 39 miles I built. Since the opening of the entire route no less than 10 *Kreuzer* per hundredweight was paid, and there is now no one, from engineer to porter, on traveling or observing the line who has not regretted that the principles I followed with the first half of the line was not also used on the second half. The company suffered at least a loss of 5 *Kreuzer* per hundredweight, which with 500,000 hundredweight a year makes 41,666 *Gulden*, while the additional cost, if they had followed my principles, would have brought in not over 250,000 *Gulden* Conv.-coin. Further it was now impossible to use steam, which with all the cheap timber would have been an advantage. There is certainly no railroad, neither in Europe nor in America, where the principles of construction are so different in two separate halves, and where you may judge success so easily as with this railroad, and it is a warning for similar fates to desire that as many people as possible travel the line and decide on the spot the success of construction by both principles.

[57] It is no wonder that, under such conditions, the railroad, which cost 1,652,000 Gulden Conv.-Coin or $10,325 per English mile, for the capital invested has received only 5% a year since its opening in 1832, after only 6,000 passengers and 25,000 tons of goods, mostly salt. If they had invested 1,000,000 Gulden Conv.-Coin or $11,875 per English mile, this capital would be returning 6 $^{1}/_{2}$ %, and with the application of steam power at least 8%. It is lamentable for the shareholders that a portion of the capital was raised in loans with short payment dates, and another part through the issuance of shares at par, so that dividends for the original shareholders were reduced and only increased when the loans were paid off.

The railroad from Budweis to Linz was later extended to the salt-licks in Gmunden, now having a length of 130 English miles, which has been in full operation for three years. The plate-rails on this section have the same strength as on many railroads in America, which operate with locomotives unhindered; but unfortunately, such construction principles are applied on the line from Linz to Gmunden that make the use of locomotives impossible. The bank costs of the entire line of 120 English miles was 2,400,000 Gulden, or $9,230 an English mile, which in comparison with the many bridges and significant blasting of rocks is certainly an unimportant amount. Since last year 95,000 passengers and more than 40,000 tons of goods have traveled on the railroad from Linz to Gmunden, its volume is much greater than the railroad from Budweis to Linz.

In 1826 construction began on a railroad from Prague to Pilsen; this railroad was to transport wood from the Fürstenberg forest and coal from the region of Pilsen; its

projected length is about 80 English miles. The limited means of the company unfortunately only permitted building 35 English miles, and then the railroad had to be auctioned to cover the debts of the company. Currently this railroad transports firewood and building stone to Prague. I must remark that I have never had any connection with this railroad.

The Austrian public invested a capital of 3 million Conv.-Gulden for these railroads at a time when there was as yet no thought of any railroads in all the other German states. Through the construction of these lines, which partially ran through the most difficult terrain, Austria obtained experience that would have had the best results and even now have stimulated enterprises that are on a greater scale than in any other state in all of Europe.

The first great railroad undertaken, called the *Kaiser Ferdinand Nordbahn*, will reach from Vienna to the saltworks in Bochnia, and will have a length of 310 miles; the section to Brünn of 100 English miles is already open, and an extension of this construction is already underway. Last year the directors reckoned the cost at 200,000 Gulden a German mile or $20,000 an English mile, but in any case it could not be less than $25,000 per English mile, so that it could not go to 15 $^1/_2$ million Gulden for the entire railroad to Bochnia. Since the greater part of this capital is already guaranteed, so the entire project will be completed in a few years. The extension of the railroad to Krakau then is unproblematic; the Russian government has already bestowed a privilege for a railroad from Krakau to Warsaw.

The second great railroad that is underway in Austria is the Vienna to Raab Railroad, which together with the branch lines to Baaden, Glocknitz and Oedenburg is to have a length of 170 English miles. The construction of this railroad has already begun, and with the significant monetary means there is no doubt that it will be entirely carried out in a few years.

In this moment, there are certainly 300 English miles in operation in Austria, and this length will be at least doubled in the next three years.

[58]

2. Railroads in the remaining German states.

Other than the railroads in Austria, there are the following other railroads in Germany for passenger and freight service planned, and some already opened.

1) The *Nuremberg-Fürth Railroad* of 4 $^1/_2$ miles length, a small undertaking, still gave their shareholders the best results of any railroad in Europe. Although the population of Nuremberg is only 38,000, and that of Fürth a mere 25,000 souls, still the railroad was

Traveled by 449,399 persons	in 1836,	share dividends were 19%
by 469,304	in 1837	17$^1/_2$%
by 439,889	in 1838	17%

2) The *Berlin-Potsdam Railroad* of 14 English miles length cost $1 million and was partly opened on 21 September 1838, entirely opened on 29 October, and by 29 December last year 102,119 passengers rode it. The

operation of his railroad, with efficient leadership, should have a good result for the shareholders.
3) The *Leipzig-Dresden Railroad* of 71 $^{1}/_{2}$ English miles in length, was opened along its entire line on 8 April 1839. Its capital consists of 4,500,000 Prussian *Thaler*, or $3,150,000, with the right to issue banknotes for a half-million *Thaler*. The great cost of this railroad, not under $50,000 an English mile, derives from the difficulty of the terrain along the established line; on the other hand, the railroad may expect heavy traffic. Although there were only 6 English miles open on 24 April 1837, and later small distances at either end of the line, the number of passengers was:

From 24 April to 31 December 1837	145,674
In 1838	365,870

4) The *Railroad from Braunschweig to the Harz* is being planned by the government there and has 30 English miles in length. The portion from Braunschweig to Wolfenbüttel of 8 English miles in length was opened on 6 December 1838, and until the end of the year transported 24,600 passengers.
5) The *Düsseldorf-Elberfeld Railroad* of 13 English miles will be built with a capital of $700,000. Unfortunately, on the advice of the engineer *Robert Stephenson* in England, an inclined plane was placed in the middle of the railroad, which, as I earlier remarked, totally contradicts the American experience. On 20 December 1838, the section from Düsseldorf to Erkrath was opened.
6) The *Magdeburg-Leipzig Railroad* of 75 English miles length, built with a capital of $2 million, a portion is to be opened this year, and the rest in 1840.
7) The *Railroad from Cologne to the Belgian border* of 43 English miles length, is built through a very difficult terrain and should be completed with $3,500,000; its completion should come in two or three years. Cologne will then be linked to the harbors of Ostende and Antwerp.
8) The *Munich to Augsburg Railroad* of 40 English miles length will be built with a capital of $1,200,000, and should be completed entirely in this year.
9) The *Taunus Railroad* from Frankfurt am Main to Wiesbaden of 22 miles length will be undertaken with a capital of $1,300,000 and probably opened in 1840.
[59] 10) In the *Grand Duchy of Baden* a great railroad running the length through the entire state at government cost is underway, and since a railroad is being built into the Darmstadt area, in a few years there will be a railroad in operation from Frankfurt am Main to Basel in Switzerland. Further, short railroads have been laid in several German states on which only coal, iron ore, etc., are hauled with horses.

The construction costs and even the length of the railroads listed above cannot currently be precisely given, since almost none of them are entirely finished, and where the main line is in operation, many buildings, locomotives, cars, etc., are lacking. The average of the building costs is indeed $47,000 per English mile, but

when they are in full operation they will doubtless be $50,000 per English mile and probably much more. The construction costs of a mile of single-track railroad in Germany costs 2 $^1/_2$ times as much as in America. When you consider the extremely low pay of workers of all classes in Germany, but also the difficult terrain, and compare both with those in America, then you cannot see building in Germany as being very expensive, and after long consideration to being the reasons for this to mind that I made in my Fourth Report. It is conceivable that with such high construction prices no more railroads will be built in Germany, and that so many useful and fine projects will be given up out of fear of excessive expense. Among the railroad projects in which I know the localities in detail, I mention here particularly the Rhine-Weser Railroad, that from Berlin to Stettin, and from Berlin to Frankfurt a. d. Oder, then the Erzgebirge Railroad. These four railroads could certainly be done if the great experiences gained in America were taken seriously, and that the American system of operation was used to raise such sums that the shareholders would gain a sufficient profit.

3. Railroads in France

The largest railroad line in France is that from Lyon to Roanne, which is being built by three companies, measuring 38 leagues[20]; the Épinac Railroad has 6 $^1/_2$ leagues, that from Paris to St. Germain 4 $^3/_4$ leagues, and the total remaining length of the railroads opened would barely be 11 leagues. France has so far only 60 leagues or 150 English miles of railroads in operation. The most expensive railroad of this is that from Paris to St. Germain, which measures 18,400 meters or 11 $^1/_2$ English miles and costs on the whole 14,860,000 francs or $242,000 per English mile. If the portion within Paris is the most expensive, there still remains $165,000 per English mile of two-track railroad. On the railroad from Lyon to St. Étienne, which also has a double track, the English mile costs about $70,000. On the railroad from Paris to St. Germain 1,375,396 were transported between 26 August 1837 and 25 August 1838, and the total income was 1,550,144.35 francs, so that the gross income for every English mile was 135,637 francs or $25,448; this income is to be sure greater than that on American railroads, where it is on average $3,075, but compared with the construction capital the gross income in America is 15%, but that with the St. Germain Railroad only 10%. Since French railroads, like all Diligence coaches, must pay 10% of their gross income to the state, their operating costs is no less than 3/5 of their gross income, and the interest for the St. Germain Railroad would barely reach 4% if the traffic did not grow to such an extraordinary extent.

These are the reasons why the French public gave so little support to the proposed large railroads from Paris to Le Havre, from Paris to Orléans, and from Strasbourg to Basel, approved by the chambers [of the French legislature], so that these projects will not be realized. The great mass of the French population is notoriously poorer than that in Belgium; since Belgian railroads cost $45,000 per English mile and only pay 5% for their building capital, on average in France they cannot pay more than $30,000 per [60] English mile or 400,000 francs for a league

[20] As earlier noted, the archaic measure of *lieu*, translated "league," was converted into 5,000 meters in Belgium; Michel Chevalier in 1836 converts it in France to 4,000 meters, mentioned later here.

of 4,000 meters, if the building capital is to be paid 5%. There should be entirely different principles for construction than earlier, as well as an alteration of the expropriation law, oppressive for every enterprise.

4. Railroads in Holland.

If the construction of railroads in Belgium is one of the surprising phenomena of modern times, then this is even more the case in Holland. This remarkable country is known as the homeland of canals, and nowhere do you find better or better-maintained roads than there. Nevertheless, two years ago the building of a railroad *from Amsterdam to Haarlem* was begun, and was near completion when I visited Holland to view the great drainage operation at Gouda. The construction of this railroad was all the more remarkable because there was a canal between Amsterdam and Haarlem that was traveled with passenger boats, and a nearby road existed next to which the railroad would be built. They had begun the construction for the English gauge of 4 feet 8 $^{1}/_{2}$ inches, but it was known that for the St. Petersburg Railroad a gauge of 6 feet, and on the railroad from London to Bristol a gauge of 7 feet existed, and on the command of the royal government a gauge of 2 meters or 6 feet 6 $^{3}/_{4}$ inches English was ordered for all railroads in Holland.

For a second railroad from Amsterdam to Arnheim along the Rhine in 1838 His Majesty King Willem made a guarantee such as had never existed before; the King specifically declared in a patent that he would guarantee with his own property a dividend of 4 $^{1}/_{2}$ % to the shareholders. It does not need to be recalled that the entire capital was immediately subscribed.

5. Railroads in England.

Although the first railroads, as is claimed, were introduced in mining operations in Germany, the engineers and mechanics in England deserve citation for first using these railroads for the transportation of people, and to have attached to them the power of steam. It is only regretted that enormous building costs of English railroads and the operating costs of so many railroads there, using inclined planes, produced results that were mostly disadvantageous for the shareholder, and for every case made a very bad impression on the Continent of Europe. The very railroad that was held to be the model of them all, specifically the Manchester & Liverpool Railroad, is 31 English miles long and cost, according to the directors' report to last December 1837 in all £1,360,095 or $213,228 per mile. A half million passengers travel on it a year, who pay 5 shillings 6d or 3 shillings 6d, 4 $^{1}/_{2}$¢ or 2 $^{3}/_{4}$ ¢ a mile. On average in the first 3 1/2 years of operation every traveler paid 3 $^{3}/_{4}$ ¢ per mile or a quarter less than in America. Further on this railroad 250,000 tons of mercantile goods and over 100,000 tons of coal was transported. The gross income in 1837 was on the whole £226,000 or $35,431 per mile. This income is to be surely 11$^{1}/_{4}$ times greater than that on an American railroad, where they on average yield $3,075 per English mile, alone when compared to the building capital of $20,000 and $213,228 per mile amounts, the income in America is 15% of the building capital, while on the Liverpool & Manchester Railroad only collects one percent more. This explains

why the clear income of this railroad, one which greater traffic than any other railroad in the world, has so far only been only 7 to 8% of the building capital; to be sure the shareholders receive 9 to 10% dividends, but only because more than £500,000 was accepted as a loan at 4%, so that the surplus dividend was added to this capital portion.

The second largest railroad of 112 miles length goes from London to Birmingham and [61] cost £4,500,000, or $195,000 per mile. The other railroads in England cost less, to be sure, than those listed above, always far too many to serve as measures for Europe. Even in England at this time only the shares of five banks stand above par, the shares of all other railroads are sold below their nominal value. On the whole, there are currently about 800 miles of railroads in operation, of which about 300 miles are used simply for coal transport. If you add 300 miles in Austria, 150 miles in the rest of Germany, 150 miles in France, 159 miles in Belgium and 17 miles in Russia, there is a total of 1,576 miles of railroads that are currently operating in densely-populated Europe, while at the end of 1838 more than 3,000 miles of railroads were open in the United States.

6. Railroads in Russia.

Railroads were declared by the engineers there as entirely incapable of establishment until 1834, when I toured a portion of Russia. In response to my presentation, His Majesty the Tsar bestowed on me on 21 December 1835, according to the information of the president of the Imperial council, the exclusive privilege to establish two railroad companies, from St. Petersburg to Zarskoe-Selo, and from St. Petersburg to *Peterhof* [Palace]. I then formed a company to build the first railroad, for which a privilege was issued on 21 March 1836. The building of the railroad began immediately, and it was partly in operation on 21 September 1836, and the rest on 30 October 1837. The railroad itself is only 17 English miles long, but consists in its entire length in a straight line outside the Residence City; the greatest incline occurs in the city and consists of 10 $^{1}/_{2}$ feet per mile. On the entire length of the railroad there was an earthen dam of more than a million cubic yards, and on it a layer of stone and rubble 14 inches high, and on these rest the ties, on which cast-iron pedestals were nailed and rails weighing 65 pounds per yard of length were fastened. The space between the ties was again filled with pounded granite and covered with sand. The pretention of the entire setting of the railroad corresponded to the traffic, which before construction I estimated at 300,000 persons in each direction, or 600,000 persons total, but the luxuriousness of construction, the high price of iron in 1836, the costliness of the stone and gravel in the swampy environment of St. Petersburg, then so many costs which always come with a new undertaking, made the construction so costly that the actual building of 17 miles in length with one track cost 4 million Rubles Assignats or $50,000 per English mile. Included was acquiring six locomotives, 44 passenger cars with 1878 seats, and 19 freight cars.

The directors of the railroad only permitted single journeys on a few days a week in the winter from 1837 to 1838; the regular journeys from St. Petersburg to Zarskow-Selo only started on 4 April, and that to Pawlowsk on 22 May 1838. In keeping with the printed protocol of the General Assembly, which I received from the directors a few days ahead, the operations to that date as follows:

The number of passengers, 1 April to 31 December 1838 was	597,665
Reduction on the whole length gives the number of passengers	423,129
Passenger payments totaled	768,891 Rubles, 40 Kopecks.
So on average every passenger paid for 17 English miles,	1 Ruble, $81^1/_2$ Kop.
This gives per passenger and per mile	$2\ ^1/_4$ ¢

There were 3,500 locomotive journeys, and there was an average of 121 passengers per journey. So all the trains together covered 87,500 *werst*. The costs of operation were:

[62]

Maintenance of railroad and building	111,552 Rubles	06 Kopecks
Transport costs	174,850	23
Costs of administration, direction, etc.	144,116	82
Costs of entertainment of the public	67,573	41
	498,002 Rubles	52 Kopecks

If these costs are compared with 87,500 *werst*, you receive the cost of taking an entire train the distance of one *werst*, 5 Rubles 69 Kopecks, or 180¢ per English mile. In Belgium, these costs were only 105¢ and the trains contain on average 143 passengers. In America, the same is only $1 and only 40 persons are transported in a train.

If you divide the cost of 180¢ by 121, you receive the cost of carrying a passenger one mile as 1.49¢, or double what it costs on Belgian railroads. The total gross income of the enterprise in 9 months was 789,344 Rubles 83 Kopecks; the net profit however is, according to this reckoning, 299,572 Rubles 8 Kopecks, or 38% of the gross income, Shareholders receive a 4% dividend from the operating year of 9 months.

In its report, the directors said that in the first year of operation there was a frequency of 797,091 persons and an income of 920,237 Ruble and 20 Kopecks. For the second year of operation the directors expected an income of about 1,100,000 Rubles and declared that there was a prospect that the net profit would be over 40% of the gross income. Afterwards 440,000 Rubles would remain as profit, which after deduction of 90,000 Rubles for interest and amortization of the loan there would be 350,000 Rubles or 10% of the share capital of $3^1/_2$ million. The entire result of operation showed a precise agreement with my first projection; for the number of passengers, reduced to the entire length of the line, was 600,000, and already three

years ago I gave the shareholders a lease on the railroad for three years in exchange for an annual dividend of 10%, which at the first was doubted, but currently has been reckoned by the directors as likely.

The experience of operation in the last three years had showed that the costs were very much more significant than expected, and now, after my experience of Europe and a much more extended one of America, I declare that it is *entirely impossible* to pay the operating costs of the St. Petersburg railroad with the *current* arrangement of 60% of the gross income. The operation of the undertaking is still not settled, for in their last report the directors state that, besides the transferred 5,031,667 Rubles 64 Kopecks, they wanted an increase to 5,300,000 Rubles, as well as the deposit money for the station square designated in the privilege, which should be dropped, to end the enterprise, ignoring that the railroad has been operating for a full year. *So long as expenses for the construction and operation of a railroad exist at the same time*, no one ever, even with the best of wills will be able to settle both accounts precisely. Hence in 1839 and as long as we have no specific results of the operating costs of the railroad, while the construction figures are not closed.

The improvements and new arrangements that I have proposed to the directors for our railroad are of the variety that have been used to advantage in every other railroad in Germany, where it may find a place. *All large cities in North America*, specifically New York, Philadelphia, Baltimore and New Orleans, *are penetrated by railroads lengthwise*, continuing these railroads through the liveliest streets. Through using its own right of way the railroads turn sharp corners with 40-foot diameters and eight-wheeled cars, usually 52 feet long, never leave the rails. In the interior of these cities *only horses* are used, the horses can only go at a trot, and the devices in the railroad car are of a [63] type that the horses may be brought to a stop, and that no problems at all are caused to the other traffic in the town. Extending the railroad is advantageous for the public and shareholders, and particularly for short lines. Accordingly I have recommended only to buy a tenth of the land for the station square in St. Petersburg foreseen in the privilege, and instead to extend the line a few *werst* along the Fontanka Canal, to draw travelers from various parts of the city by horse-power to the current station square. Everyone who knows the position of St. Petersburg and the course of various railroads must declare this proposal as highly advantageous; carrying this out will not cost more than 150,000 Rubles, while the station square described in the privilege is already set to cost 300,000 Rubles.

My second proposal concerns the introduction of eight-wheeled cars and American locomotives. According to the statutes of the corporation, 10 to 30% of the gross income is reserved to renew worn items, and so on. According to the directors' report, 69,572 Rubles 8 Kopecks have been deposited in this fund, and according to the statute, before the end of 1839 it must have at least 180,000 Rubles. In their report, new cars must be obtained for the unexpectedly large number of passengers, and arrangements have been made to purchase two new locomotives. The 6 locomotives and 44 passenger cars were obtained by me in 1836 according to what were *then* the best models. Intelligence urges that the purchases in 1839 be for the *current* best construction, shown to be the best. In the beginning, as in Russia and Belgium, on American railroads, four-wheeled cars in the English model were

introduced, but annually there were significant and repeated accidents where people were sacrificed. The law exists in all the United States that railroad companies have to make full compensation to the injured or their survivors if there is a complaint, when the company cannot prove that the accident was simply due to the guilt of the travelers. Juries are pitiless toward the railroad companies here. On the railroad from Boston to Providence in July 1836 there was a collision between two trains where eight sailors were injured in one car, which was soon restored; the company was condemned to injury compensation of $25,000 or 35,830 Prussian *Thaler*, and similar cases have taken place on other railroads. A few weeks ago, a respected merchant from Philadelphia fell from a car, which was only partly possible for the company to prevent, and now his heirs demand compensation for $200,000. Under such conditions it is understandable that directors and engineers of railroads here are doing everything they can to introduce construction of cars and locomotives to avoid accidents as much as possible. In 1838 more than five million passengers were carried on American railroads, and despite many night journeys hardly ten accidents happened where drunk or deaf persons were run over, or passengers jumped from the cars, or locomotives left the rails due to switches or wood on the line, and the like. *There was, however, not a single case where an eight-wheeled car was thrown from the track in a collision of trains, or overturned, shattered, or persons in them seriously injured*. These cars have now been introduced on at least 2,800 miles of railroads, and the public here would no more tolerate four-wheeled cars.

The accidents that take place on the English railroads, which are so much shorter, are generally known, and many more lives have been lost in 1838 on the railroad from Paris to St. Germain, and in Belgium, transporting a regiment. In both cases trains collided, the four-wheeled cars were thrown from the rails, overturned, and many corpses were from underneath. The most recent accident took place on 21 May Old Style on the St. Petersburg [64] railroad, when there (as the directors recently informed me) five cars were thrown from the rails by a locomotive, one of the cars overturned and smashed, and under the ruins the plenipotentiary of the company, Herr *Fassmann*, and chief conductor *Busch* were found dead. May the loss of such an upstanding, tirelessly active man as was Herr Fassmann be the last to die in this fashion on the railroads of Europe; may there the prejudice against American arrangements be overcome before our governments act as the Americans to pass laws to compel companies to compensate, as much as is possible, with money. Since there are fewer prejudices in Russia than in other European countries, und the railroads there are adopting a wider gauge, serving as an example to other lands, so you cannot doubt that an American train will soon be seen in action on the St. Petersburg Railroad.

A third recommendation touching the St. Petersburg line, as well as all the railroads in Germany, consists in *the use of wood as the combustible of locomotives*. This was tried in 1836 on our railroad but must be given up, as on the Ferdinand-Nordbahn and other railroads, because the sparks streaming from the chimneys of the locomotives set fires on the clothes of the passengers on every journey. As a result coke had to be brought to St. Petersburg from England, and it remains in use despite the far higher price. Since there is no coal between St. Petersburg and

Moscow, and reasonably cannot be expected that you could bring the combustible for the operation of such a colossal railroad from England, this was one of the reasons that brought me to America; more than a hundred railroads use wood here, and it was expected that something practical would also be found in this regard. So I came here and traveled sixty railroads and still had not found anything that would satisfy me completely. Finally, I went below the thirtieth degree, and under the southern sky, where cotton and sugarcane grow, where sparks could raise fires, I found a device that perfectly corresponded to my need. Necessity led to the discovery of the device. A company had to pay thousands every year for burned cotton, and they promised prizes and tested until the result was successful. Escaping steam was led through the chimney and created the necessary draft; the sparks and glowing coals were led through a partial vacuum where they precipitated; the upper part of the chimney is not covered with a wire net; in the evening several cubic feet of small remnants of coals are removed, from which you may learn to estimate how many coals routinely stream from the chimney. In 18 months this device, as I said before, was used under the glowing heaven of 30th parallel, cotton and objects were carried in open cars, and a fire has never broken out. I myself have traveled in the open by day and night and am completely convinced of the usefulness of this device. This news is to be regarded as an important supplement to my earlier Reports.

In the operating account of the St. Petersburg Railroad for last year appears 88,037 Rubles 38 Kopecks for heating costs of locomotives, which when compared with the distance of 87,500 *werst*, a Ruble for every *werst* traveled by the locomotive. In keeping with experiences up to now, it would cost 1 *pud* of coke, costing 65 Kopecks in St. Petersburg, for every *werst* the locomotive travels with a train; in addition there are the costs for wood to heat the cisterns. Locomotives in America, in contrast, require a cord or 128 cubic feet, mostly softwood, for the distance of 40 English miles or 60 *werst*, although the railroads there, as earlier reported, have many more inclines and sharp turns than in Europe. A *faden* of birchwood of 65 cubic feet costs 8 Rubles at the most in St. Petersburg, so that the combustible per *werst* of travel can be covered with 26 $^{2}/_{3}$ Kopecks. If in one year 600,000 passengers travel the whole length of the railroad, then [65] 124,000 *werst* must be covered by the 6 locomotives. So if, through good economy instead of one Ruble for coke you get to 65 Kopecks, then still the saving on combustible if you use wood is 47,500 Rubles a year.

I have already remarked in an earlier Report that the introduction of locomotives and cars of American construction would significantly reduce repair costs. Just through the improvements cited can the St. Petersburg Railroad achieve the dividend of 1% figured above, and after I know the situation here with precision, I would not hesitate to offer the shareholders another dividend of 10% for the next three years, and to pay in addition 90,000 Rubles for interest and the amortization fund of the loan, and for the deterioration of the locomotives and cars to provide a train from America, consisting of a locomotive and passenger cars with 400 seats, at my expense. If the directors still wish to control the railroad on their own, I am willing to provide them my American experiences and to work with all my strength to promote an undertaking that I find to be very good, and in which a large proportion

of the capital has been supplied by shareholders in Germany, as a result of faith in me.

The use of building the Zarskoe-Selo Railroad is much greater *for the Russian Empire* than for the shareholders involved, for the railroad was used in summer and winter in the ever-changing climate of St. Petersburg without the slightest interruption, the journeys took place in the greatest cold and in steep snow, and everyone was completely convinced of the reliability and usefulness of this new communication. This positive result has shown that the project of a *railroad from St. Petersburg to Moscow*, which I already raised three years ago, finds ever more support, and at the moment there are certainly few persons in Russia and no one outside, who knows the traffic between St. Petersburg and Moscow who is not convinced of the usefulness of this railroad. The population of St. Petersburg is 470,000, that of Moscow 330,000 souls; the population of the cities and villages that would also be touched by the railroad exceeds 200,000 souls. The railroad would have a length of 630 *werst* or 420 miles, which it would be at the most a communication for a million persons who live along this railroad; further, the railroad would carry a great number of passengers from all parts of the Empire who would stream via Moscow to St. Petersburg. The enormous traffic on this road can best be seen from a command of His Majesty the Tsar for an enumeration from 1 January to 31 December 1834 of all wagons. In this year the following passed via Tschetire ruki, 8 *werst* from St. Petersburg in the direction of Moscow, on the present highway:

20,285 passenger wagons	71,698 horses
65,350 Calèches, Britscken, etc.	162,285
10,557 Fourgous	35,816
23,877 Postcoaches, postsleds	62,171
1,133,603 Freight wagons or sleds	1,187,402
1,253,683 vehicles	1,519,372 horses

This traffic is so enormous that it deserves a railroad more than any long line of this variety anywhere. It is only a question of the building costs of this railroad.

The Americans have built 3,000 miles of railroad, and for this they have paid an average of $20,000 a mile or 63,000 Rubles a *werst*. Since on these railroads only 35,000 passengers and 830,000 *Pud* of goods have been carried, so they [ ][21] and the entire operation is so arranged that the bank capital pays 5 $^{1}/_{2}$%. The traffic on the St. Petersburg-Moscow line must and will be at least ten times the size; it can also receive much more building capital than in America. Already in 1835 I have [66] made a study of principal elevations from St. Petersburg to Moscow, after receiving approval from the Interior Ministry, and I am convinced that the terrain in the greater part of the line is extraordinarily advantageous. Since then I have continued to include an investigation of all necessary heights, and now that I have the experience of railroads in America, I do not hesitate to declare here *that a railroad with two tracks, with rails as heavy as the Zarskoe-Selo Railroad*, *with all*

[21] Passage unreadable in the source.

buildings, then locomotives and cars, well and properly built, would be carried out at the cost of 150 million Ruble-Assignats, and that I am ready to complete this railroad within a period of no more than six years.

You will perhaps recall that the Zarskoe-Selo Railroad of 25 $^{1}/_{2}$ *werst* length and with only a single track cost 5 Million Rubles; so that in proportion the 630 werst length to Moscow with two tracks would cost 125 million; in this sum there would proportionally be 150 locomotives and 1,600 cars, partly passenger and partly freight, but the railroad would only have *one* track. In my earlier reports I have already remarked that you cannot predict the costs of another railroad in which the building costs are overestimated. Here I only have to recall that in the building costs for the Zarskoe-Selo Railroad a fifth was for buildings, which would have meant 25 million for the railroad to Moscow. The cost of buildings for this railroad, built for the needs, not for the entertainment, of the public, would not be over 4 million, and the other 21 million according to current prices would equal the cost of the superstructure, that is, wood and iron surface with materials and laying of it in the *entire second track*. There remains the additional cost for the grander superstructure, and this will richly benefit through the introduction of the construction of the railroad, which will correspond to the current experience of two worlds.

The combination of the center of the Russian Empire with its most important trading city in the south, that is Moscow and Odessa, has also been regarded by everyone as highly important. The cost of a canal is entirely impossible; the laying of highways, particularly their maintenance, is too costly due to the lack of stone and gravel. All railroads in the southern part of the United States, as in Belgium, have been built without gravel, for it is lacking just as in Russia. In every case the maintenance costs of the railroad from Moscow to Odessa would be lower than the maintenance costs of a highway. The distance between both points according to the current ways is twice the distance from Moscow to St. Petersburg, and since the terrain is entirely positive, there is no reason that this line could not be built for 175 million Rubles with double track and solid rails. Both railroads could easily be built in ten years.

A third railroad that is strongly supported by the population in Moscow is that from Moscow to Kolumna and to the Oka River. The study of levels and the advance work for this railroad were done in 1836 to 1838 in all detail by several engineers under my leadership, and the superstructure currently corrected by the use of all my experiences on railroad construction in America. The length of the railroad to the Oka is exactly 100 *werst*, and there you can use flat surfaces (*plate rails*), manufactured in Russia, of adequate strength. The railroad itself would be of one track with sidings, but laid in such a way that all along the length of 100 werst no disturbance would take place in its operation. The passengers and without doubt a great portion of the goods would be taken at the end of the line by steamships to Nizhney-Novgorod at the mouth of the Oka on the Volga, where every year the greatest world market between Europe and Asia is held, will be helped. *After the superstructures are made here, the entire railroad along with four steamships can be built for 11 million, and I am ready to end it in two years, so long as there is no hindrance in control of the construction*.

[67] The means to gather the capital needed would be easy to locate if you have read through my nine earlier Reports with attention. Sixteen million Americans have built 4,500 *werst* of railroads at a cost of 300 million Rubles; why should not Russia, whose European possessions are as large as the United States, but whose population is three times larger, 48 million people, why should not this enormous empire be able to raise 300 million Rubles for the railroad between St. Petersburg, Moscow and Odessa? — In Belgium last year, 56,618 soldiers were transported on the railroad; what a profit would there be for the Russian military administration alone out of such an investment! With the accepted gauge of six feet all that is needed using the current construction in horses, cannons, munitions wagons, and all other military objects can be transported, and it is obvious that the gain in the transportation and movement costs of Russian troops during the last three wars with Persia, Turkey and Poland easily covers the costs of the railroad to Odessa, and it would have shortened these wars significantly.

The time for great undertakings have never been better than now; Europe enjoys deep peace, money is available at cheap interest, and it will also be available for Russian enterprises, if the participants can receive the same favors, the same guarantees as in the rest of Europe, as given in America. With such a great enterprise, which demands more than the strength of the occupants of the country, must however cease to ask after nationality, after baptismal certificates, and it must, as in America, see everyone as someone who places himself to be of service to things making the national well-being better. The Russian government has accomplished enormous things in the last 14 years, and it can and will certainly lead as great a national undertaking.

Description of a Journey

through the

United States

of

North America

in the years 1838 to 1840

---

in the company of Franz Anton Ritter von Gerstner

undertaken

by

Clara von Gerstner
née von Epplen-Härtenstein

Leipzig
Press of J. C. Heinrichs' Bookstore

1842

[iii]

Foreword

For many years it had been the heartfelt desire of my husband to travel through the United States of North America, to become personally acquainted with the great advancements in internal communications and the public works carried out there, particularly railroads, in all their details. It was, however, only in 1838 that his affairs permitted him to carry out his long-harbored intentions, and shortly after our wedding I set out with him on the great journey through North America.[22] We traveled from Bohemia via Frankfurt am Main to Mainz, then down the Rhine to Cologne, then through Belgium to Ostende, and from there to London and Bristol. In the last-named city the steamship *Great Western* received us, and [iv] brought us after a successful voyage of 19 days across the Atlantic to New York, where on 15 November 1838 we first greeted the New World.

While most European travelers to America first visit the great cities on the Atlantic, often making them the only goal of their travels, we departed New York after a very brief time in order to travel the interior of the country. We passed through Albany in the direction of the Erie Canal toward Niagara Falls, then through Boston, New York, Philadelphia and Baltimore to Washington. From Washington we traveled through Virginia, North and South Carolina, Georgia and Alabama to New Orleans, from there up the Mississippi and the Ohio to Louisville, then we visited the interior of Kentucky, Cincinnati, Pittsburgh, and returned through Pennsylvania to Philadelphia.

Then, in the course of twelve months, we traveled the interior of the United States in all the principal directions of that enormous land, from the [v] Atlantic to the Mississippi, and from the Great Lakes to the Gulf of Mexico. My husband personally viewed all railroads, canals and other public enterprises by collecting all the data to be had, partly through his own observation and partly through the information from those standing in leadership of the enterprises, and in this manner collected a fund of materials which, according to the witness of all American engineers, had never been gathered by anyone.

To restore his weakened health, my husband used the sea-baths at Cape May, and we were prepared for a longer residence in Philadelphia, when he was visited anew by a severe illness that robbed him of his precious life after several months of suffering. He died on 12 April 1840 in the flower of his years — too soon for the world and his great field of action.

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[22] Clara Elisabetha Louisa von Epplen-Härtenstein (born 10 January 1813) married Franz Anton von Gerstner (born 19 April 1796) [died 12 April 1840, in Philadelphia, PA] on 24 September 1838 in Frankfurt am Main; Clara's parents were Friedrich von Epplen-Härtenstein and Elisabetha Grunen; Franz Anton's parents were Franz Joseph von Gerstner and Gabriele von Mayersbach. Source: "Deutschland Heiraten, 1558-1929," Database, FamilySearch (https://familysearch.org:/ark:/61903/1:1:NZCH-9K9: 26 December 2014), Franz Anton von Gerstner and Clara Elisabetha Louisa von Epplen-Härtenstein, 24 Sept 1838; citing Frankfurt, Hessen, Germany; FHL microfilm 341,800. The Church of Jesus Christ of Latter-day Saints.

The attention that this sad event excited in America was great. My husband in his brief visit had earned the love and respect of all those who came to know him [vi] and for that reason his early loss was deeply regretted. I received the most loving, most consoling letters, and I will remain forever obligated to my friends in America for the friendship and consolation that they extended me in the most painful period of my life.

During the brief happy time in which I traveled the United States of North America at my husband's side many opportunities to see much of interest presented themselves. I came in contact with many outstanding persons, and my husband gave me so many explanations and clarifications, lovingly making me aware of all strange conditions, was helpful in collecting many notes, and I did not fail to enter the events and experiences regularly in my journal. On the basis of this I can reconstruct this brief travel account with the intent of informing my relatives and friends on my return to Europe, in order better to recall this interesting journey in later years. — Obviously in those times I did not suspect that I would leave behind for ever my best friend, who showed me that [vii] beautiful land beyond the sea, and that my little travel memoir would be such a painful memorial. Since I have never written for publication, I would also never have dared to give this little work to the public if so many of my friends and acquaintances had not repeatedly and earnestly urged me. And I would not have done so if I had not been convinced that the friendly readers would take up these pages with respect, in which I have only attempted to reproduce events and experiences truly and without decoration.

In May, 1841

The authoress

To explain foreign coins, measures and weights:

1 Dollar contains 100 cents and is 2 Gulden 3 Kreuzer [Habsburg] Coinage = 1 Thaler 13 Groschen Prussian currency.
1 American shilling is $^{1}/_{8}$ Dollar or 12 $^{1}/_{2}$ cents.
1 Pound Sterling = $4.85 cents = 9 Gulden 50 Kreuzer [Habsburg] Coinage = 7 Thaler Prussian currency.
1 English yard = 1.617 Leipzig Ells or 1.371 Prussian Ells = 2.914 Prussian feet.
4 $^{65}/_{100}$ English miles = a German or geographic mile.
1 acre = 4840 English square yards or a 640th part an English square mile = 1126 Viennese *Klafter* or $^{7}/_{10}$ of a Lower Austrian *Joch* = $^{3}/_{8}$ Saxon *Acker*.
1 bushel contains 4 pecks or 8 gallons and = 59/100 Vienna *Metzen* = 0.338 Leipzig *Scheffel* = 0.601 Prussian *Scheffel*.
1 gallon = 3 $^{1}/_{8}$ Vienna *Mass* = 4 Berlin *Quart* = 4.3 Leipzig *Pfund*.

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I

The city of Bristol, until about ten years ago when Liverpool challenged it, was the first trading city of England after London. It lies [2] on the two small rivers Avon and Frome, and is a large, rich city of 96,000 residents. Trade with southern Wales and Ireland is particularly important, and several ships depart from here for eastern and western India every year. Having expanded to both the Avon and the Frome and provided with lovely roads along the rivers, large ships can only rise to Bristol at high tide. For precisely this reason the *Great Western* also lay at anchor ten to twelve miles below the town at the mouth of the Avon, and the passengers and goods had to be brought there by small steamboats. The evening before our departure we transferred our things and made all preparations for the great trans-Atlantic voyage. The next morning, 27 October, we made the last departure greetings to our dear relatives and friends on the Continent, so we left the hotel in a rented coach in rainy, unfriendly weather, to go to the steamship. It was the third to bring travelers and goods to the great ship from there, and yet the press of people was so great that we had trouble getting the wagon through.

There really is hardly anything more interesting than looking on the life and action in a harbor, [3] where people from many nations are found together. On the shore there was heaped such a mass of goods, chests, bales, and baggage, there were so many travelers who accompanied it, as well as the ship's crew, were so many that there would be no room on our little steamboat to fit them in.

I was so endlessly thrilled to see the New World at the side of my dear husband, counting every hour until the day of our departure with indescribable desire, and now, since this longed-for moment had come and the boat was set to depart, I could hardly master my dark mood. The many scenes of departure that surrounded me on all sides, the thought of my dear ones from whom I had separated forever, perhaps also an unconscious foreboding that my fondest wishes would be snuffed out so soon in an unknown fair land beyond the sea, all of that made parting harder than I had anticipated. Many things that had earlier been indifferent suddenly became doubly wonderful in the moment of separation, and sorrow hung on everything that had to be left behind.

A large number of friends, acquaintances of those leaving, besides the merely curious, were gathered to give us a last farewell from land [4] with their hats and handkerchiefs; and when our boat had long since set off from land, the passengers still returned these greetings.

The surroundings of Bristol are among the most beautiful of England; the city extends to the north on many hills, and on the heights you may see Clifton and Kingstown with many handsome, tasteful homes and terraces. Clifton has a mineral spa and is the most attractive place near Bristol; the area is thoroughly romantic, to some degree reminding of the banks of the Rhine. The Avon winds through a narrow mountain gap, emptying itself into the Severn a few miles below Bristol. Here we saw already a few preparatory works for the projected chain-bridge to be built at the opening of the gap from one stone peak to another across the Avon. This interesting architectural work is 786 feet long and 172 feet above the surface of the water.

Further down the region becomes more monotonous, and we were pleased when we reached the *Great Western* around noon.

The first impression that this colossal ship, built to take us across the waves of the ocean of the world, made on me was uncomfortable shock at the disorder that reigned. Ropes, sails, boards, goods, baggage, everything was scattered about so that you [5] could hardly move; the black servants ran about, hardly knowing where to put a hand. The Captain grumbled, the sailors complained, and the confusion was indescribable. For a while I held back on the little steamboat while my husband stormed ahead to see the apartment assigned to us and to bring our baggage into some sort of order, which was really necessary in this great confusion.

Despite the pouring rain and all the signs of an approaching storm, the anchor was soon lifted and the ship, as if feeling its own strength to resist the elements, steered through the Severn and the Bristol Channel toward the open sea.

I had made some effort to sort our things, hoping to achieve a little relief, but to no avail. Although we were already in the Channel, I felt severe disturbance from the unaccustomed motion of the ship. I hoped to lose this minor vertigo after the midday meal, and at two o'clock I hurried down to the dining hall with my husband. Here there were two large tables decorated with fresh flowers that spread a lovely aroma, which were particularly welcome in the ship's interior in this late season. [6] Unfortunately I did not long enjoy this beautiful sight, since obviously the heat and the aroma of the flowers not only increased my vertigo, but I felt such a great distress that I immediately left the hall and had to lay myself down in the cabin.

29 October

The seasickness established itself so solidly that I remained two full days in this pitiful condition without being able to take any food at all. My dear husband was also suffering, but the illness was not as continuous, and he could go out onto the deck from time to time. In truth, I do not know a less pleasant condition than seasickness. It is an illness of the nerves associated with individual responses; the main cause comes from the ship's rocking motion both along the length and sideways, working on the nerves of the stomache, hence producing repetitive nausea. Sea air, whose distinction from land air expresses itself by a particular odor, might also contribute to the nausea.

On 28 October, we encountered an English brig going west, and on the following day another sailing east. On the same day we also encountered the *Pearl of Bristol,* entering the Channel; we greeted one another by a reciprocal raising of flags.

30 October

The illness had finally relented somewhat, and although the weather was very rainy and unfriendly, on my husband's advice I tried going out in the open air. But no sooner did I set foot outside that on seeing the sea the vertigo and distress increased to such a degree that I had recline on the deck. Here sat some of travelers whose appearance showed the presence of the cursed illness, and to counter it they sipped lemon-juice sprinkled with a little sugar. A Frenchman who saw my condition passed me a lemon, which he recommended as a proven means against the sickness. I followed his advice and was momentarily refreshed, but then the distress returned.

The loathing of food that comes with this illness, particularly against meat, is so great that even the smell or thought of it could make me completely ill. The only food I could take in this unpleasant situation consisted of the baked apples that were normally served at lunch. The whole rest of the day passed in [8] mutual reporting and complaint about the state of health, and since the weather was so bad, every member of the community took refuge in turn in cabin.

31 October

Remaining in the open air is certainly the best medicine for seasickness. For that reason, I rushed to the deck, disregarding the rainy weather, dressed in my husband's waterproof cloak, and sat down near the stearsman to be protected from the rain, which finally ceased about ten o'clock. With tense curiosity, we watched the heaving sea, expecting a ship that had first appeared as a tiny point far away. It was the *John* from Liverpool, sailing for Bristol, promising to report our mutual encounter there. In the afternoon at four we encountered another bark sailing to the west.

Soon special agitation among the passengers announced an unusual event; one called out to another, and everyone ran to one side of the ship, and even some ladies ignored the slippery deck to join in. My husband and I also went to see what the actual cause of this excitement might be, when we saw a brig in the distance, having lost its bowsprit and first mast, that had raised the [9] flag for help. The sea was too high to allow the two ships to come together, but soon some sailors obviously in great distress approached us in a boat. The brig *Mellanotio*, to which they belonged, came from Santiago on the island of Cuba, bound for Liverpool, and had already been at sea for 68 days. Beset by continuous storms, at length they had exhausted their food and seemed destined to starve. The half-dismasted ship had wandered as a toy of the waves on the endless ocean, long awaiting rescue, when it saw the approach of the huge steamship.

A boat was let down at once and a sailor went down a rope ladder, taking them two sacks of bread. The joy and thanks of these poor people was touching, and they wanted to give the captain a gold coin as proof of their thanks, but the captain did not accept it.

The latitude here was 42º 20´ and the longitude West 32° 40´.

Once the illness declined somewhat, I became eager to discover for myself how this [10] ship and its entire equipment was formed. The *Great Western* is an imposing ship, and if you have never seen an America steamship, you are genuinely surprised by its size and elegance.

Its dimensions are as follows:

Length	236 ft.	
Width including paddlewheels	59 ft.	8 inches
Depth of the hull	24 ft	
Tonnage	1340	
Diameter of the paddlewheels	28 ft.	9 inches
Width of the same	10 ft.	

The total weight of the ship with equipment, besides loading, is 2400 tons, and when loaded it is 17 feet deep in the water.

On the outside the ship is painted black, looking like a great ship of the line. Alongside the four masts the enormous chimney rises high into the air, from which black smoke streams, leaving a long black cloud showing where the ship came from.

The chief cabin or saloon, also used as a dining hall, is 62 feet long, as much as 34 feet wide, decorated and furnished in an elegant fashion. The style of decoration is that of Louis XIV. Surrounding it are the apartments for the travelers, whose every door has a gold frame containing a painting.

[11] In the midst of the saloon there is on each side lengthwise a large apartment, whose entry is covered by a rich damask curtain. Two large mahogany dining tables are placed in the hall, and the light falls from above. When you enter the dining hall, on the left is a special room for the ladies, and on the right the pantry. The front cabin is 46 feet long and much less elegant. In the two lower cabins, then in the cabins on the deck, there is a total of 141 berths for the travelers and the crew. In the *Great Western* the ladies do not have their beds in a separate common saloon as on other English ships, but rather each family has its own apartment, which is also much more comfortable.

The entire travel company consists of 115 persons, children included, being mostly English and Americans, also some French and Germans, mostly merchants. Although the number of passengers was rather large, I would have nothing to which to object, if with such high prices a little attention was paid to comfort. But besides the stalls for the cow, pigs, etc., the kitchen, the opening for the engine, which already take up a significant amount of room on the deck, [12] they have heaped so many goods there that the travelers have hardly any room to walk. Besides this great inconvenience, the serving personnel was relatively much too small, besides being so inept and rude that only one opinion prevails among the travelers. Shortly after our arrival in New York, several complaints appeared in some public newspapers in Europe and America. Already there were complaints by passengers of earlier voyages on this point, and the earlier English servants were fired and Negroes hired in their place; but the change brought no improvement. We, who had our cabin on the deck, were particularly in trouble there, for our black man was such a slow, arrogant man that we had to call him many times until he came, and if it was raining even a little bit, he wrapped a towel around his head. When I looked at his thick, bristly hair, I had to laugh heartily about his precaution. Also, the chambermaids, whose coal-black faces and extended lips stuck out of their white hoods, amused me on the first days.

Our steamship was making its fifth yoyage to the New World. It began its first yoyage from Bristol on 8 April, four days after the *Sirius* [13] set out from Cork. Both steamships arrived on the same day in New York, 28 April, giving occasion to a great celebration. According to later documentation, the *Great Western* made six voyages to America and six voyages back in 1839. The average duration of the voyage from Bristol to New York was 17 days 2 hours; but from New York to Bristol only 13 days 16 hours. Because the voyage to America runs against the Gulf Stream, and western winds dominate, it is known that the voyage is a little longer. As a whole, these voyages carried 1036 passengers and 1214 tons of goods, as well

as 96,567 letters and 19,571 newspapers. We paid £42 and a 30 Shilling fee. Second class paid £35; there was no third class, and no deck passengers were accepted. Due to the competition with other steamboats, the prices were later reduced.

It is notorious that the English boast of the accomplishment of having had the first steamboats crossing the Atlantic, but this is entirely incorrect in that the Americans showed the safety of a steamship voyage between Europe and America. On 25 May 1819 Captain Moses Rogers set out from [14] the harbor of Savannah with a steamship of the same name, and he achieved Liverpool after a 25-day crossing on 20 July. From there he sailed for three days to drop anchor in Kronstadt on 9 September. On 6 October, the captain set out to return to Savannah, which he reached on 30 November. During the entire extent of the journey the ship lost only a small boat and some anchors to damage. It should be mentioned that the ship had masts and sails, which it used, so it did not rely entirely on the engine. The ship sailed to Europe twice, and was built in New York under the leadership of Captain Rogers; his engine was built in Morristown. When the ship landed in Stockholm, Bernadotte[23] came aboard and presented the captain with a medal. He received a very tasteful silver teakettle, and in Constantinople, where he went later, he was heaped with gifts from the Sultan.

1 November

The weather continued as dark as the day before, and although it did not rain, the [15] atmosphere was filled with a thick fog in which very fine drops fell. Regardless of this we sat, my husband and I, as was our practice, involved in reading on the deck, although we knew we would soon flee to the stairs, since the sea was in severe motion and from time to time enormous masses of water would fall on us. I have already remarked how little effort was expended for the travelers' comfort; in our saloon water seeped down from the deck, and the air was so humid and uncomfortable that you could not stay there. In the Gentlemen's room on the other side of the dining hall the baggage of passengers was piled up, and so you may imagine how it looked there. The sole comfort of this room was that it had a stove and you could warm yourself in the cold, unfriendly weather.

As poor as the weather of the whole morning had been, it was as beautiful in the evening; the howling sea grew peaceful, the clouds that had occupied the horizon parted, and the lovely stars emerged. We long celebrated the fine evening on the deck, until it was time to lay the tired head down in peace. This was the only beautiful evening we were able to pass in the open; for although we had some starry nights, it was already too cold to enjoy. [16] Most happy evening of my life! Then I had no suspicion that soon the time would come when I would gaze at you lovely stars on stormy seas, alone. ———

2 November

Life on our ship was as follows: in the morning at 7:30 reveille was struck by a black man on what was called a gong, placed in the middle of the stairway. This instrument excited my curiosity in the highest degree. It came from India, a hollow

[23] Jean-Baptiste Bernadotte, 1763-1844, French military hero and Marshal of France, married Desirée Clery, became King of Sweden as Charles XIV Jean and of Norway as Charles III Jean from 1818.

cylinder of its own composition, and when struck by a hammer it makes a tone similar to a strong bell, only more penetrating. In America, I found this instrument in many inns, boarding houses and on large steamships. After this first sign of a beginning, the tone is heard again at eight, and every member of the community rushes into the great dining hall to breakfast, which was done in the English style of meats, soft-boiled eggs, fish, warm ham, coffee and tea. After breakfast, the community divided: some gave themselves to the enjoyment of conversation, others promenaded on the deck if weather permitted, or amused themselves with reading, offered by the small library. So a part of the morning passed away, until twelve o'clock, [17] when the Indian immigrant called the company to lunch. Here we normally found soup, salt fish, roasted potatoes or apples, etc., on the table. Until time to come to table, the entire society occupied itself on the deck, wandering at will, as much as was possible with the space limited by freight, gazed into the endless sea to see whether a ship could be seen, and learned from the captain the rapidity of the voyage. At four they went to table. According to the English style there was no soup, the meats were placed in rows on the table and served, along with vegetables, boiled in salted water. Whoever sat in front of a meat, cut it himself and served his neighbor. Once all the food was born away, the beloved apple-and-gooseberry pies appeared, sometimes substituted by a pudding. For dessert was served olives, dried fruit or nuts; and wine, red and white, each could have as desired, since it was included in the fare. Further, Thursday was Champaign Day, when the company was always somewhat more lively and talkative. With the large number of travelers, you were nothing less than comfortably seated, and since we [18] were not able to come to table the first days, we had to try to find a place to sit, for each held to his seat like a member of Parliament, and one of the passengers actually went so far as to call the captain because another had taken his place. Nevertheless, we found a very comfortably respectable neighborhood; opposite us sat General Owen,[24] a well-educated, dignified man from North Carolina. As president of the Wilmington & Raleigh Railroad he had been in England to negotiate a loan for the company, and he was returning to his family. At his left sat Colonel Biddle, president of the Savings-Fund Bank from Philadelphia, returning from a grand tour of the Continent. To our right sat my dear husband and to the left an American, Dr. Spencer, who had a farm in New Jersey, and as I recall had also made a European journey for enjoyment. During the meal, I often had to laugh secretly and marvel at the General's patience, who had a nun sitting next to him. She wore a tightly-fitted dress and a hood of a very peculiar shape; she took no part in our conversation but directed her attention entirely to the food. The good General had to pass her food from all sides, since besides herself she was serving another [19] nun who occupied the cabin behind her, covered by a curtain, into which she vanished from time to time with some selected snatch. Our conversation at table almost always rotated around the two hemispheres and their differing political relations, as well as about American railroads, which was my husband's and the General's favorite theme. If the subject of railroads was considered for too long — which I, as

[24] James Owen (1784-1865), Major General in the North Carolina Militia, elected to one term in the House of Representatives in 1818, president of the Wilmington & Raleigh Railroad; on which see *Early American Railroads*, 705-9.

the wife of an engineer always listen to with the greatest attention — I turned to the Doctor and discussed the various turns of the English language.

Already on the steamship you could clearly note the differences between the American, the Frenchman and the German. The first showed more earnestness and calm in conversation; from him you always heard something informative, or as my good husband said, "some useful information"; the conversation of the latter, in contrast, had a more cheerful coloration; they jested, talked mostly about opera, ballet, the best hotels, etc. For my own part I confess that I feel myself very drawn to the Americans; perhaps the reason is that I always observe this life very earnestly; for that reason, I do not come too near the character of both worlds, since here as well as there you find many [20] fine, brave people. The entire difference in human character consists, in my judgement, on a distinct view of life evoked by education and relationships in which we live and move.

After the meal, which usually lasts a long time, some Englishmen and Scotsmen often make music as well as they can, but which awoke in me no longing for the celebrated countries, since my German ears have turned elsewhere. In the evening they play cards, chess, or converse. We, however, studied our American travel literature. At eight there was tea and bakery goods. Here there were often comic scenes. Many tired by the burden and tension of the day fell asleep during the games, and perhaps they still dwelt in the land of dreams until an approaching person asks a question to the person who has slipped away and is suddenly called back to reality, jolting suddenly awake.

3 November

On this day, a terrifying natural drama emerged; a fearful storm raged and the struggle of both elements brought so much movement upon our ship that everything in the cabin was only weakly attached broke loose and was thrown from one corner to [21] another. Mountains of water, one larger than the other, arose and vanished in the same instant into the fearful deep. Giant waves fell on the high deck, overrunning it, powerfully blowing open the door of the stairway and sending streams of water into the dining hall. You heard nothing but the storm's howling, the crash of the waves and the cries of the sailors working on the wainscotting. No one dared to leave the cabins. Those who were seasick were not finished with just one attack, but it returned with each new storm., and so it was with me, and I had to capitulate. On such days, the lack of good service was doubly apparent. My husband, who in earlier episodes of seasickness had been helped by eating herring, when he demanded it now from the Negro serving us, received the answer, "Sir, we have no herring day." You had to direct your sickness to a cooking pot and pour it out later in the day.

The conduct of the baker hired in Bristol to bake bread was just as remarkable. When we went several days with biscuit (sailors' zwieback) instead of bread, several passengers sought the reason, to which was replied [22] that the baker was seasick and had ceased to be able to bake. We had to concede his mood and be happy with bisquit.

About four o'clock in the afternoon we met the American packet ship *Siddona* sailing from Liverpool to New York, and we exchanged information on latitude and longitude.

4 November

As stormy as the weather had been yesterday, we were happily surprised by sunshine on arising from our cabin. It blinked in a friendly manner behind the clouds, as if its rays had brought the raging sea to rest, and as if it wished to take part in the celebration of the day. Since it was precisely Sunday, the gong after second breakfast called the entire company into the grand saloon, where divine service was held, and Pastor Schröder of New York held a fine speech.

At eight o'clock in the morning we communicated with the bark *Charlotte* of Liverpool, sailing from Québec to London.

10 November

We continued to lead a monotonous life on our ship and impatiently awaited the noon hour to learn the latitude and longitude. Then estimations were made when we would finally reach the goal of our voyage. The longing for the midday meal soon retreated, since the ice that had been brought to preserve food brought from England had already melted, and the *haut goût* of the meat was so great that almost all ladies appeared at table wearing cologne.

Other than some fog that you normally encounter when coming near the sandbanks of Newfoundland, the weather was very mild and beautiful. From six in the morning we found ourselves at the Banks, and the captain had the ship's bell rung even before then, to warn approaching ships away. We gathered on the deck unusually early and all were very pleased to be near land, even increased by the sight of a large flight of birds. The sea, normally black-green, had taken on a blue shimmer near the Banks; it was so peaceful and its movement so insignificant that we only heard the splashing of the ship's paddles.

The sandy heap of Newfoundland received its name from the larger island lying to its northwest, which was discovered by a Venetian, John Cabot, in 1539. This island has 2090 geographical square miles and 25,000 inhabitants. Along the Banks it is very rich in fishing for cod, which takes place from [24] February to July. The English first had sole possession, but after the Peace of Utrecht in 1713 had to share it with the United States and France. On this island there always resides an English family provided by the government with provisions to help unfortunate sailors.

11 November

Weather was again become quite poor and cold, and during the night the ship experienced such a powerful blow that I suddenly awoke and was very frightened. Within our cabin all clothes had fallen from the wall, and the ring of all glasses and washbowls that had fallen from the table, where they had placed, that I arose and had to fill the empty spaces with towels. When I asked about the matter the next morning, I learned that the rope had been torn from the mainmast. I was already dressed, and I wanted to flee my narrow rooms, but had to turn around and lie down again because the weather grew ever stormier. The wind forced so many waves onto the deck that none of the passengers were able to step on the deck; hence we could not attend the preaching this time. In the afternoon the storm relented, and since this

day had been filled with terror and worry, we learned [25] that through the storm during the night five pigs and some sheep from our "livestock" had been lost into the sea. This was generally regretted, and the tragic end of these animals lived for a long time on the *Great Western*, providing material for conversation, which had lately run out of material to discuss.

12 November

Other than being cold, the weather improved overnight and grew fine again. The ship flew rapidly forward, to which the closeness of land and the lightening of the boat through the daily consumption of 26 tons of coal contributed substantially. From 11 o'clock we saw in the distance an English brig and somewhat later a whale.

14 November

Through the poor service on the steamship the hostility and dissatisfaction of the passengers grew with every day. Additionally there was much else that gave frequent occasion to complaint. Besides the many chests and baskets on the deck there were also anchor chains that caused no small amount of fear with every shaking of the ship through their rattling. Those passengers staying in the forward cabins had to suffer from water entering, since the openings for light were poorly sealed. [26] The company, tired of such unacceptable matters, decided to hold a meeting to discuss how to act in the future. Although Captain Hosken has been informed of this through a long address, in which he and the directors of the enterprise sought to excuse themselves, to dissuade the passengers from their intentions, but the intended meeting took place at 11 AM, with Mr. William Crane, Speaker of the House of Representatives of Nova Scotia as chair. Several resolutions were accepted, and a carefully composed letter read out that was to be sent to the directors, to be entered in the public press. Much was said for and against it, and in the end, as so often happens with things, the company dissolved, and the result of the debates was that the letter not be brought to the attention of the public.

The nearness of the goal of our long, perilous voyage and the fine weather soon soothed all moods; we sat with our reading on the deck, and the thought of soon setting foot on the soil of the New World put us into a thoroughly happy mood. I had never seen my husband so completely enthused, for it had always been for him [27] his most lively desire to see the land that in such a brief time had gone so far up the steps of civilization, and to be at the goal of such seeing himself at the goal of his long-treasured desires filled him with indescribable joy. A welcome representative of the nearing land, a lovely bird, came to our ship and flew from one cable to another.

After the midday meal, several toasts of reconciliation were made, and Pastor Schröder arose and drank to the health of the "Four Brides" — I must mention here that four newly married couples were present: two Englishmen with their wives, a German merchant living in New York who was taking his spouse from Hesse-Kassel, and my husband and I. The company, which was most jolly, promenaded on the deck for the last time, which already had been cleared.

15 November

Very early in the morning there sounded a joyous call from the mainmast, "Land!" But even through the telescope, my own weak eyes could not see anything, The pilot was already on our ship, and besides his boat there were some others with newspaper reporters who had come aboard to get the latest European news for the New York papers. Our joy at the first glimpse of the New World, to which we had so looked forward, was considerably darkened by the bad weather. Paying no attention to that, we ignored the rain and looked in every direction until we finally saw the coast of New Jersey from among the waves. The mountains covered with trees, the green coast with its splendid country estates became ever clearer. We now passed through the Narrows up the beautiful bay, and finally saw New York behind a forest of masts, half hidden in the mist. Around ten o'clock we had reached the city, where already thousands waited on the quay to greet friends from another world.

We had hardly reached the landing place when two customs agents were already on the ship to check all the baggage, which they did very courteously. As was the case in the entire Union, a passport was not requested of anyone. Happy to be leaving the ship for the last time and finding ourselves on solid ground, we went in a rented carriage to Broadway to take our rooms in the Mansion House, which was recommended to us as a good hotel. Further, since all the travel guides we read warned us [29] anxiously against cheating, which was without any foundation, for in America there were fixed prices for everything. For the coach that brought us from the landing place to our hotel the rate was 1 dollar, but since we had a great deal of baggage, we had to pay $1.50.

The entire voyage from Bristol to New York was accomplished in 18 days and 20 hours; since the distance is 3,176 miles (685 German miles), so the average speed of the ship, despite frequently unfavorable winds, was 7 miles an hour.

II.

The appearance of this city on the banks of the Hudson and the East River, spreading over Manhattan Island, four miles wide, and which [30] will soon cover it completely, is extremely imposing and grand. It rises like a colossus out of the restless flood and seems to the resident of another part of the world who longs for a comfortable resting place after the stormy ocean winds, as if conjured up by a magic flash. The intense life in the harbor, the thick forest of masts of the ships lying there, the many enormous steamboats, coming and going at every hour of day and night, bound not only the states of the Union but both hemispheres together. The many packet boats and other small barks that crossed the floods in various directions, finally on shore the loading and unloading of gathered natural and manufactured product from all parts of the world. This image of intense trade and industry must set the eye of the new arrival in amazement, and you must marvel at the nation that has achieved such a blooming existence in such a short time.

When I entered the hotel, I did not imagine I was entering a hotel, but rather a rich private house, both due to the comfortable furnishings, as well as the

dominating peace; and the difference between American and German inns appeared at once. From the door to the ceiling, all the steps [31] were laid with beautiful carpet, also the guest rooms, and the doors of the dining room and the parlor were all of fine mahogany. We followed the Negro who was carrying our baggage into the rooms intended for us, which we found very nicely furnished. Among the furniture I first noticed the rocking chair, which cannot be lacking in any parlor in America, and itself a true blessing for ladies. It is a large armchair whose feet are on arches like a children's wagon.

About 3 o'clock, the usual hour for a meal for the New-Yorkers, the well-accustomed tones of the gong called us down to the dining hall, where a considerable company had already gathered, and at the head of the table the lady of the house presided. At her side sat all married couples, who were served with special attention, and on the lower end of the table sat the man of the house, and next to him the unmarried men. The food was plentiful, and the order was exactly the same as the English, as on our steamship, with the sole difference that the preparation of the foods was much better. After the black servants took the roasts and the vegetables from the table, the much-loved pies appeared, and just as we almost daily had gooseberry pie, so here we saw [32] pumpkin pies on the table. These pumpkins flourish in America, and I saw several weighing from 20 to 100 pounds; they are not only made into pies, but also as feed for cattle, and so they are a very useful fruit for a household. Other than these pumpkin pies I also saw rhubarb pie, but I confess that my appetite faded when this was offered to me. They taste almost like apple pie, but they are not made from the roots of the Asiatic rhubarb, often seen in pharmacies, but from the leaves of the English rhubarb.

Lunch had barely been eaten when the company gathered again at 6:30 for supper, which was so early in this hotel because so many guests go to the theater, concerts, etc., and this distribution of time better suits their convenience. The lady of the house did the honors once more, and besides tee, coffee, butter, bread, and pastries, there was also oysters in a sauce, cheese, dried beef, ham, and preserved fruit. From 10 to midnight you still find cold food on the table, where you may serve yourself as wished.

The breakfast hour is around 9 o'clock, and tea, coffee, a mass of meat dishes, fish, and soft-boiled [33] eggs, decorated the table; before everything, however, corn-and-buckwheat cakes, the Americans' favorite, cannot be lacking, served as hot as possible. For my part I could not win a taste for these cakes soaked in syrup, and I believe that the pale faces of American ladies derived from this unhealthy food. On the lowest floor in almost all American hotels, the parlor and the bar-room are found, the latter being the gathering-place of the men, for here there are not only all the newspapers, of which in New York appear 171, along with all the other periodicals, but various drinks are also served at the bar. The price for food and room is two dollars a day; heat is separately paid. In all American hotels, you pay a set price per day for the entire length of the stay, whether you eat or not. Also, the guests must follow the regular time of meals, because they will get nothing outside them. Other than hotels, there are, as in England, boarding-houses, where you pay a little less, but the hours are the same, but here you live much more modestly, in that only those strangers prefer boarding houses who remain longer at one place.

[34] As a German, what especially amused me in our hotel was the conduct and the entire way of life of the host and the hostess. In Europe, that is, the host believes himself entirely dependent on the guests, and so he takes a more passive position; his wife is the lady of the house in the true sense of the words, and even in large hotels both of them pitch in to care for the comfort of the guests. It is different in America: the host sees himself as the chief person, and the guests depend on his good will and grace; he comports himself as a gentleman and as if the guests were only visiting him for an indefinite time. His wife, penetrated by the same idea, is a lady, clothed at once with much taste and elegance, receiving the elites of society in the parlor, which is in no way inferior to any private parlor. There they talk politics, play music, or play cards. I myself was once asked to a brilliant evening party in honor of the daughter of the Landlady, and was no little amazed at the decorum and good tone. For this reason, it is often the case that travelers bring letters of recommendation to the hotel, or are personally introduced. The last case happened for us through Americans whom we had known on the ship.

[35] Of course we used our first hours to learn about our new location, and as great as our expectations were, we both found them exceeded. The city of New York was first founded by the Dutch in 1615 and called New Amsterdam until the English conquered it in 1664. Now the number of its inhabitants was about 1500 and grew very slowly. In 1800 the number of inhabitants was only 60,489, but from this point it grew so rapidly that the population of the city in less than half a century will amount to more than a million, if the same relations prevail as in the last 40 years. According to public information, New York was

In 1800	60,489 souls
1810	96,373
1820	123,706
1830	202,589
1835	270,089

Currently the number of inhabitants is 300,000, living in 40,000 houses. It is highly remarkable that for 50 years the population of the city of New York is a tenth of the population of the state with the same name. — In keeping with its situation as a trading city, New York has no equal, and as such it could achieve the rank of London as a world city. You may get a grasp of the trade [36] of the city of New York if you consider that nearly three-quarters of all imports of the United States pass through its harbor and are distributed from there into the entire Union. On the average of the last five years, the number of ships passing through New York was 2,000 ships a year; the value of the objects imported was $85,000,000; finally, the number of foreigners received was 46,000.

At the furthest point of the island, at the bay, is a fortification called the Battery, which, in the current peacetime has been changed into a place of enjoyment and the favorite promenading place of the New Yorkers. From this point begins the three-mile length of Broadway, the city's most beautiful street, which cuts the city from the south to the north almost in half. Here everything unites that New York has to show of splendor and beauty. On both sides of the street extend the most elegant

shops in endless rows, particularly at night the splendid illumination creates a wonderful effect. The life and vitality on this street recalls London; the two sidewalks can barely contain room for all the walkers. In the midday hours this is also the promenade of the fashionable world.

Since it was our intention only to spend a few days here and then to set off at once on our journey into the [37] interior of the country, my husband used only a small part of his many letters of introduction, and we took a little time to enjoy ourselves in order to see the city better. We extended our promenades ever further, and we reached the Bowery; I was more than a little astounded to see a series of railroad cars in the middle of this broad, lively street, every two hitched with four horses, waiting ready to depart. The railroad that begins there goes 7 $^{1}/_{2}$ English miles to the small place called Harlem, at the end of Manhattan island. toward which plans exist to extend the city of New York. Several entrepreneurial persons brought about the creation of this railroad, which was wisely calculated to increase the value of this as-yet unbuilt part of the city, and for this they gave the enormous sum of $1,100,000. The entire line was completed in 1834, and now more than 898,000 people travel it. They go 2 $^{1}/_{2}$ miles with horses, and 5 miles with a steam-wagon, and the trip to Harlem takes 35 minutes. The entire journey costs 25¢, but you can enter and depart, paying according to the distance traveled. This railroad actually performs the service of [38] an omnibus. with which it competes, and the company reckons that it performs the service, by transporting 800,000 persons a year, of saving the city a significant sum by sparing the pavement! — On our return to our hotel we came on Broadway to Wall Street, the center of trade and communication of New York. No city in the world is able to show a street in which every day and continuously so many and such important acts of business are accomplished. Here are located almost all the banks, currency exchanges, insurance companies and newspaper bureaus. All the buildings are built of stone, and here may be seen the stock exchange still under construction as well as the customs house also being built, marked with grandeur and luxury. It is very unfortunate that this street is not wider; it then would display the many lovely buildings to better advantage. As with most of the streets that run left and right from Broadway, Wall Street also ends at the harbor, and you can see numerous ships in the background at a glance.

Before our departure we dined at the home of Mr. Brancker, head of one of the premier trading houses; he is a German by birth, has lived in New York for several years, and has a wife from Hamburg. Mr. Brancker appears saturated with the principle of "money- [39] making," as the Americans say, and he appears not to love his new American countrymen very much. Our entire dinner company consisted of Mr. and Mrs. Brancker, a Frenchman, Mr. Cowell and his wife, who had come to America as agent of English merchants to collect debts still owed from the crisis of 1837, and the famous actor Mr. Power, who has made such a sensation in New York. After dinner, we went to the Park Theater, where the drama "Rory O'Malley" was performed along with two other pieces. Mr. Power was called back several times for a bow. The house was filled to overflowing, well decorated and well lit, but it pleased me less than many European theaters.

During the brief period of my visit to New York this time, I saw two interesting expositions similar to industrial fairs in Europe and take place annually in

October. The one was the Mechanics Fair, — an exhibit of what are called Mechanics, which here means all artists, artisans, etc. — and was shown in *Castle Garden* in the Battery already mentioned; the other, "Fair of the American Institute," was located in *Riblo's Garden*, and both [40] were open for six weeks for an entry fee of 25¢. In the Mechanics' Fair, only models and in the Fair of the American Institute the best and most beautiful products of the country are displayed. In the former this year the prize went to a dealer in furs, who, among displayed, among other tasteful muffs, an outstandingly beautiful one that stood out for its ingenious cut from the fur of an American Cross Fox. They had never seen such a muff, and even furriers who studied it closely agreed unanimously that they could not make such a muff. But when the gold medal was withheld from this work of art, on the grounds that would only be bestowed when several valuable products of the same sort were displayed. In response, all the furriers agreed not to present their works in competition and to send no furrier work to the exhibition. For this the good man only received a silver medal for his fine work, and from this it may be seen that even American liberality has its limits. The exhibition in Riblo's Garden was very brilliant this year. Already at the entrance on Broadway you moved through three rows of the most elegant wagons of the most inventive construction; the gaze settled on many tastefully constructed [41] sleds, covered with the most splendid fabrics and furs, on the majestic, imposing fire pump machines, etc. In a chamber at the end of the great salon were the products of American factories, cotton and wool products: these manufactures did leave something to be desired, since there are too few silk products, since silk is only used here for needlework. Beyond these manufactures came many others, as well as many new inventions, that drew the attention of viewers to them, and here the cabinet-work. which were very beautiful and solid, drew special attention, and could be compared with English work and win preference. — Even nature competed in this proud land with the artistic achievement of people, and a horticultural society, consisting of gardeners and lovers of art — gentlemen — holds an exhibit of flowers and fruits in the autumn of every year. Two years ago, there was here four to five hundred varieties of dahlias.

Satisfied with the pleasant impression that the first city of the New World made on us, we now occupied ourselves with packing for our upcoming grand journey into the interior of this remarkable land. My husband wanted first of all to see the Erie Canal and the railroads of the western part of New York, [42] and on 23 November at 5 o'clock in the evening we passed via Courtland Street to the Hudson River to depart with the steamship *North America* for Albany. The pressing crowd on the quay was incredibly large, and in this what surprised me was that American women always dress quite elegantly for travel. In the midst of the busy crowd many Moorish women moved, offering oranges for sale, and there was a mass of boys advertising their newspaper with piercing cries, selling many copies for Americans are greedy to save time and they normally occupy themselves while traveling catching up on political situations and events. Still paying attention to so many things that were new to me, I saw a large wagon approaching and many men working on it unloading 45 large leather bags with letters and newspapers for Albany. The lightness with which the Americans moved was worthy of marvel, for

in less than a quarter hour more than 300 people and their baggage was taken aboard our steamship.

American steamboats are significantly larger than the English, and the *North America* is one of the largest among them; it has two decks and has room for 320 beds. The 145 English [43] miles that make up the interval between New York and Albany are covered by this steamship in summer during the day in eleven hours, and in the winter on an overnight return twelve to thirteen hours, for which a person pays $3, and 50¢ for supper. There are no differences in the price here, since the American principle of equality tolerates no class differences. In the winter two boats go from New York to Albany, and two back from there, all stopping at ten places on the way to bring the travelers to land. In the summer there are twice as many boats. Our steamboat was the last to go up the Hudson to Albany, because on the next day the upper reaches of the river were already frozen, which was the earliest in eleven years. As a rule the Hudson only freezes in mid-December, and it passes three months covered with ice, during which time travel between New York and Albany by stagecoach demands more than two days and is very trying. You may get an idea of the intensity of travel by boat on this river when you consider that, besides the many sailing vessels and steam ferries, 26 steamboats travel on it, of which half are occupied in hauling freight barges. [44] A result of this intense competition is that the fares have dropped so far that travelers can go from New York to Albany for 50¢. A few years ago the regular price of the journey from New York to Albany, including bed and breakfast was a dollar, and as one of our acquaintances in New York told it, a gentleman seeking to save money went up and down the Hudson on a steamboat, which was much cheaper than staying in a hotel.

Once we had left the shore, I rushed to the deck along with my husband to enjoy the grandiose, beautiful view which soon would be opened to us with the advancing dusk. From afar we could see here a part of Long Island, Staten Island and the small islands lying in New York Bay, Jersey City and Hoboken on the coast of New Jersey. At some distance from the city near the river is the Protestant Seminary of the Episcopalians, and as we rose further up the river we had a very fine survey of Manhattan Island, which dominated the whole area with its colossus of housing. The next thing that attracted our attention were the Palisades: five hundred feet high, perpendicular walls of stone, located beginning six miles [45] from the city of New York and extending eighteen miles to Tappen. We were utterly lost in gazing and contemplation, until night descended and the objects grew ever less clear.

"Madame, if you please, the tea is ready," suddenly the sonorous voice of a black chambermaid sounded in my ear, and she brought us into the saloon where the entire company had already gathered. The tea and the many foods, of which excess reigned, were splendid, and the service of the black waiters could not have been better with almost 300 persons. We had the first seating at a table where a pleasant American presided who made every imaginable effort to entertain us, and by his appearance he was a farmer. After the completion of the evening meal, we rushed back to the deck; slowly the moon emerged from behind the clouds, and its gentle light was reflected in the pure waters of the Hudson. I was awakened from my dream-state in which the glimpse of the stars that the New World flowed onto me for the first time had placed me, and was rather gently interrupted by our galnant table-

neighbor, who followed us and tried to inform us of the region and various other things. The light from the huts of fishermen lying on the shore [46] was reflected in the river and at some distance seemed entirely as in a painting. Besides many small boats and barks bearing travelers to small places for low prices, we also saw seven steamships. From the smokestack of the last of these arose smoke like a fiery pillar loaded with innumerable sparks that hung in the air and followed its commander, advancing in a majestic progress across the silver waves of the Hudson. In Sing-Sing, 33 English miles from New York, where the steamboat halted, is a large state prison belonging to the state of New York, in which 1,000 prisoners may be held; the chief building is five stories high and stands along the river.

Although the cold grew ever greater and warned us to return to our cabin, we could not leave the deck until greeting the Highlands in the moonlight. Here the river makes such a sharp turn that one of the grandest scenes opens to the gaze of the travelers, in which they are suddenly enclosed by high cliffs. These mountains sixteen miles wide, called the Highlands or Fishkill Mountains, extend for twenty miles on both shores of the Hudson; their highest peak is 1566 feet above sea level, and like the old castles on the shore of the Rhine remind of the days of the knights, so [47] these mountains recall American events of the highest importance from the war for freedom. Every peak recalls a special event and Washington's name is still mentioned on every occasion with much interest. In West Point, a town 53 miles from New York, is the Military Academy of the United States, created in 1802. Here about 240 cadets are educated for the army and as engineers, and they may stay for four years in this splendid institution.

I finally left the deck and rushed down to the ladies' cabin, where all were already enjoying a good sleep. The curtains of the apartment were all closed, and the lamp placed in the middle of the deck appeared only to await my arrival, since it only flamed briefly from time to time. The elevation of my mood from the many new impressions, the snoring of the numerous company, and the agitation of my nearby sleeping companion, an elderly woman, made it impossible for me to close my eyes for a moment. When she became aware of this, she asked me every moment whether the boat had stopped, since she had to get off. I had no idea what trial of patience I would have to experience to answer, for then she put on her hat, coat, and with a large basket [48] on her arm she placed herself before my bed and began to tell me the entire story of her life, which was soon interrupted by the stopping of the boat. I still had no idea who she was when she pressed my hand with the statement that she hoped to see me again, since she was the owner of the first public house in Cairo near Catskill, which however was in no way common, and I would be sure to stay there. — I was really happy to be rid of this nocturnal poltergeist, and I did enjoy some time of peace, dreaming of Indians, slaves, wild animals and forests primeval, until the noise of the ladies in the cabin awakened me. My things were quickly brought to order and a half-hour later, on the morning of 24 November, we were happily on land in Albany.

The city of Albany, one of the oldest Dutch settlements, is in an extremely romantic location near the Hudson on a hill whose apex is crowned by the capitol. It was founded by the Dutch in 1613 under the name of New Orange, and only after the seizure by the English in 1664 it received the name of Albany, after the Duke of

York and Albany. Since the completion of the Champlain and Erie Canal (in 1825) where the latter [49] begins, the city has grown both in trade and in population, and its current inhabitants number about 30,000 souls. It is surprising that, just as the population of New York is a tenth of the population of that of the state, this city is always a tenth of the population of the city of New York. Forty years ago the seat of the state government was moved from New York to Albany, and currently there is thought once more of moving it to Utica, because this city is more in the middle of the state, since it is a principle in the United States to place the seat of government as far as possible from the rich main cities, to make it less vulnerable to the influence of wealth as well as mobs.

Since on the ship the Congress Hall was described as the best hotel, we took our lodging there, enjoying from there a very open view of the lovely square and of the entire city. Among the best memories of my journey in the United States are tied to my brief presence in Albany, to which the acquaintance of the State Controller at the time, A. C. Flagg and his family contributed greatly.[25] Mr. Flagg had a very lovable wife, two very educated grown daughters, and a small son. Every evening a very select [50] society gathered at his place, where we, living in the same house, could not be absent. Here we also met the Governor of the time, Marcy,[26] as well as the president of the Commercial Bank, Mr. Erastus Corning,[27] whose friendship was of great use for my husband's purpose. I was often astounded to hear how with much knowledge and interest the ladies speak of the politics of their country; but when the men could not leave off speaking of their canals and railroads, we made music or entertained ourselves in some other way.

Accompanied by the Flagg family, we visited the nearby Capitol, the Albany Female Academy, and several other institutions. In the session halls of the former there were portraits and busts of the famous men of the land, and the state library contained a fine collection of law books. The Capitol has a very beautiful Ionic portico of white marble, costing the state over $120,000.

The local ladies' educational institution, called a "Female Academy," is seen by almost every visitor; we also hastened to visit this interesting institution, and I confess that the educational system prevailing here struck me in its contrast to the European one. The fact that with us education of girls is so superficial, and they are often entirely excluded from studies demanding individual thinking [51] is sadly all too true. Making the spirit capable of achieving its true mission through the exercise of the understanding is certainly the foundation of any good education, for when a person recognizes this, then it will be all the easier to fulfill the obligations bestowed by the station in life. But what cannot be approved is that in this institution they fill the head of the student with a mass of disciplines of which she can make no use as a mother and housewife. The term "Academy" is entirely proper here, and considering

[25] Azzaria Cutting Flagg, 1790-1873, was Comptroller of the State of New York, 1834-39 and a lifelong leading New York Democratic politician.
[26] William Learned Marcy, 1786-1857, was a noted member of Martin Van Buren's "Albany Regency," US Senator, 1831-1833, then Governor of New York, 1833-1839.
[27] Erastus Corning, 1794-1872, merchant and railroad executive, he later consolidated smaller lines into the New York Central Railroad; he served as a Representative in Congress.

the various subjects to be covered one should believe that this educational institution has more of an intention to educate young men than young girls.

The very beautiful building, decorated with marble columns, was built by a stock-company that was formed to support the founding of the institution in 1821, annually electing 13 directors who lead the affairs of the Academy. A president stands at the head of the board of directors, with a secretary and a treasurer. The president oversees the operation, and the directors are divided into three committees that visit the institution at least once a month to convince themselves of the progress of their students. The results of their observations are reported in a monthly session of the entire board. [52] The faculty consists of a professor of higher philosophy and rhetoric, who is also the principal, a second of natural philosophy (physics), chemistry and botany, and finally a third of French and Spanish languages. Ten helpers have oversight, and the eleventh heads the library. Church music is taught by a professor and a female helper, and female teachers are hired for harp, organ, piano and drawing. The Academy is divided in six classes so as to receive students of every age. The subjects taught are reading, writing, orthography, analysis, rhetoric and composition, arithmetic, algebra, geometry, trigonometry, astronomy, natural history, minerology, geology, experimental physics, chemistry, technology, history, literature, philosophy, theology, French and Spanish. During the summer, lectures on botany and geology are held, and in the winter chemistry and philosophy. To help studies there is a cabinet of natural history, a considerable library of about 6000 volumes, several maps, globes, models, as well as chemical and physical devices.

The price for instruction in the sixth and lower classes is $4 for a quarter year; in the fifth $5, in the fourth $6, in the third $7, [53] in the second $8, in the first $10. For instruction in French and Spanish there is an additional $5 for the quarter-year; the same is the case for music, drawing, and women's handwork in variable amounts. If the parents wish so, the pupil can also receive instruction in Latin and Greek. Girls from the country can live under the supervision of the principal and his family for the payment of $225 per year for food, lodging and all instruction needed for attaining a diploma. In the academic year, divided into four quarters, beginning on 1 September, there are two examinations, one in February and the other in July. After the first examination, the students have six weeks of vacation. After the examination in February the names of the girls who have done outstandingly are publicly announced, and after that in July prizes are distributed according to the various branches of study, consisting of gold medallions. Every girl who has completed her studies to the satisfaction of the professors and gone through the entire course receive on their departure from the Academy a diploma with the seal of the institution, which is seen as the greatest honor.

When we visited the institution, there were some [54] girls occupied in resolving difficult algebra problems; others were receiving instruction in the French language, whose pronunciation still left something to be desired. Americans, like Englishmen, have no special talent at learning foreign languages; this remains a talent for Germans and Russians. What pleased us particularly was the free movement of the students, which is never encountered in a European institution of this sort. Also, the treatment by the teachers is very kind, and for that reason all the more effective.

[55]
III

After a very pleasant visit of four days we departed Albany on 28 November at 8 AM and took the Mohawk & Hudson Railroad to Schenectady, a small town located 16 miles away on the Mohawk River. The railroad begins in the widest and finest street of Albany, called State Street, and goes for a half mile on the street, which can only be used by horses. On our departure, I was very surprised by the casual ease of the Americans. A gentleman who was accompanying a lady sought out a man who was a stranger to him to help the lady in Utica to find the home of her acquaintance, and he responded by promising to help. The number of travelers was much lower than in Belgium, doubtless a result of the high prices, for each person paid 75¢ for the short stretch of 16 miles. Outside the town we were led for another mile with horses; from here the train started, consisting of 5 passenger cars and 2 freight cars, with the locomotive going very fast and absolutely straight through woodlands that were being felled. Through the construction of the railroad [56] individual parts of the woods were already being cultivated, and we were astounded to see on land cultivated for barely one or two years that Turkish wheat or Indian corn had been planted. At the end of the woods, where the engine house stands, we saw at once Schenectady, the charming Mohawk Valley and the Erie Canal at the foot of the mountain. From here the cars are let down 114 feet on an incline 2060 feet long, and the area appeared ever more romantic. Groups of houses built in the Dutch style showed that the land had been settled by colonists from that land; they had settled here more than 200 years ago, as we learned later, and always preserved their language and manner of housing, but unfortunately, they had not gone further along with the progress of the other Americans, for which reason most of them are impoverished.

From the engine house in Schenectady you pass over covered gallery into a hotel, where we were accompanied by the railroad superintendent, Mr. Whitney. After we had taken our apartment, we went with him to his own home at the apex of the inclined plane, where I passed the day with his family while my husband viewed the [57] various objects concerning the railroad. The superintendent's house was built eight years ago after the clearing of the primeval forest immediately after his arrival, is quite comfortably furnished, has a small garden, making a beautiful picture with the dark forest in the background.

When we returned to Schenectady in the evening, the entire area was covered with snow, and the wind blew so hard from the north that we reached the railroad hotel with frozen arms and legs, truly longing for a warm room. But the structure was built so lightly in the American manner, the doors and windows so poorly installed, that the universally-used hearth fire spread so little warmth in the large, high room that our stay here could be called something less than comfortable. Although we stuffed the windows and doors with paper and pieces of clothing, the cold was so intense that the next morning we found large pieces of ice in the water left standing overnight in our room. On the next day, when the cold relented somewhat and the weather became better, I made a long promenade along the

railroad with my husband, and I was very enthused by Schenectady's beautiful situation. Here we also saw the stubble [58] of what is called *broom corn*; it is a variety of grain peculiar to there, from which small brooms and brushes are made. The local variety was planted here by the Shakers, who exploit a monopoly over it. On the present location of the town, there was earlier an Indian village where the noted tribe of the Mohawks lived, famed for its power, holding its council fires in the lovely Mohawk Valley. The Dutch first settled here in 1620; the population, gradually growing at first, only rose in recent years after construction of the railroad and the Erie Canal, when it climbed by a third, now counting about 5,500 souls. Not included in this number are the 250 students in Union College.

On 30 November at 10 in the morning we traveled on to Utica, and in this regard had a very pleasant journey. In the station building they were reluctant to take my husband's money for tickets; on the train the engineer, Mr. Young, greeted us with outstanding courtesy and placed a heated car at our disposal. What is remarkable with this railroad is the way they deliver mail. Since stopping at the thirteen individual post offices would take too much time, they created one of the cars as a [59] "traveling post office," which has a small stove and is specially arranged. The postal official sits in the middle of this little office and distributes the mail into various niches, until before the arrival at a post office he closes the letters in a leather valise, hands this over and receives another in return. All the arrangements on this line were extremely efficient and pleased me very much. So, besides a very effective snow-clearing device there was another device in front of the train to move away cattle lying on the tracks overnight. The houses we passed were made of wood, and the old fruit gardens showed the traces of the early settlement of this area. All the fields were bordered with stones that were laid on one another without mortar, and the cows still grazed in the stubble of Indian corn.

In Amsterdam, a small village 16 miles from Schenectady, there was a halt to get water, when all the travelers got out to get some refreshments from the eating house right by the line. The contrast between this large building and the tiny village surprised me, and no less the great selection of food that was awaited the passengers [60] in the large hall. Coffee, oysters in a sauce left heating in a small coal pan, various pies and some other dishes were already divided in portions, with prices posted. So that as many people as possible could find room, and also so the waitresses could move easily, the dishes were placed in the form of a large oval. In all stations ladies have their own room, and on the street was placed in large letters, "Ladies Apartment."

I went in out of curiosity; as elsewhere, it was laid with beautiful carpets, and a crowd of women who did not wish to eat warmed themselves by the fire. More than anything I was surprised to see on the wall the story of [Wilhelm] Tell, decorating the walls in rather tastelessly colored pictures, probably a family piece from one of the Dutch settlers. After the passage of some minutes a bell sounded, and the entire company found itself back in the cars in an instant. Five of such hotels along with other buildings were constructed as a result of the railroad. In Amsterdam I saw several houses built of stone, and despite the advanced time of year several herds on the pastures. Caughnawaga, a small community eight miles from [61] Amsterdam, was once an Indian village and the capital of the Mohawks. The word

Caughnawaga is supposed to mean "coffin," because a large black stone is located opposite the village in the river. I could not see anything of this black stone, since the river along which we traveled was entirely covered with ice and snow. Not far from this place is Fonda, where another inn is found is found that is two stories tall, has 12 windows in front and an entrance decorated with five columns, each four feet in diameter. Opposite this building is a new, very fine courthouse with a silvered cupola. We left the train here in order to have some soup, and I had to laugh heartily at a gentleman, who perhaps due to our somewhat unusual appearance held us to be settlers, for he asked my husband cheerfully, "Sir, how far do you go west?"

The more we came into the mountains, the more interesting the landscape became, which took on an extremely wild-romantic character. The stones pressed themselves here so closely to the river that for the railroad to pass through, had to have significant rock ledges built that not [62] only impressed engineers, but all the travelers. The falls or rapids here in the river here have the name "Little Falls" in contrast to the larger falls at Cahocs nearby with a fall of 42 feet. The stream rushes down roaring and bubbling between enormous stone walls very close to the railroad, making together with the wild-romantic setting a grand spectacle. "Little Falls," the town founded here, has many manufactures for which the Mohawk provides adequate waterpower. Here we could see the Erie Canal, the railroad, and the river. — As a result of this significant union of communication the lands here have a very high price. You pay $100 per acre, and the average income of this is evaluated at $20, while the cost of cultivation runs only at $7. At Herkimer, the stony romantic setting vanishes; the railroad crosses the Mohawk River to Frankfort and from there through well-worked acreage until Utica. If you travel from Albany to Utica without a pause, as is normal, you cover 78 miles in a period of five hours, paying $3. This time our journey lasted only four hours 29 minutes, of which the [63] pause took 40 minutes. For our benefit, they were traveling faster than usual.

Utica lies on the Erie Canal, is a prosperous, friendly city with 10,000 inhabitants and the center for roads, railroads and canals. Fifteen miles from here are the famous Trenton falls, which are always visited by every traveler as a great natural beauty. The Canada Creek, which provides these falls, flows through a narrow sluice, two miles long and falling 300 feet. A company has recently been formed to profit from the enormous waterpower by building hydraulic works.

Since the railroad from Utica to Syracuse is still being built, and in a forest 12 miles from here the timbers for laying the tracks are now being made by means of a newly-invented machine, my husband determined to see it. So, we left the city on the morning of 1 December at 10 o'clock in the company of two engineers, of whom one was the inventor of the machine, in a rented coach, and we came through the snow-covered fields of Utica first to Whitesborough. This is a rather large town with well-built houses, owing its name to the first settler White, who settled here 40 years ago. The place has quite a handsome large school building, in [64] which 120 children are found, but of which most are Negroes. The institution also possessed several fields, and was funded and supported only by subscriptions. To cover the additional costs, the able-bodied students had to work three hours daily in the fields.

My desire, often cherished in Europe, to see primeval forests at least once, now was fulfilled, for we passed several mountains whose pinnacles still were

covered by these native forests. But I must admit that to me these woods appeared exactly like the many others I had already seen, and that it here, as in so many other things, only rested on an illusion.

The area through which we were traveling was already somewhat developed, and the Erie Canal, on which four persons were following us on skates, was our continual companion. I saw many fruit trees that still had hanging apples, and when I asked about it one of the engineers said that probably they were no longer wanted. Another place we passed was Oriskany; it had several significant woolen factories, and the large constructions that they required contributed to no insignificant degree to the ornamentation of the place, which drew its name from an Indian chief. Here we saw in the distance the [65] Mohawk River, across which the Erie Canal passes on an Aqueduct, and over the latter there is yet another bridge. The mostly wooded area has no variety, for that reason I enjoyed myself with the farmers and their wives, of which we encountered many with their wagons (wooden carts without springs). They were very elegantly dressed, all wearing hats on which there was often a veil that covered the entire face. The daughters of these farmers' wives were supposed to receive a very good education; they almost all could play the piano, even the young girls working in the factories.

A very fine country house now came to my attention, which I heard belonged to an English gentleman who owned a great deal of land and lived here as a farmer. As rumor reported, the father of this gentleman had been a paymaster in the English army, and he was commissioned to take a significant sum of gold to Canada. But he thought it better to hide it for himself, and instead of going to Québec with it he went to New York, settled there, and after his death left it to his sons, who still lived from their father's fortunate idea.

Some distance from the place where the pile-driving-machine stood is where General [66] Herkimer, who distinguished himself so greatly in the American war for freedom, died at the Battle at Oriskany in 1778, pierced by an Indian's arrow.

It was impossible to get to the place where the machine was working by wagon, so we left it near the Erie Canal and continued our travel on foot, crossed the solidly-frozen canal and reached the forest; snow lay rather deep, and since there was no clear path, we had to try our luck. The thicket narrowed our path so that we had to go one behind the other, and snow had fallen at night on many unfrozen holes, and it happened that one or another would come stuck in the snow. The deep silence of the forest was interrupted only by our steps, the caws of some woodland birds, and the pounding of the machine, and if I had not been together with three gentlemen, I do not know whether I might not have lost my courage. We finally came to the pile-driver-machine, and as much as I could understand of its manipulation, it served to establish a solid foundation for the rails in this swampy region by putting down strong timbers. The machine, set in motion by steam, takes a timber lying prepared on the ground, pounds it deep into the earth, and then [67] saws it off at the proper height. It always drives two blocks of wood at the same time, and when it is done with sawing, it moves itself on its own iron rails. This machine only needs seven men to control it. After the men had viewed the machine from every side and discussed it, they returned to Utica, where we had a good midday meal in the Bagg Hotel after our frosty party in the woods.

Early on 3 December, in the darkest night, the black man knocked on our door to report that the stagecoach to Syracuse was waiting before the house, and in less than ten minutes we found ourselves in a vehicle of which we had never thought without terror. After the coachman drove around the town for a good while, he finally stopped before a house from which a traveler came who took his seat next to the coachman, which in the bitter cold was certainly a special favorite. Our fear of stage coaches was not completely without substance, and we, who had traveled from England to here by steam, felt all the more the rude jolts of a crudely made box resting on a foundation with very poor springs. In the interior of the wagon were benches, one for every three persons, and alongside the coachman, who directed his span of four [68] horses from his high seat, a passenger may have another place. A moving leather strap is attached in the middle of the coach that serves as a back-support for those on the middle bench, and a part of that bench can be raised so passengers can reach the rear bench. Since the stage stops at every tiny place, and passengers are continually entering and leaving, this seat is not the most comfortable, and it is always good that a lady rarely sits there. In fact, Americans reserve the first place to all ladies without distinction of class, which you seek in vain in Germany. Wind blows powerfully from both sides of the coach, since the large window-openings are only protected with leather curtains that are rolled up completely in the summer, but are poor protection from wind and cold in the winter. The doubled curtains that also hang down were the remnants of old tablecloth. After our travelling companion sat on the driver's seat in frock-coat and overcoat, he came to us in the wagon and held a long lecture on temperance societies and the reasons why Governor Marcy was not reelected, and why Martin van Buren would also not be reelected.

[69] We passed many friendly villages with wooden one-story houses that were shingled and painted, but all had simple windows, and many churches built of wood. Many sleds passed by our wagon, and the sled path here normally lasts until the middle of March. In a hotel in Chirtiningo, where horses were changed, we had to wait a long time, and everything was topsy-turvy because three girls had been married here.

Many fields along the road were filled with tree stumps between which were seen stalks of Indian corn two feet high, which was very displeasing. Our travel companion, who had ceased his political lectures changed to economics and gave us the following information:

Trees are felled in the winter for new settlements and dragged out of the woods, and early in the year the land between the tree stocks plowed. The stumps remain because of the high pay for labor. A half bushel of Indian corn will be sown on an acre; this grows to from 9 to 14 feet high and gives 50 to 60 bushels of kernels, as well as some straw for feeding cattle. Since there is no good fodder, they remain standing, and then the cows are driven into the fields, who gnaw away some of it. The remaining [70] portion is plowed under early the next year. Such a cultivated woodland requires no fertilizer for at least ten years, in fact it does not tolerate it, since the soil is too heavy; in the course of these ten years the tree roots rot. How productive the cultivation of this land is can be seen by the price for a bushel of Indian corn is between 5 shillings and a dollar, which makes the gross product of an

acre of land over $50, while the cost of cultivation is insignificant. With such conversations on the economy we finally reached Syracuse in the afternoon and took our rooms in the Syracuse House, which had been recommended to us. We had covered a distance of 50 miles in 10 hours with the stage, paying $3.

Syracuse is also one of the many settlements of the Erie Canal, for 19 years ago this place, now prosperous and in which 4,500 people move, was still a swamp. Near this little town on the shore of Onandaga Lake there are very rich salt springs, from which much salt is produced every year. The salt-springs belong to the state, the institutions producing salt have been conceded to private hands, which pay the state a tax of 6¢ for each bushel of salt. Then they can sell the salt for any price they wish. Important [71] quantities of this salt are exported to Canada and to the western states.

In the afternoon we walked alongside the Erie Canal, whose widening is underway, and here we visited the railway going to Auburn, whose construction looks very difficult, and which will be completed by laying down some iron rails. As we returned to our room, a black servant came up and handed my husband a note written in Russian, to his great astonishment. My husband rushed downstairs to find a Pole, Peter Kowalewsky, who had read in the register that my husband came from St. Petersburg, and so he saw in him one of his people from home. He told him the length and breadth of his history and closed by telling him that next year he would be marrying the daughter of General Whitney, the host in the Cataract Hotel at Niagara Falls, and would then take over the management of that hotel.

At 2 in the morning, no comfortable hour to travel, we took the railroad to Auburn.[28] Our journey did not go rapidly, since the wagon was pulled by horses, partly on wooden rails; but I vastly preferred this mode of travel to the stagecoach, in which you are so dreadfully [72] crowded together that you cannot come away without leg pains. The entire company, consisting only of a few persons, was rocked into sleep by the monotonous movement until the morning arose, making the massive gray walls of the state prison at Auburn ever more visible above the mists. From Syracuse to Auburn we traveled 26 miles in 3 $^{1}/_{2}$ hours and paid a dollar for each seat. In the latter town, we took our residence in the American Hotel and had our window directly opposite a very nice church and the courthouse, crowned with a silvered cupola, weakly reflecting the subdued rays of the winter sun. All American towns of the interior of the country have the same appearance; the new houses are all built in the same manner, and the way of life is the same in one place as another. So far as the latter goes, the sameness did not please me, for no sooner had forty people gathered at table than they stood up and we found ourselves alone and abandoned on the great board. All the gentlemen had eaten their midday meal in less than five

[28] The New York State Prison at Auburn drew extensive attention in a period in which prisons were a matter of interest by the Benthamites in England as a touchstone of the control of human development. It was the assigned mission of Alexis de Tocqueville and his partner Gustave de Beaumont in their tour of America, and their report, written chiefly by Beaumont, *Système pénetentiaire aux États-Unis et de son application en France* (1833), rapidly translated into English by no less a figure than Francis [Franz] Lieber in 1833 as *On the Penitentiary System in the United States and its Application in France.*

minutes, so as to be able to rush back to their business as quickly as possible. During this entire time, they were all preoccupied and probably contemplating some speculation, "Time is money," the American is thinking. [73] This also explains the rash blooming of this young state. But what surprises most of all is the "massive moderation" here, for not a single guest drank wine, but all filled their glasses with water, and we ourselves did not dare to ask for a drop of wine, because otherwise these members of the Temperance Society certainly would have seen us as the greatest criminals.

After this very homoeopathic dinner, we went in the company of an engineer and one of the heads of the State Prison into the prison to view this institution, generally so famous. The agent living here led us with much assistance into all parts of the building, all the time making us aware of everything and answering all our questions with the greatest courtesy.

The State Prison was built by the State of New York with an expenditure of $300,000, and is enclosed on all sides by a wall 500 feet long. The front side of the prison is 300 feet long, and the 550 cells, of which each is 7 feet long, 3 $^{1}/_{2}$ feet wide, and 7 feet high, is warmed in the winter by means of heated air. The rather broad space between the cells and the main walls of the building with its windows is open from the [74] ground to below the roof, so that it is possible to view all five stories atop one another at once, their entry doors on a gallery of 2 feet all the way around. Between the cells and the wall acoustics are such that the watcher in the open space can hear the slightest noise of the prisoners, and the entire construction of the prison is so solid that the observation of the whole requires only 35 people.

The institution stands under the direction of five inspectors, who elect a president among themselves, and hold monthly meetings whose results are presented to the legislature every year. The special surveillance and leading of the institution is done by the agent living in the prison, who makes his own report of inspection. This agent receives an annual salary of $1,250, and the other individuals hired in the institution are: the clerk with $500, the chaplain with $500, the physician with $500, a barber, a superior overseer with $650, and the other assistant keepers each receive about $450. All criminal violators come to the prison, and when we visited the total number of prisoners was at 650, among which were 100 Negroes and 15 Indians, while the number of individuals located at Sing-Sing, including 70 females, ran to 900.

[75] I hold it to be of interest to include the report of the chaplain for 1837: To the inspectors of the Auburn Prison.

> Sirs!
>
> I had the good fortune, as in the previous years, to observe clear proofs of the progress of inmates, both in intellectual and in religious terms. The Sunday School is very useful. The number of pupils runs to 200. All inmates who cannot read, with the exception of very few scattered persons who are either too old or mentally simple, enjoy their instruction. Many who on their entrance could hardly do letters, and some who did not even know

the alphabet, can now read. The good tendency of the actual religious instruction is no less visible. Those inmates attending school distinguish themselves before others as having a more sensitive, flexible attitude, which doubtless derives from the instruction they have received. I have often had occasion to regret that the others cannot enjoy the same advantage. Also the lack in this instruction could be helped by the regular distribution of selected and proper religious texts — tracts. For the means to this I am especially obligated to the American Tract Society for their continued help, free of charge. The Bible societies also continue [76] to supply me with Bibles for the departing inmates. Twelve hundred thirty-two individuals who have been condemned to this prison could be classified according to their education and earlier morals in the following way:

With a college education	3
With an academy education	13
Could read, write, and figure	351
Simply read and write	311
Simply read	272
Unable to read	282
Total	1232

Extraordinarily drinkers	457
Heavy drinkers	477
Total	934

moderate drinkers	276
Temperate	22
Total	1232

Drunk when crime committed	736
Drunken parents or guardians	458
Lost or left parents before age 16	434
Occupied in canal construction	301
Were sailors	146
Soldiers	111
Gamblers	397
Sunday school before conviction	49
Read Bible daily	47
Knew 10 commandments by heart	123
[77] Observer of the Sabbath	26
Were married	625
Were single	607
Left or lost wife	197

The following information from the report of the inspectors to the legislature for the year 1837 has the number of convicts since the foundation of the institution in 1817 to the year 1837, or during 21 years.

The total number of convicts were:

1817	55
1818	96
1819	108
1820	101
1821	138
1822	113
1823	140
1824	156
1825	154
1826	133
1827	190
1828	174
1829	170
1830	114
1831	174
1832	192
1833	193
1834	188
1835	228
1836	183
1837	257
Total	3257

[78] Of these were

Females	116
Negroes	298
Indians	28
Second conviction	171
Third conviction	16
Fourth conviction	2
Born in New York	1531
Born in other states	1090
Foreigners	636
Age under 20	401
Age 20-30	1509
Age 30-40	785
Age 40-50	356
Age 50-60	150

Age 60-70	42
Age 70-80	14
Total	3257

Released completed sentence	1269
Pardoned	901
Died	184
Sent to Mt. Pleasant	100
Sent to Erie Canal labor	65
Escaped	25
Sent to Hse. of Refuge	6
To the Mad House	1
Total	2552

As of 31 December 1837 there were 705 inmates in the prison; these were occupied in the following manner:

[79] In cotton weaving	56
Cutting shop	37
Tool factory	37
Machine factory	44
Wash room	5
Comb factory	57
Carpet factory	50
Horse-collar factory	51
Shoe factory	53
Cooperage	47
Cabinet shop	59
Stone-cutting shop	51
In the western yard	52
In the kitchen	16
In the carpentry shop	5
In the south wing	6
In the north wing	12
In the hospital	6
In the soap house	1
In the north yard	2
In addition female inmates	27
	706

Note. When we visited the prison, the overseer told us that no more women were being added, but that now all are sent to the State Prison at Sing-Sing. — In the most recent time, the plan is also to receive no more women in Sing-Sing and to build a new prison only for them.

[80] During the day the convicts work communally under the strictest observance of silence in the various working stations of the institution, and at night each inmate sleeps isolated in his cell. This system was first adopted as the most effective in Auburn, and solitary confinement, in which the convicts remain alone and without labor, has been completely abolished in New York State, because experience taught that the criminals once released, because of inexperience at working, led to their being condemned again, and some in the prison actually lost their minds. The purpose of the institution is to improve the criminal, and this was achieved through work and silence; the first teaches him to earn his existence in an honorable way and takes away his disposition to laziness, while the latter leads to consideration that is supported by the intentional religious instruction, which teaches and consoles him.

It is remarkable how successful the Auburn System works on the mood of the prisoners; many criminals are returned to civil society by purposeful treatment who would otherwise have remained for life in a condition of rejection. Since the prison in Auburn does not provide enough room for all the criminals, in 1825 the legislature decided [81] to build a second in Sing-Sing on the Hudson River. Mr. Lynds, head of the State Prison at Auburn, who was commissioned to lead this construction, took with him a sufficient number of convicts from Auburn and landed with them on the Hudson without a secure place to receive them. He gave each of them particular work to do, and so it happened that a part of the convicts in Sing-Sing constructed their own prison without daring one attempt to flee.

We saw in the institution workshops for table-makers, smiths, mechanical iron workers, spinners of cotton and wool, ordinary weaving with a flying shuttle, then weaving for carpeting on a jacquard loom, also cooperage, comb manufacturing, shops for tailoring and shoemaking, etc. On the whole 15 workshops were there, and the nearby Owasko Creek provided waterpower to run the machines.

The operation of the workshops was such that contracts are made with private firms for the period of five years, which supply the tools and materials and pay the prison 35¢ to 52¢ a day for every man; the contractors have their own overseers at the shop, but they can speak with the prisoners only when absolutely necessary; besides [82] over this person another individual to watch the prisoners. In the first period after the construction of state prison the agent bought the raw materials for the various workshops, and the completed products were then sold for the profit of the state, but since losses were too great, the present arrangement was made, which because of the high prevailing wages produced a positive result.

In the summer work takes place from 5:15 [AM] to 6:45 [PM], but with an hour for breakfast and the midday meal taken out. Soon after the break of day a signal is given, the closer opens the cells and all the convicts go in a crowded line one behind another to the various working places and remain there until a second signal calls them to a common breakfast, where it is placed in such a way that it is impossible for them to look up. Breakfast consists of a pint of rye-coffee, 6 ounces of bread, a half-pound of beef and a sufficient amount of potato; after the prisoners have eaten, they return in the same way back to their work. At the midday meal at 12 o'clock the same food is served without the coffee, and [83] the evening meal consists of 6 ounces of corn porridge of Indian corn and molasses, which the

prisoners have to eat before sundown, even winter, because no light is allowed in the prison at night. The bread is half of wheat, half of Indian corn, and the meat is half-salted and half fresh. A contractor delivers this food for 10¢ a person, earlier 7 $^{1}/_{2}$¢, and has only now been increased because the general rise of the grain price in the United States has been so great. Every evening the chaplain pronounces a prayer to the prisoners, and on Sunday a divine service is provided in the beautiful, roomy prayer hall, to which all individuals with ties to the institution have access; also, every prisoner who can read is provided with a Bible. Relatives, even close ones, may not visit the prisoner during the entire time of sentence. If someone loses his mind, he will go to the Madhouse in New York; but if he grows ill, he will be cared for in the institution's hospital, and after his death the relatives may reclaim his body within 24 hours; later he belongs to the Medical College and will be disected.

In Auburn, as with the two other state prisons in the state of New York, for greater security a company of militia is always stationed, [84] whose aid has not yet been required; for even in 1832, when cholera broke out at Sing-Sing and 234 of the 900 convicts died, not the least disorder reigned, and it is to be marvelled what a deep impression the strict discipline had on the mood of the criminals.

Fifteen years ago, the local criminals were condemned on average to seven years; but since the purpose to improve the people was achieved much earlier, they are currently condemned to 3 $^{1}/_{2}$ years.

According to a report given us, the institution received an income of $53,843.42 in 1836; since there expenditures were $51,447.53, there was a profit of $2,395.90. The prison in Sing-Sing has already gathered a fund of $80,000.

We returned from the State Prison very late and returned home, and on the following day, 6 December, at 9 o'clock, we were back in the stagecoach on the way to Rochester. Other than ourselves there was only a young man, who was so friendly as to give my hunsband a front seat, but through this courtesy he suffered greatly, for a cold north wind blew directly [85] in his face, and his travel clothes, which as with most Americans consisted of a black frock coat, was not adequate to make his position tolerable. To my husband's question whether he did not have an overcoat in this severe cold, he responded that he was only traveling 16 English miles to Waterloo, and he had thought that for such a short distance it was not worth the trouble to take so many precautions. The cold was so severe that we had to close the coach window, unfortunately losing a part of the view, since some of a broken window had been replaced by thin tin sheet, which was in any case suited to the situation. We passed on the way at the outset several tollhouses, where instead of a moving barrier there stood wooden shingles that were entirely closed at night. Further on we saw no more toll houses, since the owners of the land did their own repairs. One stretch was as bad as the other, and the holes were often so large that our heads flew as far as the ceiling. At this opportunity, I must say that very few macadamized toads or built roads are to be found in America. They are much readier to lay railroad rails instead. Ordinary country roads are laid and maintained by the occupants of the district. We were by Lake Cayuga, whose current area is 80 square [86] miles, which receives many fine rivers, rich in fish, and so deep that even in extreme cold it is seldom covered with ice. I was pleased on the wooden bridge, more than a mile long, to be relieved of the jolts we had received for a moment, and

I was overjoyed to greet the beautiful Seneca Falls. Since Lake Seneca lies significantly higher than Lake Cayuga, and the water runs from the one lake into the other, the river created has a significant fall which becomes extremely romantic in the fine, hilly setting. Three miles from Seneca Falls, in the friendly little town of Waterloo, we changed horses and separated ourselves from our friendly companion.

From here we passed to the extremely romantic little town of Geneva, which is about a hundred feet above the lake. On the one side it is entirely enclosed by hills, which are covered with many cheerful buildings and was probably earlier the shore of the lake. As we left Geneva, two new travelers joined us, one of them a small man with a fat, round face, projecting cheeks, and a very spirited physiognomy. The other did not look so genteel, and the instrument he laid behind him indicated that he had much to do with stalls [87] and roads. The first one wore a long-haired badger coat, and under this so many clothes that he could hardly move and fell into our wagon like a young bear. He now peeled his thick travel garment back and provided us with a glimpse of his fashionable clothes and his gold watch, which he took out every moment. The greatest surprise came when he turned at once to us, immediately speaking in a not very pure German, which he pronounced as badly as possible, saying, "You are Germans, you speak good English, you have been in the country for a long time. " He began to report his life history from beginning to end and marveled that anyone could learn English in a country other than America. The biography of this young American, so forcefully framed, that his parents had settled in Pennsylvania, amused me in the highest degree, particularly that the area through which we were traveling had no variety other than many grain mills driven by water wheels. In Vienna, a small place of 2,000 inhabitants with two rows of mostly wooden houses, we had our midday meal, which consisted of only salt fish and roast beef. After the meal was over, I took a small plate, hoping for some pie to compensate my poor stomach; but instead raw [88] chopped red cabbage was served to which our host added rather sour vinegar and a good amount of pepper. Our table company harmonized with our midday meal, for it consisted, besides landlord and landlady, of six to eight peasants in ordinary clothes. A great contrast with Vienna in Austria! — From here we came to the pretty little town of Canandaigua. Like Geneva, this pretty place with 3,000 inhabitants lies at the top of a very romantic lake, and might be a very pleasant summer place. Although we had taken a different wagon in Vienna, we had to change again in Palmyra, and we were very glad to arrive in Rochester and enter Rochester House. As uncomfortable as travel is in American postal coaches, you could not complain about the speed of this route, since they usually make 6 to 8 English miles in an hour. We traveled from Auburn to Rochester, a distance of 59 miles, in 10 hours, while our stops took a good deal of time.

[89]

IV

Rochester lies on both sides of the Genessee River seven miles from its mouth on Lake Ontario. The traveler who approaches the city for the first time is amazed at regular streets with rows of splendid buildings, the numerous gristmills lined along

the rushing river, the canal with its basins filled with boats, the railroads ending here, and so much on a great scale, cannot dream that less than thirty years earlier it was a wilderness visited only by Indians. In fact there could be few cities that have emerged so quickly out of nothing and grown to such importance. Before I describe the city itself [90] more closely, I think it would be interesting to tell a story of its prehistory which is told by many persons still alive today as eye-witnesses.

In 1811, here in the middle of this primeval forest in which many wild animals lived, dwelt a settler named Enos Stone, who built a log house not far from the banks of the Genessee River and had cultivated six acres with corn. Since food was extremely short, and not to be had for any price, he guarded his little cornfield with double care to protect it against loss to predators. To his no small terror one day, he discovered a large bear who was already beginning to waste his crop. He armed himself at once to drive out the uninvited guest, and after long struggle the poor settler managed to shoot the animal on a tree, to which it had fled. This event took place 29 years ago at a place where there is now a blooming city with 2,300 buildings and a population of 20,000 souls.

The contrast between the past and the present becomes even clearer if you consider that in 1812 and 1813 the Indians still lived in the area near the Genessee River, and held their festivals there, [91] where today an uplifting teaching is announced in imposing Christian temples. Many of the Senecas lived here in the winter, and they had their wigwams where today many fine homes of rich private persons are built. The following is a description of an Indian festival that was held in 1813, when the Indians camped here for the last time, which was seen by some persons still living.

The Senecas and probably other Indians celebrate five festivals a year, on which occasions they thanked Naumanew (the Great Spirit) for his gifts or asked him for the reduction of his wrath. At these times, the chiefs consulted over the various affairs of the tribes and exhorted the people to good conduct, so as to achieve through this good success in their efforts in peace or in war. These festivals were held at especially important periods. One followed the making of sugar, a second after sowing, a third was the green corn festival, a fourth was in the autumn after the corn ripens, and the fifth was at the end of the lunar year in late January or early February. The last was the one celebrated for the last time in Rochester by the Senecas.

When the Indians came back from hunting, they [92] named ten or twenty to oversee the celebration of the great festival of thanksgiving. In the council house or at another place preparations were made to support the entire tribe during the festivities, which was to last for nine days. Now two dogs were selected from the tribe, as white as could be found, which were painted fantastically in various colors and then carefully strangled before the doors of the council house, since any wound on the animal or any shedding of blood would have degraded the holy sacrifice. The solemnities were begun in this way, and through its entire length it was continued with show, dance, sacrifice, and soothsaying. Two select bands, one of men, one of women, decorated with pearls and feathers, and all bearing in the right hand an ear of corn, dance to the beat of penetrating music in a circle and around the council fire that was kept lit for this ceremony. From there the procession passes to the wigwams

on the camping place, where the same dancing passes around each fire. On the second day, several Indians dress themselves in the hides of wild animals, covering their faces with terrifying masks, their hands with turtle shells, and go in this [98] guise into all wigwams, making such a dreadful noise, taking burning wood from the fires and spreading the hot ash before their doors, to drive away bad spirits. The Indians that do this last act are believed to concentrate all the sins of their entire tribe in themselves. These sins afterward all go into one of them, which then through magic from him, so that all the sins of the entire tribe transfer into the dogs. The sin-dogs are then laid out on a heap of wood, which is lighted, as the crowd around the fire throws tobacco or other incense into the flames, in order to reconcile the Great Spirit with the sacrifice. When the dogs are partly consumed by the flames, one of them is put into a great steaming cooking pot with various plants and herbs, and this remnant is eaten with great gusto. After this ceremony, the Indians perform war dances and peace dances and smoke the pipe of peace (*Calumet*), so that they return to their various homes purged of their sins, prepared for the events of the coming year.

Rochester has its name from one of the three men who founded the city in 1813, and it owes its importance and its enormous [94] expansion mostly to its extremely advantageous location on the Erie Canal and the Genessee River. The latter, with the small distance between Rochester and Lake Ontario, has a fall of 271 feet; the greater amount of this is in three cataracts, with the first in the middle of the city of 96 feet, the second a mile and a half further less than 25 feet, and the third nearby 84 feet. Through these enormous falls inestimable waterpower is created, of which a small part suffices to drive the many mills and factories of this city.

In 1816 the place had only 351 inhabitants, and its true prosperity and growth only dated from 1825, when the Erie Canal was opened over its entire length. From this time on, new mills and factories have opened every year, for which the fruitful Genessee Valley produces the raw products. Now Rochester has all the appearance of a large, lively city, possessing all the public institutions and foundations to be expected. Among the most impressive buildings the many beautiful churches stand out; the oldest belongs to the Presbyterians, which was founded by a congregation of only sixteen members in 1815. In a region of 400 square miles this was then [95] the only church; it is a simple stone building with gothic windows, between which for greater stability columns are placed which give the structure its particular appearance.

The Erie Canal passes through the middle of the city, which crosses the Genessee River on a stone aqueduct. During our visit they were working on a new aqueduct a short distance from the old one, which was much too narrow. This structure is to be completed in 1841 and costs over $400,000. Not far from here begins the railroad, going along three miles of the right bank of the Genessee to Carthage, where the steamboats and sailing ships from Lake Ontario land, because they cannot go further up the river because of the falls. The railroad is very badly built and is powered by horses, only at the times the ships are loading. From the end of the railroad an incline goes down to the landing place.

The city of Rochester and the fruitful Genessee Valley stand in such a close relation one to another that it is impossible to describe one without mentioning the

other, which is in its position, extent and fruitfulness belongs to one of the most important pieces of land in the state of New York. The extremely fruitful lowlands along the river, reaching from 1 to 2 $^{1}/_{2}$ miles extends almost 60 [96] miles in length. On this enormous space there is not a single bush, but rather meadow with grass so high that the largest ox cannot be seen 30 feet away. The first settlers did not recognize how good the soil was, and in 1792 they could not have sold an acre for 25¢ that was found to be very cheap at $10, and that today is not felt too expensive for ten times the price.

Not just the soil but the climate in the area of Rochester is splendid and helpful to health; the earlier dominant illnesses have almost disappeared since the land was cultivated in the last quarter of this century. Since the clearing of the primeval forest the position of Rochester near the great western lakes has won a great deal, in that the wind has free play; the air is always pure and healthy to receive. In the entire region from Albany to Rochester and Buffalo, only wheat and Indian corn is planted; the soil is loamy with limestone beneath, only needing fertilizer after many years. They have dug wells forty feet deep, and in this depth the soil brought up is sown with wheat, which flourishes wonderfully. The wheat is ground into flour, and this is sent in barrels over the Erie Canals; each barrel has 196 pounds of flour and [97] weighs 216 pounds. Rochester is the chief point of this manufacture of flour, and in the city alone there are forty mill-courses, and each mill-course grinds 40 barrels in 24 hours; flour production in the city alone produces 4,000 barrels a day, requiring 20,000 bushels. On all of the mills, which are usually three to four stories high, it is written in large letters, “Cash for Wheat” — a true exception to the American credit system. The mills of Rochester are so grandly built and efficiently arranged that they are seen as the finest in the world. All work — from unloading the grain from the canal boats to the return of the barrels to the same — is done by machines that are driven by waterwheels. Before the creation of the canal the average price for a bushel of wheat in Rochester was 3 shillings; through the canal this price climbed to 10 shillings.

What most interests the traveler in Rochester is the Genessee with its falls. As I already had occasion to mention, one of the cataracts is in the middle of the city; this is the widest, but it loses much of its romantic character through the many mills located on both steep banks. More interesting are the falls located a mile and a half from [98] Rochester. When we asked our Negro at the hotel to order a hired carriage to visit the falls, he was very amazed that we wished to see the natural beauty at such an advanced time of year, and only after long delay he brought a coachman whose face was no less sour than his own, and who demanded a dollar an hour. Time for us was limited, and so we had to agree to his unjust demand, which seemed what he really desired, for to save time he took us by several detours, and only after my husband spoke rather severely with him, we were able to see the falls. The river here runs through a deep trough in a very narrow bed and falls with a heavy foam into the deep abyss. The mass of water that ordinarily passes in the Genessee River in a minute is about 20,000 cubic feet. The greatest flood was in 1835, when the mass of water passing in only a minute was 2,164,000 cubic feet, and the oldest settler in Rochester does not recall a greater flood. In 1829 a very sad event took place. An extravagant man by the name of Sam Patch was traveling the

country, and he had the peculiar obsession of jumping over all waterfalls. On the Genessee River he jumped from a platform 100 feet high into the roaring deep, but did not return to [99] view, and only some months later did they find his corpse in the river. — When we returned to our hotel, we came to the beautiful market building opposite; with its side-wings it is 350 feet long, costing $25,000, and in the scale of the building only to be compared with that in Boston. The building is heated in winter and is illuminated at night at market times.

We passed the evening with Mr. Elisha Johnson, mayor of the city, who had been an engineer on the Erie Canal and purchased 80 acres of land on the river's right bank in 1817 for $2,000, which today is worth 20 to 30 times more. He complained that in the last election a vote cost him a barrel of flour, which had never been the case before. Mr. Johnson has a wife and four daughters, all of them musical, so we passed the evening together cheerfully; on our departure, the girls gave me some Indian work that we received with pleasure as a dear remembrance.

We departed the flourishing city of Rochester, with its charming Genessee Falls on the morning of 6 December at 9 o'clock to continue our journey to Buffalo. Under the heaviest of snowfalls we went to the railroad office, located on one of the liveliest streets, from which we departed with horses until the city [100] limits, only there continuing with a locomotive. The Tonawanda Railroad goes from Rochester to Batavia and is 32 miles long; it was built by Elisha Johnson, begun in 1834 and completed in May 1837. The cost of construction ran to half a million dollars. What is remarkable is that the shareholders were, without exception, residents of the area through which the railroad passes and were interested either in the trade or the land along the line. Traffic on this line is incidentally very small, consisting annually of only 18,000 travelers and 9,000 tons of freight. The price of a seat for the entire distance is $1.50, completed in between two and 2 $^{1}/_{2}$ hours. The railroad is normally closed in midwinter for a month and a half, and in this time the company sends travelers in sleds on the normal roads. I was heartily pleased when I saw stagecoaches to take us to Buffalo standing waiting in Batavia to receive us, because I really had never recalled a ralroad where the movement had been as unpleasant as here. We had our midday meal in Pembroke, and until the ten miles before Buffalo we were shaken piteously; from this point our lame members could recover a little because a company had laid a macadamized road all the way to Buffalo.

[101] Arrived in the splendid American Hotel in Buffalo on time in the evening, we looked at the newspapers, which confirmed that the toll-taker Samuel Swartwout had fled to England, and that on a review of his accounts a deficit of $1,250,000 was discovered and that the fraud had begun seven years ago without being detected.

Another earlier article reported the following: Dr. Peck, a Whig candidate, presented an affidavit from a phrenologist that he had had his head investigated, and he found a great similarity of it with the heads of Webster and Clay,[29] two of the

[29] Daniel Webster (1782-1852) of New Hampshire, was the chief leader of the Whig Party in the US Senate and three times Secretary of State. Henry Clay of Kentucky (1777-1852) served as Speaker of the House as well as Secretary of State, with service in both houses of Congress. Abraham Lincoln regarded him as the highest ideal of a politician, particularly for engineering compromises between North and South to preserve the Union.

most famous men in America. The Democrats made fun of the fact that the Whigs resorted to such means to win the election of Dr. Peck as a Representative, but despite that he was elected. Now the Whig papers declare that such an affidavit was never produced, and that it was only invented by the Democrats to prevent the election of Dr. Peck.[30]

On Lake Erie, where the Niagara River has its origin and the canal, so important for commercial intercourse ends, lies the city of Buffalo, which has 25,000 inhabitants, and through its location has become one of the most important in the state of New York. We took our residence in one of the largest [102] hotels in America, the American Hotel; built of cut stone, four stories tall, containing 115 rooms; its exterior is similar to Astor House in New York, except that the entry of the latter is more grandiose and tasteful. The previous owner of this hotel, by the name of Rathburn, who built most of the city of Buffalo, sank into such speculations that, to help himself, he forged several signatures on letters of exchange; the fraud was soon discovered, and Rathburn was condemned to five years in the State Prison at Auburn, upon which his creditors received 50% of his property. Building this hotel cost $100,000 and the furnishings $30,000. The leaseholder rents it from the current owner (who has an agent in the hotel) for ten years, for which he pays a ninth of the gross income, with which contract both parties are said to be satisfied. In this house in the winter there are many families fed and housed, where a small family of one child and a maid pay the modest sum of $16 a week. Of the many guests at the midday meal, perhaps only a tenth are strangers. Although some chilliness must be expected as in all American cities due to the use of chimney fires, where most of the warmth [103] goes up the chimney, and with poorly insulated windows and doors, we were entirely satisfied there. We had a very prettily furnished parlor with a costly carpet, and on the entire journey I never saw such a large, fine dining hall as in this hotel, with room for more than 600 people. Of the two large tables covered with food, one was for the married people and the other for the bachelors. The food as well was not to be found anywhere else so luxurious, for besides a mass of meats, pastries, frozen things, etc., we saw the most splendid tropical fruits on the table. What also surprised me particularly, as in Auburn, was that of all the guests, no one took even a drop of wine, so once again we were in a company of Members of the Temperance Society. An American general even told us that it was so unusual here in the interior, that if someone demanded wine for the midday meal, such a thirsty soul would become the object of general fun among the Americans.

After the meal, we made a promenade by Lake Erie, on which there were currently 55 steamboats, of which 14 were newly built here; there were only 15 on Lake Ontario. — In the summer, the number of strangers in Buffalo is very significant; this is partly Americans, who often come with their entire [104] families, passing the greater part of the summer traveling, partly merchants who come here for business, than foreigners to see Niagara Falls, and finally emigrants, coming from New York or Canada to take ship for the Western states. Then steamships depart daily not only for all harbors on Lake Erie, but also for Detroit and Chicago, and are almost always crowded with travelers.

[30] Luther C. Peck [†1876], New York Whig, member of Congress. 1837-1841.

The *Albany Argus* of 4 December reported: Three weeks ago the steamboat *Constitution* was driven toward the rocks here (Buffalo) in a dreadful storm; Captain Appleby, who was in command, rushed to the Engineer and commanded him to increase the steam, to which he replied that for him it was impossible, since he was afraid the machine would blow up. After the Captain considered the perilous situation of his ship out on the deck, and saw no other way to rescue the situation, of the two evils he chose the worst, and overruled the Engineer and ordered the steam increased. Now large pieces of firewood were dunked in two containers of oil and thrown into the fire along with the oil, and the Engineer, to neutralize the governor, took his seat on top of it, so that if there were [105] a disaster, he would be the first victim of a terrible explosion. Fortunately, in this case steam power won out, so that it overcame the waves and led the ship safely to its goal.

Since the border between the American states and Upper Canada, belonging to England, runs in the middle of the Niagara River here, to be crossed by a boat in a few minutes, so the disturbances that have broken out in this British colony for a year must have an influence on the American border lands and as a result Buffalo. Many Americans, that is, occupants of the United States, have been cultivating significant land in both Upper and Lower Canada; the cause of the troubles might have arisen from the mutual interaction. The Americans feel that they are the free people and can endure nothing less than pressure from officials; but complaints resound in every English colony over this pressure from officials, and from all that we hear, was one contributing cause of the great upheavals in Canada. For the last year the Americans have been helping the revolutionaries in Canada, who call themselves the "Patriots," and as recently as 16 November the final skirmish between the British and the Americans took place. These latter, specifically 180 men [104] strong, came to the Canadian side and occupied a place called Windmill Point, in the secure hope that they would soon be reinforced by some thousands of Canadian Patriots. In the meantime, a thousand English infantry, supported by four armed steamships, which laid such a dreadful fire on stony Windmill Point that the cannonballs passed through them, and within an hour killed 60 Americans. The remaining 120 now surrendered and were taken to Kingston on the military steamboats, to be placed before a military tribunal, from which the death penalty is to be expected. According to the newspaper accounts, 119 of the men were Americans and the 120th was a Hanoverian. Among the Americans was to be found a colonel distinguished for his valor.

As a result of these events, the President of the United States issued a proclamation in which he warned his fellow citizens against any participation in the disturbances in Canada. The citizens of Buffalo thought this proclamation was unconstitutional, and on the evening of our arrival, 8 December, they held a large meeting expressing their dissatisfaction with the proclamation, and promised further support for the Canadian Patriots. But when the news of this reached the Canadian riverbank early on the 9th, the royalty-minded inhabitants decided to burn [107] Buffalo. There had been a similar threat the previous winter, and the people of Buffalo for a long time set several hundred men armed for security at night around the town; now there were a hundred men ordered to that end on 9 December, and if

there had been an alarm, 5,000 armed citizens would have rushed in to protect life and property.

We only learned these details on the evening of 10 December, when we were invited to a numerous gathering at the home of Dr. E. Johnson. This company consists of many interesting men of this city, and several Americans from other states. Among the latter was a senator from Washington, as well as a general from Boston sent here as representative of the state of Massachusetts to arrange the emigration of the last Indians from Massachusetts. The number of these Indians currently is only about 5,000, and since hundreds of thousands since the colonization of North America went before them, leaving this little remnant of what was once a powerful people on their native soil to rejoin them again. They are rejoining their brethren, following the tiger, buffalo and wild horse long since departed for the West, for on the other side of the Mississippi, on [108] the Arkansas and Red River, more than 3,000 English miles from here, they will receive new land, perhaps only to leave it again in fifty years and succumb to the pressure of civilization moving from the East to the West.

I must confess that the situation of these poor, driven people distressed me, and that, simply to spare myself pain, for this reason I had not visited the "Indian Settlement" that lay only a few miles from Buffalo. I needed a great deal of time until the repeated representations of the Americans convinced me of the necessity that the Indian natives should migrate. Unfortunately, the Indians, even when living in the midst of the Americans, have not absorbed their good qualities; their religion forbids men to work in the field or by hand, and it is the poor women who plow the fields, sow the grain, harvest and thresh it, and do all work whatsoever. The men believe that according to their customs and religion they are only destined to hunt and make war, and since there is now no war and the wild animals have long since departed from here, the entire male population lies in drunkenness, which Americans regard as the greatest vice. So, the Indians who remain behind present a bad example, and the Americans assert that for this reason their [109] expulsion to the West is unavoidably necessary. Further, along with the newly reserved land they receive a monetary compensation for the villages and cultivated properties, then always capital for the building of a school. May these schools prove more useful in the West than their current schools, which have as yet little influence on morality.

Among these and other themes our evening with Dr. Johnson passed quickly and pleasantly; also, the ladies and girls present all gathered around listening to the piano accompanying song, in which they showed much progress. We paid our respects about midnight and rushed to the American Hotel. Along our way we heard several shots of the watch at their posts, which served to hurry our steps somewhat. — Besides the Indians, there are in Buffalo and environs many Germans, who practice farming and are very industrious. Most of them came from Switzerland and live here in not very rich, but still good conditions. These good people themselves, after 20 and more years here, still do not speak English. For that reason, in order to make them aware of liberal ideas, they have begun publishing a German newspaper in the last few years.

[110] Buffalo, like so many other towns in this blessed state, owes its rapid rise to the Erie Canal, which joins with the lake of the same name. On my journey

from Albany to here, I often touched on this remarkable canal and only regretted that it was not a season when it was ice-free so as to have an impression of the enormous traffic with the numerous boats that bedeck it. I have not neglected to gather some important information about this greatest line of communication of the United States, and I present to my readers the following:

After years of investigation and negotiation, the legislature of the state of New York made the definitive decision in 1817 to build a canal that would reach from the Hudson River and the Atlantic Ocean to the enormous Great Lakes. The preliminaries had already been done, work was begun at once and completed in 1825. The costs of the main canal, 363 miles long, was over seven million dollars; at the same time, however, a northern canal to Lake Champlain was laid, 64 miles in length, at a cost of $\$1^1/_2$ million. Both sums were covered by loans that the state made to cover these works.

[111] You should not overlook the fact that the construction of this canal was undertaken at a time when the population of the entire state was only 1,200,000 souls, and the areas through which it passed were largely covered with primeval forest. Hence the effort of the state was seen even by the most enlightened men of the time as premature, and it was even mocked. The president at the time, Jefferson, even said that the building of the Erie Canal was a century too early. How its success proved the opposite! Already in the first year after its opening (1825) the income from tolls was $677,500, and this rose with every year so much that since 1836 it has made over $1,400,000. This was only for the main canal, which, as already mentioned, is 363 English miles or 78 German miles long. In 1838, it carried 746,000 tons of goods with a total value of $56,000,000, giving to the state $1,414,000 in tolls. In the ten continuous years of operation the canal had brought in its total construction capital and is a rich source of revenue for the state.

Among the men who had the most merit in carrying out the great project De Witt Clinton stands highest; only through his energetic effort [112] and active cooperation could it have come about. For this he has erected an eternal memorial in the hearts of every American, and so long as canals and railroads exist and their positive fruits spread over the land, the name of Clinton wll be spoken with thanks and honor among the greatest benefactors of his nation.

The Erie Canal currently is traveled by 2,500 boats and occupies more than 24,000 people. In the places through which I passed I saw many such boats frozen in the basins; they are 76 feet long, 14 feet wide, entirely decked and have a very pleasing appearance. The freight boats reeive a load of 30 to 40 tons, are pulled by two horses, and cover the whole distance between Albany and Buffalo in 6 to 7 days. In the middle of the boat is located a cabin for passengers. These consist mostly of European emigrants, who come from New York to Albany in tugboats and travel on the canal from Albany to Buffalo not just because it is the cheapest, but because then they can accompany their baggage. On the canal, German emigrants pay only 1¢ per mile, but without food. From Buffalo they go with steamships to their goal and land in a harbor in Ohio, Detroit in [113] Michigan, or to Chicago in Illinois, which last town is a thousand miles from Buffalo. There are also boats that are only for passengers and are much more comfortably and elegantly furnished; these are called

canal packets, are pulled by three horses, and go 4 miles an hour. I will have occasion to describe travel in such boats later.

As great and unexpected as the results of the Erie Canal were for the state in terms of money, they were of far greater importance for the development of the enormous resources of the country, for the increase of its prosperity. The areas bordering it on both sides cease to be wilderness, the primeval forests vanish to make way for fields of corn and wheat, villages and towns rise up as if by magic, and fill with a prosperous population, and in a few years the population of the state has doubled.

Hardly ten years after the opening of the great canal than its capacity was found too small for its enormous traffic. The width of 40 feet was found inadequate to allow the boats to pass one another, the depth of four feet too shallow to allow the boats to be more heavily laden. They thus decided [114] to increase the width to 70 feet, the depth to 7 feet, and not only to double the locks, but to make them so large that boats with 100 to 120 tons could pass through them. This expansion of the canal, whose cost was set at no less than 20 million dollars, is now underway and is to be completed in five years.

It is thought that in the end a railroad will entirely parallel the canal, and a second one runnng from the Hudson to Lake Erie through the southern part of the state is also being built, so that you may truly concede that President Jefferson, when he called the construction of the canal a century too early, had enormously miscalculated.

It remains here to remark that along with the Erie and Champlain Canal the state has constructed seven other side canals, so that the total state canals together make a length of 880 English miles or 190 German miles.

[115]

V

On 11 December, we traveled on the railroad from Buffalo to the famous Niagara Falls. This railroad is 22 miles long, runs along the Niagara River and like the other railroads in this area is built cheaply and very poorly laid. The entire expenditure for this amounted to $165,000; it was opened on 1 May 1837 and is used in the summer by everyone to see the greatest natural wonder, or to go to Lewiston, to take the steamship across Lake Ontario. The train goes largely through woods and we saw many German colonists living in poor houses, working to bring firewood to Buffalo. Since I had a corner seat, I felt the continuous blows of the wagon and was all the happier when, after [116] 2 $^{1}/_{2}$ hours, to come to the Cataract Hotel in Niagara Falls. The owner of this hotel is no one less than an American general named Whitney, who without a doubt earlier dealt with the sword, while he now administers this hotel himself. Early in the coming year his son-in-law, mentioned by me already in Syracuse, will come to manage here, to support him during the high season, when many foreigners come. I hope that Polish management will have a good result. The general's young daughter speaks French and reads German, both a good rarity in this land. She was already praised to us far away as a remarkable phenomenon in linguistic talent. The second, also very good, hotel here is the Eagle Tavern, and a

third hotel with a 211-foot façade was begun by Rathburn in Buffalo, but its continued construction is suspended because he is bankrupt.

Many foreigners who visit the local waterfalls linger for a week or longer, for this natural show is so remarkable and unique in its way that everyone who has traveled the entire world is so seized by amazement and marvel at first view and can separate themselves only after several days. So we decided [117] to remain here for a few days, and on 11 December we simply viewed what is called the Rapids above the actual falls. It is not irrelevant to mention that Lake Erie is 555 feet above sea level, while only 7 $^{1}/_{2}$ German miles from that lake Lake Ontario lies no more than 234 feet above sea level. The Niagara goes from Lake Erie to Lake Ontario, and in that short distance it has a fall of multiples of a hundred feet. Five miles from Buffalo the entire powerful stream leaps over an overhanging stone wall with such force that the water below rises in an enormous cloud, and they can hear the roar born by a fortunate wind often fifty miles away in Toronto in Canada.

Below the Grand and Navy islands, where it is about 2 $^{1}/_{2}$ miles wide, the course rushs over $^{3}/_{4}$ of a mile to the edge of the abyss with astonishing speed over its stony bed, and this creates rapids in this manner, which at any other place would excite interest and wonder in its own right. I had never seen such movement in water, which was comparable to ocean waves, and its fearsome roar seemed to overwhelm the thunder of the nearby cataract. A bridge leads from the riverbank to Goat Island, an island [118] that divides the stream into two parts as it falls. We long stood there on this flimsy bridge, seized by the wonderful show, which the steaming waves threatened to take us with them at every moment.

When I awoke on the second morning and stepped to the window, the ground was completely covered with snow, and this was blown all over by the wind with such power that from a few steps away you would be unable to recognize the nearest object. Immediately after breakfast we spoke with our guide Hooker, he declared that viewing the falls that day would be impossible, but promised to gather information and to return when the weather was better. He kept his word: for about midday the stormy weather had relented and the sun blinked in a friendly manner behind the clouds as if it wanted to be our companion and enjoy the enjoyments awaiting us. We had hardly crossed the threshhold of our hotel when the roar of the powerful cateract was delivered to our ears. In a distance, we already saw a white cloud of foam rising to the horizon between the trees, and we hastened out in a happy foretaste of the approaching satisfaction of a longing ever cherished. On the high, steep edge of the bank [119] a secure stairway rose to the edge of the river beneath the falls. We soon reached its foot and entered the boat to pass to the Canadian side and to observe the grandest, most imposing view of the falls for the first time from what is called the Table Rock, in order to get a deeper lasting impression.

We reached the further bank only at peril of our lives; the huge pieces of ice arising and towering on both sides of our small vehicle fell with such force on our boat that we believed with every minute that we would be dragged into the abyss. So it was happily that we approached the English guards through the masses of ice thrown on the riverbank, where we had to enter our names in a register and, probably due to the distubances in Canada already mentioned, were especially sharply

inspected. An English soldier also followed us a bit behind, but I believe more out of speculation to sell us a pair of ice shoes than for any other reason. On Canada's no less steep side rose a fine, snake-like path upward cut in the rock; this had been done ten years ago by two Americans, for which they received a privilege for 21 years at 25¢ a crossing.

[120] On achieving the heights, we still had to go $^{3}/_{4}$ of a mile until we reached the Table Rock, a stone extending far over the abyss, close by what is called the Crescent or Horseshoe Fall. Here I stood motionless — absorbed in the view of the greatest and most profound drama, which uniquely in the entire whole world utterly exceeds all conceptions of the richest and cleverest fantasies. In an endless stream the enormous flood falls unstoppable, irretrievably, defying the power of time, the change of a thousand years. You can make for yourself an idea of the power of this fall if you consider that its extension is over 2,000 feet and the height 100 feet. When falling, the stream is a very deep green and the water a very beautiful green in color. The foot of the falls is not to be seen, because in the depths everything is motion and foam that rises toward all quarters of the world and hangs above this astonishing show as a cloud, crowned with the soft, melting colors of a rainbow.

Even in winter the surroundings of the cataract has an entirely peculiar charm, and the many persons who have seen the falls repeatedly find the view in this season even more attractive than in the summer. All the trees and bushes near the [121] river are covered with a thin, transparent ice crust that provides such a beautiful play of color that the eye will be entirely blinded by it, and you think you are seeing a mass of the most beautiful precious stones. In a small house near Table Rock there are entire folio-sized books filled with the names of visitors who have written about their visit, as well as *cartes-de-visit* left behind. There is also a mass of mineral samples available for purchase as souvenirs. From here there is a circular stairway shielded by wood leading down to the river so that you may see the cataract from below as well. You can pass 153 feet behind the falls along the steep overhanging wall, a bit of daring performed by many visitors in the summer.

In 1818 a part of Table Rock, on which a group of people had gathered the evening before, fell into the abyss. Ten years later another half-acre of stone fell off, and now another large crack is visible.

Myriads of wild ducks and geese pass the day near the rapids, and after many a dark, misty night you find the next morning that several of these animals are found dead in the river, into which the force of the stream has carried them away. Likewise dead fish are found near the falls, which then [122] become the booty of seagulls, eagles, and hawks who are awaiting their prey on the far tip of an extended rock. — Next to the Crescent or Horseshoe Fall, opposite Table Rock, lies the wildly romantic Iris Island or Goat Island, half a mile long and a quarter-mile wide. It has many beautiful trees, is surrounded on three sides by the rapids, and was probably in earlier times a burial ground of the Indians, since excavations of the ground some years ago they found many skeletons and bones. The present owners of this island have cut several passages among the trees and laid various paths from which you may enjoy the most interesting prospects. As already mentioned, you reach this island from the American side by a bridge, and to replace the unforgettable view

from Table Rock, from Goat Island there is a bridge near the Crescent or Horseshoe Falls toward the abyss, on whose furthest point a 45-foot-tall tower stands, whose small gallery is wide enough that you may stand on your feet, and which through its swaying motion the thrilled onlooker is suddenly called back to earth. On the opposite side of Goat Island runs another bridge to a small island, Luna Island. Between these two islands are [123] the Central Falls, which only have a narrow width. Next to this small, wooded Luna Island on the American side there are the Great Falls, 164 feet high and 220 yards wide.

Many historical memories already attach themselves to the falls of Niagara. One of the most recent events is certainly what took place on 29 December 1837 during the well-known disputes in the Canadian provinces. The Americans, in order to support the Patriots, who held Navy Island, were using the steamboat *Carolina* to deliver munitions and food. In the night, it was overrun by British soldiers from Fort Schlosser, released from its landing place, and after several persons were cut down it was set afire, driven into the rapids, and precipitated over the cataract.

In the village of Niagara Falls on the American side, earlier called Manchester, about fifty families live, and the number of visitors who visit the falls every year runs from 12,000 to 15,000. — On 13 December, the morning before our departure, we hurried once more to Goat Island to bid a last farewell to the falls, and on our way back, on Bath Island, where there is an important [124] paper mill, we bought some more minerals and Indian works as souvenirs of the great natural show. On arriving home, my own elevated mood still did not find peace; it was a higher force that was revealed in the thrill of this powerful cataract.

We left Niagara Falls at one in the afternoon, traveling with the memory of enjoyably-passed hours there, by railroad to Lockport. This was opened on 1 May 1837, and in its purpose as well as the method of building it is entirely similar to the Buffalo & Niagara Falls Railroad, costing $200,000. The entire train consisted of the locomotive and one passenger-and-baggage wagon, and the motion on this railroad was somewhat gentler, since they had built it carefully before the advent of frost in the autumn. Other than a church for the Tuscarora Indians, nothing particularly interested me on this route. We entered Lockport at 3:30, and we went the entire way, including a stop of 21 minutes, in an hour and 46 minutes. An omnibus brought us from the end of the train to the higher portion of the town, where we got off at the Eagle Hotel. The town of Lockport was only founded in 1821, and like so many other towns it is a creation of the Erie Canal; it has obtained special importance for its manufactures and mills. The water power [125] for these is provided by the canal, which within the town drops sixty feet by means of five locks built in sequence; since the canal section until Lockport receives its water from Lake Erie, the available waterpower must be limitless. The locks are very solidly built of cut stone, but they must now make way for the expanded canal. The town is divided into two parts, with 500 houses and 6,000 inhabitants.

On the following day, 14 December, we departed the town of Lockport by stagecoach and once more took what is called the Ridge Road to Rochester, where we were happy to arrive in 11 hours, this time taking our residence at Eagle Hotel, which was preferred by many travelers to Rochester House. From Rochester we were taking exactly the same route back to Albany, which we reached happily on the

evening of 18 December, and were most warmly received by the Flagg family. Here we passed some fine days and on 20 December made a little trip via Schenectady to Saratoga Springs. Mr. Young, engineer of the Utica Railroad, and Mr. John Costigen, an Irishman, director of the Saratoga Railroad, accompanied us to Saratoga. On the way, the latter said to us, among other things, "After having been during fifteen [126] years a citizen of this state, I can't more become a subject in England." Seven miles from Saratoga we came through the small town of Ballston Spa, placed in a valley. The Kayederosseras Creek runs through the same, and some mills are located on its banks. In 1769 important mineral springs were discovered here, which contributed substantially to the blooming of this little town, in that many families from the surrounding area take their summer vacation here.

Saratoga Springs is 21 $^{1}/_{2}$ miles from Schenectady, which, with a brief stop, we passed in 2 hours and four minutes. This is the most famous bathing place in the United States, and in the summer about 4,000 visitors of all classes gather here, but of whom the largest part come to amuse themselves, or because it is "fashionable," during the months of June, July, and August, passing a few days here. Even before nightfall we still had time to look around the place a little, and for this we took a sled, well protected by a buffalo hide, because the snow was so high that a wagon could not get through it. Around Saratoga there are ten or twelve springs, of which [127] Congress Springs in the southern part of the little town at the Congress Hall Hotel, is the most famous spring. It is similar in taste to Selters water, and when bottled is sent throughout the Union. From there we visited High Rock and a few other less-remarkable springs, and then we went home, past the four large hotels (United States Hotel, Congress Hall, Union Hall, Pavillon), each capable of holding 250 people but are closed in the winter, which was why we had to go to the little Adelphi Hotel. Otherwise there were just six smaller hotels, each built for an average of 56 guests, and only poorer families take food and lodging in private houses.

We returned from our spa excursion late in the evening, and on the following day we set out again on the railroad back to Albany via Balston and Troy. The railroad from Troy to Ballston, unlike that from Schenectady to Saratoga, was laid by the inhabitants of Troy to cause travelers to the spas to take go through their own town. The railroad is 25 miles long, distinguishing itself for the many large bridges by which it leads over the many arms of the [128] Mohawk and the Hudson at Troy. The total costs were $500,000.

The city of Troy, with a population numbering 20,000 souls, lies at the mouth of the Mohawk in the Hudson and has distinguished itself as a significant place for trade and manufacturing due to the building of the Erie and the Champlain Canals, becoming one of the most important cities of the state of New York. So near to Albany and also located on the Hudson, these two cities rival one another both in steamboats and the railroad as well as in trade on the river and canal. There are many mountains near Troy, of which Mount Ida, located behind the city, gives it a very romantic appearance; a large reservoir is located on this mountain in which spring water is collected and then sent down to the city in iron pipes. The Poesten-Wynants-Kill Falls very close to the city drives many mills and manufactures with its waterpower. Among the latter the two stagecoach factories stand out, in which the postal coaches for the entire Union are built, as well as two important nail-factories,

making nails in an entirely new, ingenious manner for all railroads. Also in Cascavilla, one [129] mile from Troy, there are important iron works. Troy has about a hundred steamboats on the Hudson that regularly haul about 232,000 tons of freight. After we have traveled all over the town and my husband had taken care of some business, we ate in the respected hotel Troy House and went with the stagecoach on the splendid, wide road along the Hudson to Albany. It is certainly the most beautiful and best road in the United States; it only too bad that it is only seven miles long. A crowd of omnibuses travel between the two cities in competition with the steamboats, which also support communication here.

We stayed again in Albany at the Congress Hall, but we only stayed for two days, then to took up our further travel through the eastern cities to Boston. The headwaiter in the hotel, a Swiss, overjoyed to find Europeans who could speak his national language, held us late into the evening, bringing us hot coffee, and then in a heavy snowfall we mounted the stagecoach that would bring us via Northampton to Worcester. This was the night from 24 to 25 December, and I thought how much changes in the course of human life; a year ago I still celebrated the Holy Christmas Eve in the circle of [130] my own, and today I traveled alone at my husband's side through the fields of North America. How could I have suspected this a year ago!

Since the snow had fallen rather high, in order to go further we had to go three-quarters of the way by sled, and because the cold was so great, we had to cover the windows with leather, and I could see nothing outside. We passed the night of the 25th in Northampton, which is a town 74 miles from Albany counting 20,000 inhabitants. Northampton is more an agricultural town than a manufacturing town; in the last few years they have planted mulberry trees and invested in silk manufacture. On the second morning we continued by sled, and at 2 o'clock we arrived in Worcester, where we quickly ate the midday meal and continued our journey for Boston at three on the Boston & Worcester Railroad.

This railroad is 44 $^{1}/_{2}$ miles long and forms the first part of the great chain of railroads that reaches from Boston to Buffalo over a length of 520 miles. It was begun in 1831 and opened in July 1835. The engineer was Colonel Fessenden. The railroad is built very solidly with strong iron rails, and cost [131] in all $1,700,000. You pay $2 for the entire length in the first-class wagon. Travelers in the second class pay $1.50, but actually very few people take these seats, and even common laborers often prefer to pay 50¢ more so as not to appear less than their other fellow citizens. So there is usually only one second-class car in the train, and this is seldom full. A company in Boston that had bought a large area of land on the sea to sell as building lots for the expansion of the city, has given the railroad company 138,000 square feet for a building their station, just in order to settle it there rather than allowing the railroad into the interior of the city. The value of this gift is estimated at $100,000, and it may be seen what advantages are expected from the railroads in every respect.

Toward evening we arrived in Boston, and an omnibus brought us from the distant station building to Tremont House, tired from the long, cold trip, where we found ourselves very comfortably lodged.

[132]

VI

Boston, the capital city of the state of Massachusetts, one of the oldest towns in the Union, was founded as early as 1630, and is located on a peninsula at the mouth of the Charles River, very advantageous for trade. Its similarity to English cities is impressive, and many travelers at first glance compare it to Liverpool, which I could not see, since to me Boston made a much friendlier impression than gray-black Liverpool. The houses of Boston are partly built of granite and partly of brick; the streets in the older part are crooked and narrow and reflect the early founding of the town. In the streets prevails [133] much life and activity, but all of it bears the mark of solidity and restraint, as against the showiness in New York, where everything seems calculated for the first impression, very differently.

The inhabitants of Boston distinguish themselves through learning and education above those of other American cities; even the ladies are recognized as the most learned in the Union, and the fine arts and sciences flourish here as in no other town of the United States. The residents of Boston are particularly friendly and helpful to foreigners, and instead of we foreigners having to seek out the local people, the Bostonians are the first to visit the foreigners and to offer their aid with much kindness. In other American cities, it is true that foreigners are indeed sought out, but it does not take place with as much energy as here. Every day we received a great number of visits and were invited to many dinners, balls and smaller evening parties, which I always appreciated. The ladies are all musical, well versed with literature, and acquainted with several languages. Some had even brought it so far that they were involved in translating Schiller's tragedies. What surprised me in some families was a hint [134] of aristocracy perceivable in many things; they have frequently hung the walls of their parlors with portraits of their ancestors, and they are proud to be descended from the English.

At the New Year's festival a select society gave a ball in Papanti's Hall, where as with us French formal dances were performed. Here I had occasion to marvel at the good taste of the ladies in their makeup; there was no hint of the overloading or combination of many colors found in New York ladies. Here, among many outstanding men, I saw Mr. Webster for the first time, whose great talent as a speaker is well known.

As in all states of the Union, here as well a complete freedom of belief reigns. Most Bostonians confess to Unitarianism, which finds most response in the eastern states. Since here as in most of the other American states pietism is extensive, I was amazed that we were invited to a small evening party on a Sunday; my amazement was calmed when I heard that here the Sabbath runs from one sundown to the other, and after the end of the observance enjoyment is free without violating the Sabbath. In order to make out stay in Boston pleasant, [135] the Quincy family contributed greatly. Mr. Quincy is a senator and has a lovable wife, who lives quietly due to weak health, and three of the dearest small children. His own father lives with his wife and his four daughters in Cambridge, three miles from Boston, and is president of the famous Harvard College there.[31] The girls are all well-educated and I was close to the youngest, who was actually in Boston staying with

[31] Josiah Quincy, 16th President of Harvard, 1829-1845. lived 1772-1864.

her brother for the winter. I soon became friendly with her and spent many hours in her company. The whole family could recall with many memories the visit of Duke Bernhard of Saxony-Weimar[32] in Boston, and when I told them that he had given his American journey over to the press, in which he recalled particularly his Boston visit, she already knew this, for this book is already known in English on the other side of the ocean.

On 28 December, we made our first trip outside the city, to go in Josiah Quincy's company to see the Navy Yard and Dry Dock in Charleston. This place, with a population of 8,500 inhabitants, which like Boston is built on a peninsula joined with Boston by a bridge, has one of the largest Navy Yards in the United States. The Navy Yard is enclosed on all sides by water [136] with a wall only on the north side; it contains a large brick warehouse, various armories, rope-alleys, as well as a large residence for the overseer, and three other buildings of which each is large enough to hold a ship of 100 cannons along with all the materials for building it. I was amazed to see so few soldiers here, for other than a sentry who went back and forth in front, I saw only six men with bayonets who walk about in the same capacity through the large spaces of the port.

The dry dock is a massive wharf with a massive double lock-towers of cut stone, providing adequate room for the largest ships of the Navy. When a ship enters it, the water is pumped out by means of a sixty-horsepower steam engine before needed repairs are done. For this they only use ordinary workers, and while we were there they were occupied with a three-decker. Under a single enormous roof, we saw the frigate *United States* and the ship-of-the-line *Vermont* with 120 cannon. Our next visit was the state prison, also in Charleston. The old prison was already founded in 1814, but later expanded to a length of 500 feet [137] and a width of 240 feet. The walls enclosing the building are of granite, quite high, and have a platform for the coming and going of guards, with six watch houses. The total cost of this establishment amounted to $170,000. At the west end of the courtyard is a lock by which canal boats with wood and stone, etc., are admitted through an opening under the walls with a gate, which is very useful for the various factories. A person may apply at the gate for tours every day except Sundays and holidays at 25¢ a ticket.

The buildings belonging to the state prison form a quadrangle of about 200 feet, and in the main structure, distributed into four floors there are 304 cells for prisoners supplied with ventilation. These cells are each seven feet long, 7 feet high, 3 feet wide, and contain an iron bed. Around the entire building, as in Auburn, run 3-foot-wide galleries supported with iron supports, on which all the doors of the cells have their exits, and on a sign of the keeper by means of a very simple machinery all may be closed at once. Around the cells, as in the state prison in Auburn, there is a 9-foot-wide passageway, so that from the bottom to the roof all cells may be observed. [138] The administration of the prison is vested in three overseers, with Josiah Quincy at their head as president, who accompanied us, who must inspect the prison once a week.

[32] Herzog [Duke] Karl Bernhard von Sachsen-Weimar-Eisenach, 1792-1862, distinguished himself in the battles of Quatre-Bras and Waterloo against Napoleon in 1815, visited the United States 1825-26, account published in three volumes, 1828.

At the time we visited the prison, the number of prisoners was 320, only requiring 14 keepers to watch them. No female prisoners were accepted but were sent to correction institutions. The number of keepers appeared to have no relation to that of the prisoners, and you would think that the lives of the keepers would be in perpetual peril, since a sound, a sign could be enough to move the prisoners to a common uprising, for which as hand-workers they had the best means available. The sole guarantee for the security of the lives of the overseers lies in the utterly strict discipline with which the convicts are watched day and night, and which prevents even the least communication with one another. For this purpose, a sounding gallery is used in which the guard may hear the least movement in every cell. The prisoners all have the same clothing. All the way to their pointed caps they are of red and blue cloth. Of the many workshops, that of the stonemasons [139] is the largest. The stones here are sent as far as South America, and during our visit a part of the prisoners were involved with preparing the stones for the great market building in New Orleans. In addition to this we went through the shops of the cabinetmakers, brushmakers, shoemakers, tailors, etc., the last of which works for their fellow sufferers. About 220 men are occupied here on their own behalf, whose income is considerable; the other hundred is granted to contractors, who pay 40¢ to 50¢ per day. You will be involuntarily seized with disturbing feelings observing so many men, whose faces are branded with the most varied passions, working in the stillness of the grave, and although they have chosen this fate, you will feel an inner compassion with the unfortunate ones, who must pass the greater part of the best years of their lives within these walls.

All prisoners, one after another, go to breakfast in total silence, passing through the kitchen, where their food is given them, which they eat in their lonely cells, and then they go back to their work through the chapel, where they perform their morning prayer. They receive their midday meal in the same manner, and before the evening meal they gather again for the Lord's service, where [140] they are read to out of the Bible and the prayers are prescribed, after which after receiving a supper they pass to their lonely cells.

The kitchen is in the front of the building, cared for by some of the prisoners; the food is prepared very efficiently using steam, and a contractor provides it for 12¢ a day per man. This price was only so great due to the general rise in the price of grain; four years earlier it was only 7¢. A ration consists daily of a pound of beef or $^{3}/_{4}$ pound of pork, 2 $^{1}/_{2}$ pounds of cornbread, then a hundredth part of 2 $^{1}/_{2}$ bushels of potatoes, rye-coffee and syrup.

According to the printed report, there were 278 convicts in the state prison; of these 86 left the prison in 1837, and 99 newly entered; so on 30 September 1837 the total was 291.

By age they were distributed:

Under 15 years	1
15-20 years	17
20-30	123
30-40	88
40-50	35

50-60	17
60-70	7
Over 70	3
	291

[141]

250	of these were born Americans
2	from the West Indies
16	from Great Britain
38	from Ireland
2	France
3	Germany
291	

Seventeen of the convicts were Negroes and seven were Mulattos.

In economic terms, the result of the administration in 1837 was less positive than in earlier years, in that expenditures exceeded incomes by $2,773.64, as may be seen from the following accounts:

1837
Debit

Paid for provisions	$11,675.96
clothing	4,515.14
hospital expenses	612.31
combustible materials	2,027.41
to released prisoners	336.80
for salaries of officials	16,528.29
transport of prisoners	702.28
purchase of wares	89.97
supplies and tools	204.53
Repairs and land purchase	1,566.72
Materials to build new working places	2,013.73
	$40,273.14

[142]
Credit

Received from stonemasonry department	$19,864.97
for work	14,771.84
admission fees	1,144.00
Profit/loss account	1,718.69
	37,499.50
Deficit	2,773.64
	$40,273.14

The final two posts on the debit side actually do not belong with current expenditures. — In 1835 there was a surplus of $8,000, in 1836 $13,428.

The entire system of this institution is the same as that of the state prison at Auburn that has been used as a model, with only the difference that the latter institution is in every sense much bigger.

Since we had already dedicated this day to visit our unfortunate fellows, from there we went to the Lunatic Asylum (or the MacLean Asylum for Insanes), also located in Charleston. This institution stands under the direction of the trustees of the Massachusetts Hospital, of which it is a branch, opened in 1818. It was founded entirely on foundations and legacies, and it has just received a donation of $20,000; of that sort of [143] donations, together with very modest payments of the ill, all its costs are covered. The name Maclean Asylum was received from John Maclean, Esq., who has done a great deal for the institution. The building consists of a very fine residence for the head with two side-wings, of which one is for men and the other for women, and it has a very fine garden for the use of the ill.

A woman who was once a patient but was stricken by Cupid's arrow after her recovery and is now the tender spouse of the head, led us around the women's quarters. There are up to 40 there now, under the control eight lady guardians. The bedrooms, of which each ill person has her own, are extremely well decorated with fine furniture and carpets, and in winter are heated as in the General Hospital by subterranean *calorifères*.[33] Next to these rooms are those of the guardians, who can continually observe their patients through a small window in the dividing wall. Besides the ground floor there are two additional stories in which the unfortunates are divided according to their grade of illness. Each division has a sitting room with a piano and a dining hall, where they are fed as a group. [144] As we passed through the first division, all the mentally ill were in a half-circle, in the middle a wet-nurse caring for a small child that a patient had brought into the world here, occupied with beautiful works. They all spoke very clearly and appeared genuinely pleased that I found pleasure in their really very tasteful embroidery. In the Pleasure Saloon where patients of both sexes pass their time, there is a pool table. On Christmas Eve they have a ball, and the lady administrator could not say enough about the mutually decent and courtly conduct of the men.

If relatives or acquaintances of a patient wish to meet an ill person separately, they may use a very pretty parlor and bedroom, next to which a nurse was located to care for her alone.

At the light communal breakfast at seven o'clock the patients receive small pastries, bread and butter with coffee or tea. For the midday meal at 12:30 there is a meat dish, usually poultry and occasionally beef or fish with potatoes, butter and cheese, then a pudding, cooked rice with syrup or another sweet food; finally, for supper about 5 o'clock, arrowroot, cacao, small pastries and bread. At 9 o'clock all the mentally ill in the institution [145] go to bed, when they may have a drink on request.

[33] An archaic French term (except in French Canada) for a form of radiator deriving its heat from a separate source.

While my husband visited the ill of the male sex with Mr. Quincy and the overseer, I shared all of my notes with the latter's wife. There were about sixty ill men, including a former senator in Washington. When one of the patients heard that my husband had been in Russia, he spoke with him in Russian and told him that he had passed a winter in St. Petersburg.

Also in Charleston is located the remarkable Bunker Hill Monument, to recall the first boody battle that took place here on 17 June 1775 between the Englishmen and the Americans. The battlefield, consisting of 15 acres, was purchased by a society for the price of $24,000, and the cornerstone laid by Lafayette on 17 June 1826, when he was visiting the United States from France, when a mass of people gathered from all directions for these festivities.

The monument is supposed to consist of an obelisk of 80 courses of granite when it is finished, with a height of 220 feet, and the tallest in the world with the exception of the Egyptian pyramids. When the first fourteen courses had been completed, the society had no more money, and other than the $24,000 paid an additional $20,000, for which they mortgaged a part of the land. According to their estimate, another $30,000 will be needed to complete the monument, and $20,000 to free their property from its debt.

Among the many interesting buildings in Boston, Faneuil Hall, called "the cradle of American liberty," especially deserves to be remarked upon; this is a public building building specifically erected for political gatherings that was donated to the city by Peter Faneuil in 1742. The large hall contained in it, decorated with many fine pictures, is 76 feet squared, 28 feet high and provided with galleries on three sides. In assemblies held here the decision was first made to separate from English sovereignty. Next to this building is the Faneuil Hall Market that the city built after drying out the swampy ground below it. On 27 April 1824, the cornerstone for the building was laid, that with two large side wings extends for 586 feet. It has in the center a cupola covered with copper and a main façade with columns. Each wind has six entrance doors and divided into two halls, of which one is "Quincy Hall" in honor of Josiah Quincy, who was then [147] mayor of the city, and whose undivided effort contributed to the erection of this useful building. The interior of the market is divided into 126 stands, over which each is marked with the name of the seller; 46 are for the sale of beef, 19 for vegetables, and 20 for fish; the others for drinks, lamb, veal, and pork, poultry, butter, cheese, etc. These halls are heated in the winter, and every Saturday evening they are marvelously illuminated with gas, and you would think yourself wandering about in a fairy-palace, until you recall the true purpose of this place when you see a pair of cut-up oxen and pigs. The market building in Boston is certainly the most beautiful of these in the world; St. John's Market in Liverpool is certainly larger than that in Boston. It is unfortunate that there is not a single roofed market building in Germany, although this would be very useful and purposeful, and it truly hurts the soul to see the poor peasants who bring their foods to market over many miles, standing and passing their time in storm and bad weather under the open sky. I found a market building in even the most unimportant places in America, if only built of wood.

[148] In times of peace when the capital of individual capitalists piles up so high that they do not know how they are to invest it purposefully, they could

certainly set aside a part of their money for such generally-useful undertakings and be certain of a rich profit as it is the case in Boston, where the city receives an important surplus from the market, besides the interests of building capital. How high the value of the ground for building is in Boston can be implied by the fact that in the last year on the main streets a square foot went for $40.

On 2 January, we set out very early for an excursion to the Salem Railroad, when a train departed in which I saw, to my distress, a passenger car with curtains of black cloth, similar to a hearse. In response to my question after the purpose of this funereal car I received the answer that this was a wagon for "colored people" (Negroes, Mulattos) alone, since it was not permitted to carry such people in a *single* car with honorable people. The railroad official told me, when I displayed my amazement about this, that they were much stricter in the South and that the dividing line is even stricter and the barriers between blacks and whites even greater there.[34] As we went home, a great crowd was in motion on Tremont Street. The newly [149] elected governor was entering his office, leading a procession of senators and representatives into church. The American proverb, "Young people for work, old men for counsel" proved itself here in the most surprising way, for all of the representatives were men from 45 to 50; no one younger was to be seen.

Sixteen miles from Boston lies the factory town of Lowell, only founded fourteen years ago and already become the Manchester of America with 22,000 souls. The railroad that goes there from Boston is regarded as one of the best lines of communication of the United States, both for its creation and for its volume. And so we did not omit taking a journey to Lowell on 3 January in the company of the president of the railroad, Mr. Patrick Jackson, and the engineer, Mr. Storrow. While we arrived at the station and were waiting, a man came and addressed the chief overseer with the following words, "I am the gentleman who wants the place of a blacksmith," a statement that certainly sounded very strange in the ear of a European.

Before we departed, we saw a railroad house [150] being pushed forward. The house was 50 feet wide and 80 feet long, built of wood, and had been moved by five men within five days moved 40 feet further. Mr. Storrow told us four-story houses were moved in that manner without the occupants taking the trouble to remove the furniture.

The railroad to Lowell is 26 miles long and was opened in June 1836, and until the end of December 1838, had cost $1,600,000. Passengers travel on it at a speed of 22 English miles an hour, and for the entire journey pay in the first-class cars $1.00, in the second-class cars 75¢. Every year 160,000 passengers and 60,000 tons of goods are moved on it. A not-unimportant article in the winter is ice, which Boston has been sending in significant amounts to New Orleans, further to West and East India, particularly to Calcutta. Some of it is sawn by machines from canals and carried by railroad to Boston. Although this railroad is one of the most expensive in America, it still pays a dividend of 8% a year.

The three-foot-high fall of the Merrimack River, on which the city of Lowell lies, drives around 28 factories occupying no fewer than 8500 persons [151] and demand for their operation a capital of 8 to 9 million dollars. Mr. Lowell, brother-in-

[34] Clara would later find that this was not true in the South, even in the case of slaves.

law of Mr. Jackson, built the first cotton factory in the United States at Waltham, 10 miles from Boston, earning great fame. He died, and to honor his memory the city of Lowell received the name of the recent departed. In 1822 Mr. Patrick Jackson, in partnership with a company, bought the canal which had been built around the falls of the Merrimac, as well as the adjacent land on which three small farmhouses stood, and built the first factory here, in 1823, specifically a machine shop, and eventually they bought the total waterpower, so that currently none of it is disposable.

Immediately after our arrival, in the company of both of the gentlemen, we visited the machine shop in which they began the construction of locomotives in 1835, producing 35 machines by the end of 1837. In 1838, due to the general stagnation, only five locomotives were made that were not yet sold. The factory is in the position to deliver a locomotive every fourteen days, costing $6,500 in Lowell, as well as a spinning mill with 6,000 to 8,000 spindles every four months.

After we saw this institution, from which the gentlemen could not [152] tear themselves away for a long time, we dined at mid-day in the lovely Merrimac Hotel not far from the railroad, and then hurried to see both the factories and the residence buildings of the women workers, which interested me much more. According to a printed report of 1 January 1839 there were then in Lowell ten companies, whose stock capital was $9,000,000; these companies, besides 28 spinning and weaving establishments, and the large machine factory also several dye works, printers, etc. In the first of these in 1838 there were 163,404 spindles and 5094 looms; 18,059,600 pounds of cotton was consumed and 56,186,000 yards of material produced. Every month an average of $145,000 is paid in wages, and in all the factories 6,470 girls and 2,077 male workers are occupied.

A major product of the Lowell manufactures were also Jackson Sheetings; but when the President of the United States lost popularity, no one still wanted to buy this bedding, so they had to change the name. — The health and the blooming appearance of the female workers, mostly farmers' daughters of 15 to 25 years, leaves nothing to be wished, and on average six out of ten have much better health since they have been here. The morals of the young [153] girls, so far from their parents, could not be better, for religion and public opinion, which is everything in America, protects them. I was amazed at the respect with which they are treated by the owners of the factories as well as how they are handled by the overseers; they do not call them girls but universally Young Ladies.

The workers, men and women, come here from all parts of the Union; to house them each company has built dormitories that are let to families on very reasonable terms, where particularly the women workers find housing and food. For breakfast they receive coffee, toast, bread, and often meat, for the midday meal soup, meat, potatoes, and sandwiches, and for supper tea, pastries, sandwiches. Great order and cleanliness prevails; the eating room is in common and the sleeping rooms are normally occupied by six to eight girls each. They pay $1.48 a week.

The weekly pay of a woman worker averages $3.00, $4.00 for a really good worker, of which they save $50 to $100 a year; on the average they remain for four years and then marry a young farmer they help with the money they have saved. When you compare the prosperity of [154] the American factory worker with the poverty of the European, you find a great contrast. — The town of Lowell has 16

churches, one for every 600 or 700 persons, which were built by subscription. In some churches there are very pretty shops on the ground floor, and the divine service is held upstairs. The free time that the inhabitants win from their activity is passed in reading; there are seven newspapers in town, and there are also several good bookshops here. Since the number of female residents considerably exceeds that of men, the large number of nice fashion shops is no surprise. — In the evening the illumination of the factory buildings with their many windows is very picturesque, and I watched from our wagon as Lowell with its friendly houses and hard-working inhabitants had long vanished.

On 5 January, my husband visited the Salem Railroad, and I accepted the friendly invitation of Mrs. King and the Quincy family to pass the day in Cambridge. The youngest daughter of the president picked me up early in her carriage, and we drove through the loveliest winter morning across the snow-fields of Boston to Cambridge, two miles away. This is a small town [155] with fifteen churches, a city hall, a prison, an armory, and is particularly famous because of Harvard College there. This university, the largest and most outstanding in the United States, was founded in 1636, and thanks Rev. John Harvard for its name, who provided the first large donation to found the institution. The College consists of several buildings and possesses an important library of 40,000 volumes, for which a new building has to be built. The number of students is about 400; the start of the college is on the last Wednesday in August of every year. The University owns a botanical garden of six acres, a chemical laboratory, an anatomical museum and a cabinet of minerals.

After we saw the college in the company of President Quincy, I went in the company of ladies King and Quincy to Mount Auburn, a mile away from Cambridge. It is the *Père Lachaise* of Boston, which after that place in Paris is the finest, most romantic place that ever could be chosen for a burial. The stretch of land dedicated to this was purchased from the Massachusetts Horticultural Society and extends from the state road to the banks of the Charles River. On 24 [156] September 1831 the dedication of this cemetery took place with great solemnity.

The parcel of land next to the state road is used by the Horticultural Society for its experimental garden. The remaining internal space forms the churchyard through which a natural hill runs, whose highest point, Mount Auburn, is 125 feet above the water-level of the Charles River, from which you may have the most splendid view of Boston and the entire environment. About 600 divided places 300 feet square are sold at the price of $60 for family burials. Many charming foot-paths meander through tasteful groups of trees to the finest burial monuments, that Americans often have erected while alive in admirable resignation. Not far from the entry I admired the simple, tasteful monument of the phrenologist Spurzheim, who died in Boston in 1832, erected by his friends there. Among many fine monuments I was particularly pleased by that of a rich Boston merchant, Sam Appleton, who had it brought from Italy at great cost. A seven-foot enclosure ending in an Egyptian portal, enclosed the entire building, above which the following [157] wonderful words from the Holy Scriptures stand: “Then shall the dust return to the dust, as it was, and the Spirit shall return to God, who gave it.”

A heavenly peace and a consoling restfulness sinks into the breast of a person when wandering through the lovely fields of Mount Auburn; for nature has blessed it, art has enhanced it, and its dedication renders it holy!

One of the most important inventions, that does the greatest honor to human understanding and heart, are certainly those who have lightened the lot of our brethren unfortunately stricken with bodily failure, and through proper education and good handling have returned them to human society, even if not completely. A splendid example of this is the Institute for the Blind in Boston, which we did not neglect to visit. This institution was first founded a few years ago, and Mr. T. H. Perkins gave his house in Pearl Street worth $30,000 under the condition that other sensitive fellow citizens should donate $50,000 in money. This happened, and the institution under the leadership of Dr. Howe, who to the enrichment of his knowledge visited several institutes in France and England, was opened with seven students, who received instruction from blind teachers. But since [158] the total capital was not enough to cover all costs, the women in Boston held a fair in 1833, such as happens often in this country, which brought $12,000 dedicated to the Institute for the Blind. Further, the dependents of wealthy parents were to pay $160 a year, besides their clothing, for room, food, instruction, and service, while the poor received support from the state or district in question.

Similar institutes are only to be found in Philadelphia and New York, and their chief aim consists of providing the blind such instruction that when the leave the house they can establish an independent existence. The number of pupils is about sixty, roughly balanced between boys and girls. In general, they enjoy good health, and very few suffered from a severe illness from which they are now recovered. This is all the more amazing, since blind people suffer more unwellness and early death than is the case with seeing persons, since their constitution is normally weaker, and the little physical movement in their early years limits their development in many ways. The physical well-being of the blind is carefully promoted, for which purpose the institution is provided [159] with several warm baths. The bedding and body-linen is frequently changed, and the schoolrooms and sleeping rooms carefully ventilated. The food of this unfortunate is also simple and strong, and the division of the day into work and recreation regulated. Four hours a day are for intellectual studies, four for music and four for hand-work. The older patients sleep eight hours, but the younger ten.

The system adopted for education of the spirit bears the best fruits; the boys in the higher classes learn the grammar of the English language, geography and arithmetic, some even received instruction in algebra and geometry, while others translated and spoke French. The students, with the exception of the very youngest, can read, spell, write numbers, and some of them are in the position of corresponding with their acquaintances. There are books, maps, etc., printed for this establishment with raised letters and signs, and in the manner that the blind can recognize these by mere touch.

Because a position as a music teacher is most advantageous for them, they are prepared with great care in music, instructed particularly in the organ and pianoforte; most often these unfortunates find their support as piano tuners, since almost all of them [160] are by nature gifted with very fine hearing. Thirteen

pianofortes are in continual use in the institution, of which five are found in the principal music room. — In the hours dedicated to hand-work, the male pupils occupy themselves in a printing plant belonging to the institute making rugs, mattresses, pillows, etc. Those who dedicate themselves to music teaching must also work in these establishments to learn bodily movements. Girls learn sewing, embroidery, knitting, etc.

You might hold it to be impossible that the blind can be educated in all manner of things, and yet it is the case that all these situations can be taught; as a rule they learn better than seeing children, and combined with a very good memory is an unusually fine touch. There are certainly some among them who learn with difficulty and are weak, but this is also encountered in other schools as well.

When we visited this institute on 7 January between 11 and 12, we found all the blind gathered, and with a pure and strong voice they sang several spiritual songs in part harmony. It was moving to listen to them; the tones of these poor people pressed so deeply into the innermost part of my soul, and it was only with an effort that I held back my tears. The students had already made so much progress [161] in music that they have given several concerts, and the result of this institution is so good that in 1833 eleven students have left, of whom eight are in the position to support themselves.

After we had seen the Institute for the Blind, we arranged to visit the Athenaeum on the same street — Pearl Street — in the company of Dr. Howe. This institution thanks its origin to several spirited men who made several proposals for a reading room which, in addition to the best newspapers and journals, would gather several of the books serving for general learning and entertainment. It formed itself as a joint stock company paying in $70,000 in shares, to which the building and the library of 30,000 books belong. The first, in the value of $20,000 was built for this purpose and donated by Mr. James Perkins, Esq., brother of the famous mechanic in London.

In 1807 the institution was opened under the name of Boston Athenaeum. The price of a share of stock, which grants the owner three entry cards, is $300. Everyone who subscribes for his entire life pays $100 and ordinary subscribers pay $10 for the year. A shareholder must annually donate a small sum, [162] and may read all the journals any day and take four books home. The institution has about 258 shareholders who have subscribed for life, nearly as many as the number of annual subscribers. The shareholders as well as those who have subscribed for life, have the right to bring as many friends as they wish, which must live further than 20 miles from Boston, after they have registered their names they can visit the institution for a month. During sessions of the legislature, several state officials are also granted free entry to the Athenaeum.

On entering the beautiful building the visitor is surrounded by busts of outstanding men of America. In the next floor is found the reading room, containing the newest newspapers and journals, and on the right there is the room decorated with statues and paintings where the owners hold their meetings. The two additional stories contain the extensive library, over which, as well as the reading room, a librarian presides who lives in the institution. — The reading room as well as the

library are opened every day to readers with the exception of Sunday from 8 o'clock in the morning to 9 in the evening.

On 9 January, in the company of Dr. S. G. Howe, we traveled a few miles from Boston to the House of Reformation, located in Bellevue. — The purpose of this institution is to improve girls and boys who have committed at the least petty theft. Impressions received in the early years are much livelier, and many an individual who is subject to a vice which arises from careless raising on the part of parents, will here be led back to the right way through activities and friendly treatment.

The administration is handled by eight directors, including our guide Dr. Howe, and an overseer. When we visited the institution, it had 82 children, 65 boys and 17 girls, in age from 7 to 14 years. Most had come here due to theft and the others were sent here by their parents. The young inmates remain here long enough to be able to read and write, and then they are placed by the institution with farmers or artisans who obligate themselves to keep them as apprentices for some years and to pay them a certain amount of money at the end of this time. Other than the male and female teachers there are no grown person in the institution, and the children must do all the necessary work. We found a portion of the girls [164] in the kitchen occupied with preparing food, the others we found with their backs turned to one another and were involved in sewing work. The loveliest, most blooming faces were to be seen here, and I found the most intense compassion that these young creatures had already taken the first level of vice. The girls work very intensely; some were surprised to see strangers in their isolation in winter; others looked ashamed, concentrating on their work, and a little black girl with a wide head and wild hair stood staring at us with her large eyes. — A small shop is almost entirely full of the work of these little prisoners.

The boys are entirely separated from the girls and occupy the opposite side of the building; in the winter they are occupied with making brass nails, and in the summer they cultivate the fields belonging to the institution. Some smaller boys, too weak for this but still have to do something, each had a large knit stocking in hand, which looked very silly. The sleeping halls, work rooms and dining rooms are very roomy, and in the kitchen. as in all these institutions, the food is cooked with steam.

The day in the House of Reformation is divided as follows: early in the morning the inmates are assembled [165] for prayer in the chapel, which is very nice; in the lower part the boys are gathered and above them, in the gallery, are the girls, not to be seen by the boys. After set prayers, at 7 o'clock, they receive tea and bread, after which they receive instruction for two hours, from 7:15 to 9:15, and then they work until noon, 12 o'clock. The remaining half hour until the midday meal, they are allowed to play. The midday meal consists of bread and food, specifically soup, meat, fish, rice or beans. After eating they work for 4 1/2 hours, and then they play for half an hour until supper around five. At this meal they usually receive rice and syrup, or corn purée with syrup. Until 7 there is more instruction, and until the end of the day readings are held over useful things from 7 to 8.

The support of the child, including clothing, then pay for the teachers and officials, amounts to $1.50 a week, which is not too much in view of the high prices in this country.

The entire institution is supported by the city of Boston, and of all the institutions in all parts of the world this is one of the most efficient and successful. Most children coming from this place become happy, proper people; they have married, supported themselves [166] in an honorable way, and no one thinks any more of the errors of their youth. Nothing would be more useful and more desirable for the common good than the introduction of such institutions for improvement in Europe.

The House of Industry is also supported by the city of Boston and has precisely the function of our Poor Houses; it is located in Bellevue, very close to the House of Reformation, from which may be seen a splendid view of Boston, and is administered by the very same directors. The directors are always drawn from the most respected persons in Boston, who undertake their office without any compensation, and only the overseer receives, along with apartment and heating an annual salary of $1,000, and the minister a salary of $500. In all there were here about 600 poor people, partly elderly, ill people, partly children whose support requires $1.03. A portion of the poor who are still gifted with adequate powers, perform the housework, while the others are occupied with sewing work.

The women, who are separated from the men by a hallway, always live three in a room. The room in the building is rather large, but the very corner-filled way of building makes it quite uncomfortable. The institution has a chapel [167] with a small organ, a roomy dining hall, a kitchen which also cooks using steam, a bake-house, a laundry with a press instead of a wringer, and a friendly ironing room.

In the uppermost story there are two large nurseries for mothers with their newborn children. On the ground floor is a large hall in which all the small children who can walk but are not yet capable of instruction remain gathered under the oversight of a female teacher. I was very entertained to see this happy little people gathered together, like rows of organ pipes they sat next to one another, and when we entered the jubilation was so great that the teacher could only bring them to order by calling “Silence!” repeatedly. The entire little company was called to sing in our honor, which, after speaking was forbidden, they did readily, and with their tender, fine little voices they sang a nice little song, while many little ones whistled and looked up at us with naughty glances. The song was not their only act; afterwards each little one placed his head in the two hands on the shoulder of the other and marched off in in long chains and divisions in the most varied twists and turns [168] into the hall and around the big stove, which was surrounded by a high wooden enclosure. With their feet they kept the beat for their marching; we watched them for a long time as we departed, and the poor little ones seemed utterly afflicted.

The House of Correction lies only a few steps from the House of Industry, was built in the same manner, and administered like the previous institution. Here is where the courts place those committing small crimes who give hope of improvement, mostly for the brief period of one to six months, while the major criminals all go to the State Prison. The total number of the criminals present is about 361, including 130 women and 231 men.

In its large courtyard are two prisons for two sexes, entirely constructed according to the plan of the State Prison, but not as solidly. Each building has five stories on the front and back, each with 18 cells, making 180, and with those of the

other building a total of 360 cells. Further, there is also a third building with sleeping rooms for lunatics and idiots.

The clothing of all the prisoners is the same; it consists half of light brown, half of black cloth, which besides imposing silence on them gives them an extremely mysterious, melancholic appearance. The workshops are not comparable in number to those in the State Prison at Charleston; we only visited the shops of the stone masons, nail-smiths, shoemakers, tailors, etc., and although this institution contains about as many, the workers can accomplish much less than in the State Prisons, since the prisoners are only here for a short time, and almost all of them have to learn a craft for the first time here.

A precise description of this public institution would perhaps be superfluous, since, as already mentioned, it is built according to the plan of the State Prison, and the activities of the prisons and their entire way of life agrees in every way with that of the State Prison.

The House of Insanes lies quite near the House of Correction, and it is the fourth building standing next to the ones already mentioned in a common part of South Boston. It is intended for the poor, and construction has been completed.

The Massachusetts General Hospital [170] is seen as one of the most beautiful buildings of the city; it is 168 feet long, 54 feet wide, and decorated with a great, beautiful Ionic porticus of eight columns. The funds for this hospital as well as the Maclean Asylum for Insanes was gathered from a voluntary subscription in 1811 and 1816 that amounted to $450,000. In addition, the state of Massachusetts provided the masonry for both buildings free of charge, amounting to $60,000. The building and equipment of General Hospital as well as the Lunatic Asylum reduced the subscription capital to $100,000. The administration of both institutions stands under the same authority which, as is normal here, draws no salary and consists of the most eminent residents of the city. Increases of the incomes of these establishments are derived from the Massachusetts Life Insurance Company from the profits exceeding 6%, which amounts to from $4,000 to $5,000.

Since the General Hospital has limited income, it is not in the position to keep more than 22 free beds, so the other sick persons brought here pay between $5 and $6 a week, for which they receive care, medicines and service, very cheap in comparison to other prices in the country. [171] Currently Dr. Bigelov, a very respected physician, is in charge, and the care goes so far that each patient provides information on the entire biography as well as history of illnesses, with many details. Also those in the free beds are treated with the same attention as you would receive through the love of relatives or the power of money.

The cleanliness in the entire building is as great as you may find in a private home. Despite only 40 or 50 patients are here, because many feel themselves degraded if they have to go to a hospital. This goes so far that, when wealthy persons send their servants here and want to pay for them, the servants declare they would rather leave service than go to a hospital.

The annual expenditure for both institutions amount from $14,000 to $15,000. In 1837 of a total of 440 patients were admitted to the hospital, 213 had no money to pay. While in the same time 453 left the establishment and the number of dead amounted to 32, which in relation to all sick persons is a ratio of 1 to 14. On the

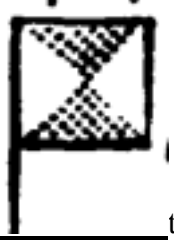
average at any one time there were 46 sick persons and the average length of a stay was 5 $^{1}/_{2}$ weeks. — The entire outlay amounts this year to $13,424; of this food consists of $7,621. [172] On average the weekly outlay for a patient is $5.50.

Of all the many American ships that trade in all areas of the world, during our presence in this city the ship *Zarina* lay at anchor, which has often made the voyage from here to St. Petersburg. Our interest in greeting the ship which, like my husband, had only departed the great northern capital a short time ago, and so it was with true joy that on 11 January we followed the friendly invitation of the *Zarina*'s owner, Mr. Curtis, to see her. A feeling of my own gripped me then as I entered the ship, which with its swelling sails had already greeted the country of which my husband had so often told me, and which I perhaps was supposed to see in a few months. Mr. Curtis came part of the way to meet us, and he presented to us the Captain as well as several merchants then on board, who expected our arrival.

The noble *Zarina* holds 218 American tons, but will usually carry 300 American tons; it has its accommodation for travelers, but uses its great space entirely fo exchanging products of the Empire with those of the New World.

[173] The whole construction of this ship is wonderfully good; for the last nine years it has made two voyages to Saint Petersburg and two back, without sustaining any damage. In the most recent voyage it departed Boston on 19 October and arrived in St. Petersburg on 19 October. After eight days in the capital it departed on 28 October, greeted the New Year in the New World at Boston on 3 January, where it will rest until it departs on 15 February. The goods *Zarina* brought here from St. Petersburg are: hemp, pig iron, sailcloth, Flemish linen, and feathers; in exchange for what it will bring back: sugar, rice, coffee, tobacco, cotton, and dyewoods. The sugar and coffee is usually loaded in Savannah.

The Central Wharf, on which are found 54 four-story goods depots, and at which the *Zarina* currently lies at anchor, is one of the most important trading places in Boston. At its center, above a roomy hall, the very elegant Marine Telegraph Observatory is erected, which for trade and civil messages is an extremely important establishment to be found until now in only a few seaports on America.

By means of the various combination of these six telegraphic flags, only of blue and white, that can be combined in 9,330 variations, all listed in a telegraphic dictionary, it is possible to compose whole sentences and words that can be used not only for maritime purposes, but also for political purposes. Besides these six flags there is also the conversation flag  that expresses the desire for a conversation. In this

way it is possible for any two passing ships to send the observatory messages that are often very important, and no seaman should go to sea without learning about this very useful, purposive operation, which has already become an almost general language of the ocean.

Mr. Bates, one of the most respected merchants of this city, standing in trading contact with Russia, who has fulfilled several of my husband's requests, had a well-rendered portrait of Tsar Nicholas[35] in front of his desk, which must be seen as a great tribute in a republican country.

There has been so much talk about the outstanding collection of the many plants and flowers in the [175] Mr. Cushing's greenhouse that we could not avoid viewing it before our approaching departure. With an acquaintance of Mr. Cushing, Mr. Amory and his lovely young wife, we traveled under the loveliest sunshine through the fields of Boston, Cambridge, and Mount Auburn to Mr. Cushing's pleasant, charming cottage on a hill near Watertown. This cottage is an extremely romantic rest, since it combines its romantic country situation with all the luxury of an urban apartment.

Mr. Cushing went to China in his early youth, without any means, and after he gathered great wealth there, he returned to his home in Boston and married there the daughter of a poor clergyman, which whom he now enjoys the fruits of his enterprise with his family on his pleasant country seat. Mr. Cushing has all the appearance of a planter, showing immediately by his tanned face that he has passed much of his life in the tropic zone. One of his greatest passions is his greenhouse, which he had built to his specifications close to where he lives. Although I have little knowledge of botany, I could still rightly marvel at the splendid plants and flowers with their wonderful play of colors and pleasant aroma. [176] As often as we found special pleasure in a flower, the sly owner immediately pulled it out and handed it to us, which really bothered me. When we had studied the greenhouse thoroughly and said farewell to its friendly owners, we received another bouquet of the most beautiful flowers, which remained the chief decoration of our apartment in the Tremont House until our departure.

In 1813 the first Temperance Society was founded with the purpose of repressing the free use of alcoholic drinks. Although this society worked actively and usefully for several years, it still made no essential progress in the general advance of temperance until 1826, when the American Temperance Society was founded. The purpose of this from the very beginning was to eliminate the use of *all* alcoholic beverages, and its members are committed not to use them as anything other than medicine. The influence that this society had on a portion of the occupants of the United States was so great, that up to 1835 8,000 temperance societies had been established, amounting to 1,500,000 members. More than 4,000 distilleries had closed, more than 8,000 merchants ceased to sell alcoholic drinks, and more than 1,200 ships found themselves at sea without using them.

[177] In winter 1838 the legislature of Massachusetts passed a law that no alcoholic drinks could be sold in a smaller quantity than 15 gallons other than by pharmacies for medical purposes. This law, known as the 15 Gallon Law, attracted

[35] Nicholas I, born 1796, Tsar of Russia, King of Poland, Grand Duke of Finland, died in 1855. Franz Anton von Gerstner was his employee.

much attention, but it must have appeared too soon for the people, for in 1839 a new governor was elected, and the opponent of Mr. Everett,[36] the Van Buren candidate Judge Morton,[37] received the majority simply because he had declared himself against the law.

In Boston I made the acquaintance of Mr. Elliot Cresson, a rich Quaker from Philadelphia, who is a member of the Colonization Society, dedicating his entire activity to the colonization of Negroes. For this purpose he travels at his own expense in all the states of the Union to gather subscriptions and present speeches to the people in order to win support for his purpose. While we were in Boston Mr. Cresson was also there, and because I listened to his enthusiastic presentations with much patience, I received much information about this matter.

The Colonization Society was established in 1816 by several gentlemen who [178] held a meeting in Washington and composed a plan to transplant free Negroes to Africa, with their agreement, or to another distant land that Congress would determine for this purpose. The Society, however, made it a principle not to attack either the laws of the United States or the Constitution, or to act in any way directly on slaves, but rather to use influence on their owners alone.

Every citizen of the United States paying a dollar to the funds of the Society can be a member, and the payment of $30 makes that person a member for life.

In 1821 a parcel of land was purchased on the western coast of Africa extending for 280 miles, particularly distinguished for its healthful position. The colony received the name of Liberia, and it already has a population of 5,000 souls, consisting of Negroes who had been freed through the influence of the Colonization Society and sent there from the United States. Fifty dollars were needed to transport an emigrant and for his first establishment, and since many owners had set their slaves free only when means were present for their further care, one might assume [179] that the contribution of $50 could make freedom for many slaves. White persons, other than the governor, physicians, missionaries and teachers, are not permitted.

There are already nine settlements, of which the capital and seat of the legislature is Monrovia, which today has about 500 houses. Monrovia is also a harbor which was visited by 60 ships in 1831. Exports then were $125,549 and imports $80,000. — Within the limits of the main colony are found settlements from China, Bassa-Cove, Greenville, Louisiana, and Maryland, founded and supported by the Colonization Societies of New York, Pennsylvania, Mississippi, Louisiana and Maryland.

These colonies exercise a strong influence on the native Negroes; an African population of 100,000 souls is supposed to have experienced the beneficent influence of Liberia. If this is really the case, then the American Colonization Society certainly has performed a great service for humanity, which is all the more positive for these persons, since their next goal — the emancipation of the slaves in the United States — is so far accomplished only in very small numbers, a number that vanishes in comparison to the [180] mass of the black population of the United

[36] Edward Everett, 1794-1865, entered politics in the Anti-Masonic Party, elected as a Whig, Governor of Massachusetts 1835-1838.
[37] Marcus Morton, 1784-1864, Democrat, twice Governor of Massachusetts.

States. Emigration to Liberia would only be very important if it exceeded the continuous growth of the native slaves in America.

[134]

VII

Finally the day came to depart the beautiful city of Boston with all its hospitable inhabitants; it was not without regret that we left our lovely apartment in Tremont House, in which we had experienced so many fine hours. We were a total of eighteen days in this hotel and each person paid, including the parlor, $3.00 a day. Our plan now was to go back to New York in order to continue our journey to the southern and western states. On arriving at the railroad station, the engineer and director of [181] the railroad, Mr. Lee, greeted us with great friendliness and refused to accept any payment from my husband for seats.

The railroad from Boston to Providence is part of the route to New York, so that it enjoys very great frequency. It is 42 miles long, was opened in June 1835 and cost $1,850,000. The railroad itself as well as the entire order that prevailed appeared excellent to me. We took our seats in a comfortable, heated car, and although the speed was over 20 miles an hour, the motion was very gentle. I was amazed particularly at the speed with which passengers were received at stations along the way; the delay due to the stop seldom took more than a minute. From Wrentham, 24 miles from Boston, a side-line went to Taunton. Here three trains met at the same time, those from Boston, Providence, and Taunton, and since in each of them travelers appeared for two of the destinations, very many cars had to be changed, which happened during the time the locomotive took on fresh water, it happened with such order that the trains could proceed already in seven minutes. We left Boston at 8:30 and at 9:54 we reached Providence, the capital of Rhode Island. In June 1836 there had been a significant accident on this [182] railroad; $1\frac{1}{2}$ miles from Boston two trains collided, killing a locomotive-stoker, and eight passengers, mostly sailors, were severely wounded. The excitement over this in Boston was so great that, out of fear of protest by public opinion, the jury condemned the company to damages of $25,000.

The city of Providence lies at the mouth of the river of the same name, on a hill from which you may have a fine view of the bay, with a population of 25,000 inhabitants, has very important cotton manufactures and important trade. Providence is linked to New York by steamboat; the steamboats go through Narragansett Bay, then through the Long Island Sound to New York, 186 miles away. To shorten this distance, they are laying a railroad to Stonington, a small fishing village in Connecticut, $47\frac{1}{2}$ miles long, from which we are still are 130 miles from New York. In this way, you save three to four hours of time, which is a major consideration for Americans. The railroad from Providence to Stonington was opened in November 1837 and cost no less than $2,500,000. In order to reach this, we had to cross the [183] Pawtucket River; at the station we met the engineer of the railroad, Major Whistler,[38] who, informed in advance of my husband, was so

[38] George Washington Whistler, 1800-1849, father of the painter James McNeill Whistler, graduated from West Point in 1819, serving as a topographer until his resignation from the Army in 1833. He

friendly as to bring us here from Stonington to show us everything remarkable about its construction. So that we would not have to wait for the evening train, he immediately had a locomotive get its steam up, and we traveled entirely alone, and as a result all the faster, to Stonington. Along the way, the gentlemen climbed down to inspect individual structures more closely. We came into Stonington about 4, and since the steamboat Narragansett would only leave for New York at 8:30, we passed the rest of the day in Mr. Whistler's house, who was traveling together with his wife that evening with us to New York.

To provide for travelers in Stonington, the railroad company had constructed a large hotel to lodge strangers, who otherwise would not find housing in a village only numbering a few hundred inhabitants. They built it for $25,000, and for the furnishing, laundry, silver, etc., $35,000, hence a total of $60,000. The hotel is leased to a host, who receives 7% of the gross income as compensation for the lease.

At 8:30 in the evening we found ourselves for the second time on board a large American steamboat. [184] The *Narragansett*, in its size and internal furnishing is not very different from the *North America* in which we traveled up the Hudson, so I forego a description. The comfort of this voyage was not very great, since the ladies' cabin was so full that I was glad when we arrived on the quay of New York at 7 o'clock in the morning.

Travelers taking the route via Stonington leave Boston at 3 o'clock in the afternoon and cover the entire distance of 220 miles in 16 hours. In the winter the price of a seat from Boston to Providence is $2.00, from Providence to Stonington also $2.00, and from Stonington to New York, $5.00, total $9.00. The prices, due to competition between steamboats to Stonington and to Providence, are much lower, so that in summer 1838 from New York to Providence, as well as direct via Stonington, it is often only $2.00.

We took our earlier rooms in the Mansion House in New York, and as usual our first demand was for newspapers. To our great amusement we read here in several English papers, but particularly in the London *Morning Herald*, where the English public was [185] assured that the uprising in Canada was only maintained by citizens of the United States, and that the latter had gathered an army of 40,000 to invade Canada. Such ideas and correspondence-articles can only come from the heads of English journalists, for whoever has heard or read anything about the United States will know, with the exception of the editor of the *Morning Herald*, that equipping and maintaining an army of 40,000 men is much too expensive for the Yankees to want to pay for it. The editor of the *Morning Herald* should know that great debates in the 1837 Congress arose over keeping 5,000 regular soldiers to serve the general government — so much do they avoid such expenditures. The Americans console themselves when reading such articles that John Bull gives them such articles, soon Russia, soon France, and soon Germany, each depending on the conditions, are supplied with such articles manufactured in London.

Among the many large constructions with which the city of New York excels, is the new water supply, the "Croton Aqueduct," built at the city's expense,

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participated in an extensive examination of British railroads on behalf of the Baltimore & Ohio Railroad, and he then oversaw several northeastern railroads, moving to Stonington, Connecticut in 1837. In 1842 he worked to develop the railroads in Russia and died in St. Petersburg.

deserves special mention. The city of New York lies on a [186] peninsula and is entirely surrounded by seawater. Earlier, drinking water was derived from deep wells from which it was pumped into reservoirs by steam engines and distributed through the city. The inadequacy and poor quality of this water quickly made itself felt with the rapid growth of population, and several years ago thought was given to means to a better way to obtain this most necessary of needs. After many investigations and tests, they decided to bring a river, the Croton entering the Hudson forty miles away, to New York. The project was approved by the city authorities as well as by the voters, and construction was begun in 1835. This consisted of nothing less than the creation of a subterranean canal 40 $^{1}/_{2}$ miles long, which continues at a single level over the deepest valleys, then over cliffs and hills, leading the water to an elevation within the city into a great reservoir of five acres, containing 20,000,000 gallons. The dimensions of the aqueduct are: 6 feet wide on the bottom, 7 feet wide at the top, a height of 8 to 10 feet; throughout it is covered with four feet of earth, so that the water never freezes.

The scale and difficulty of accomplishment of this [187] construction was the marvel of all engineers and architects. In April 1840 only 26 miles were completed, and the execution of the hardest, most expensive work remained. According to a report of an engineer, the entire work, with the exception of a bridge over the Harlem River, will be complete in early 1842 and the construction of this bridge will only be completed at the end of 1843.

The cost of completing this grandiose construction was originally projected at $4,718,197, but due to new additional costs, it will reach $10,000,000, and as of 1 January 1840 $3,924,650 had already been paid.

A good water supply is all the more desirable for the city of New York, because it has been visited by significant fires. There remains in fresh memory the dreadful fire that began on 16 December 1835 at 9 o'clock in Wall Street, continuing until the following day until 1 in the afternoon, which was the largest that had yet been experienced in the United States. According to printed records, the loss ran to $17,115,692. The damages to merchant goods consisted of $13,115,692, and the buildings, 529 in number, amounted to $4,000,000. The Merchants' Exchange, a splendid marble building, was valued at $100,000, [188] and the Garden Street Church at $50,000. It is to be wondered that with these tremendous losses there was not a single bankrupcy occurred, and that the city never sought help.

Large fires are common here; losses by fire amounted for the year

1836	$1,235,175
1837	$2,018,463
1838	$1,628,714
1839	$2,567,699

without leaving any visible trace afterwards.

Such is the prosperity that prevails in the city of New York as I have seldom seen, so every time I walked past the splendid Astor House I marveled at the biggest hotel in the city. It has four stories, built entirely of granite with a portal decorated with columns, and has more the appearance of a palace than a hotel. The internal

appointments are in agreement with the exterior, which I really had to be amazed about. This Astor House belongs to one of the richest men in America, a German named Astor[39] who still lives in New York. He came to New York as an impoverished deck passenger and began gathering in the fur trade his significant wealth, which now amounts to $15,000,000. The hotel alone gives him an annual income of $30,000.

[189] While we were in our room, two gentlemen were announced to be in the parlor wishing to speak to my husband. He rushed down and found, to his considerable astonishment, Mr. von Palmstein and Mr. Zeyer, two Bohemians who had studied technology with him in Prague. In 1836, when my husband took over the construction of the railroad from St. Petersburg to Zarskoe-Selo, both of these young men applied to him in hopes of an appointment in this project, and after this request had not been successful, they conceived the idea of seeking to establish an autonomous existence in the New World. Both of them, completely ignorant of the English language, took ship for New York, carrying a letter of recommendation to a German merchant. After six weeks in that city, they found a position by showing their drawings — for their recommendations in German were incomprehensible to the Americans — actually received a position with a railroad in Florida that was to be built from Pensacola to Montgomery. Each of them received, besides a monthly salary of $100 they were given the necessary measuring instruments, and since the railroad was through thick forests, they had provisions and 20 Negroes, along with a wagon and a span of four mules. [190] The two Bohemians set to work with great zeal, but toward the end of June, because of the many rattlesnakes, they had to stop for a while. Near the railroad they bought land for $700, which they still are holding and which, with time and the completion of the line, the property will surely rise in price. But because no foreigner may buy land without becoming an American, they took the oath in which they renounced their loyalty to their fatherland. Palmstein had additionally to renounce his nobility, and both became citizens of the United States. In 1838 the railroad declared bankruptcy and the former Bohemians took ship with their cash, consisting of $800 each, to New York. Unfortunately, they experienced shipwreck and lost the money they had saved, came to an island and then to Cuba. As unfavorably as their first undertaking in their new homeland had proved to be, they still had some good luck, for another ship had fallen into the same situation and those fell into the hands of Indians, who pitilessly took their lives. From Cuba the two ambitious friends went to New York, where they found other employment. They read of our arrival in the newspapers, and [191] had come here in the greatest hurry to seek my husband. They now speak English better than their mother tongue, have a very cheerful, healthy appearance, and feel themselves so happy in their new homeland that they have no desire to exchange it for another.

The encounter with these two Bohemians in America and their strange destiny had excited our lively interest, and we were still speaking of their adventure the next day when the Negro entered our room and announced a gentleman. This gentleman was a young man from Bavaria by the name of Fortenbach, who broke out in lamentations and complaints about this land, and he sought pressingly for my

[39] John Jacob [Johann Jakob] Astor, 1763-1848, born in Waldorf, Palatinate, Holy Roman Empire, became the wealthiest American through the Western fur trade and later investments.

husband to find him a position. Mr. Fortenbach had been a builder a few years earlier in Bamberg, where he was also an overseer of the chain bridge there. Since as he described it, he could not advance, for which he also perhaps did not have the necessary knowledge, and in 1835 he read of the great fire in New York, so he determined to come here, where his brother had already found a situation as a pharmacist, to offer his services in rebuilding the city. He then applied in his homeland for a passport, which required some time, and then he long considered and [192] weighed how the journey could be made most cheaply and best. He took so much time that when he arrived in New York he found with no small astonishment that the city was already rebuilt. His very detailed presentation ended with the words, "Only the ignorant get ahead in this country, I have presented my designs to many persons, but they have barely glanced at them and were only irritated that they were not able to do anything as good. I had thought that I could find an intern's position for a while without pay that would prepare me for better things later, but I have been repeatedly disappointed because Americans did not want to know about an unpaid position." So this oppressed talent lived here in misery, speaks very poor English, and complains and bitterly laments about this awful, unjust country.

The conduct of these three young people who spoke so differently surprised us a great deal; on the one hand the Bohemians were overjoyed, and the Bavarian was unhappy and could not grasp how another foreigner can feel at home in this land of ignorance. The opinions of most travelers vary as much, the one is ready for anything in this new land and praise and seize it, while others blame everything, feel unhappy [198] and cannot imagine how it is possible to live in a country like America. In my view the reason for this contrast is that the first know that they are in America and not in Germany, so that they have to put aside their German ways and habits and take up those of Americans. Such elastic natures must be pleased in every aspect here, while the others, lacking this flexibility, come here with German senses and so become deeply disappointed, blame and criticize, and do not consider that the sole reason for their dissatisfaction lies in themselves.

We remained in New York until 6 February and then decided to continue our travel toward Philadelphia. Between New York and Philadelphia, the two largest and most important cities of the United States, we find two railroads that largely parallel one another and run very closely together. The one begins in Raritan Bay, 25 miles from the city of New York, at Amboy, going there on a steamboat, and extending to Camden on the left bank of the Delaware River opposite the city of Philadelphia. The length of this railroad is 61 miles, and when you add the 25 miles from New York to Amboy, reached by steamboat, the [194] total distance between New York and Philadelphia on this route is 86 miles. The other railroad begins opposite New York at Jersey City, passing through the cities of Newark, New Brunswick, and Trenton, and ends in the middle of the city of Philadelphia.

The length of this railroad, built by three companies, is 87 miles. We chose the latter line, and at 8:30 we went to the Hudson River in order to cross by steamboat to the opposite shore, where the railroad starts, but because of the ice floating in the river that the ferry could not penetrate, the passengers had to go to the East River, opposite Brooklyn, and the steam ferry took us in a great detour around the southern part of the city to the coast of New Jersey.

We took our places in a long, heated wagon containing about eighty people, and we enjoyed the great speed with which the locomotive pulled the long train. We could not see much of the cities of Newark, Elizabethtown and New Brunswick that we passed, because the railroad actually went around them. Near the last of the towns we went over the Raritan River on a long bridge that was built in such a way that below the railroad there was an ordinary road with normal wagons. [195] At Trenton we crossed the broad Delaware River. Here we had to move to another wagon, because the railroad to Philadelphia was a smaller side line. Without anything unusual happening, we reached the long-desired city of Philadelphia at 3:30 o'clock. We had to travel for a long time between rows of houses until we reached the station; here our wagon was drawn by horses, since locomotives were not permitted inside the city. We had made the entire journey, including the interruption, in 6 $^{1}/_{2}$ hours. The price of a seat was $4.00.

I had heard so much about the beautiful city of marble, Philadelphia, and my joy to find myself there was thus indescribably great. Then I did not suspect that in the city that I had entered with such elevation I would leave behind my all, my most beloved in this world! ———

Since the boarding house of Mrs. Allibone had been generally recommended to us as very good, we decided not to stay in a hotel and to take our residence with her. We owed our very friendly reception to our letter of recommendation, and I must remark here that to go to the better boarding [196] houses you either need to be introduced either personally or in writing to be sure of a good reception. After we had eaten alone — the midday meal was already finished — we went to the parlor, where the hostess, a Quaker, awaited us, sitting at the hearth. Among other things, she asked us whether we were acquainted with Madame Vespucci, who had recently come here from Europe and had only departed Philadelphia a few days ago to spend the winter in Washington, and she closed with the words, "Our nobility has been very pleased with her." To hear the word "nobility" in a republican land gave us no small amazement and threw a bright light on the social relations of this city.

Philadelphia is the second city of the United States in population, alone first so far as beauty and regularity goes. It spreads itself over a broad surface between the Delaware and Schuylkill Rivers and is, although Harrisburg has become the seat of government, the chief city of the state of Pennsylvania. The streets run from north to south parallel with the two rivers and are cut by others running east to west. Water Street is the first street on the Delaware River, then comes [197] Front, Second, etc., to Thirteenth Street, where Broad Street cuts the city into two halves. Between this street and the Schuylkill the names repeat in this manner beginning with First and going to Eight, with the difference that these streets are Schuylkill First, Schuylkill Second, etc. The streets running from east to west have their names from native trees, such as Chesnut, Walnut, Cedar, etc. Market Street, the widest street running in this direction, divides the city into northern and southern halves.

The streets, all broad and utterly straight, have sidewalks on both sides, at whose outer edge is planted a Chestnut tree that pass very well with the lovely buildings built of red brick. I have never seen as much marble used as here; the lower parts of houses, the steps, portals and window-frames are of this blinding white stone on each house; the exchange, the banks, the Mint and many other public

buildings are from cornerstone to roof are built entirely of white marble, so that you can have a concept of the splendor and beauty of this city. The grand shops are in the prettiest street of the town, Chestnut Street, where in the midday-[198]hour, as in New York on Broadway, the elegant world goes walking: such an utter cleanliness as here is seldom seen, I can even say is never found in a large city. Through the entire day you see Negroes engaged in all houses washing and sweeping; for this purpose they have large leather hoses by which they get water from the underground pipes to wet the entire front of the house and the sidewalks.

A great treasure of Philadelphia are the three lovely places in the middle of the city: Franklin, Washington and Independence Squares. The most grandiose and lovely, provided with a fine showering fountain, is Franklin Square; the fresh green of the grass, the ancient oaks and the many weeping willows in the midst of the city, forms a pleasing contrast to the new rows of houses built of brick. Washington Square in Walnut Street follows this in beauty; here they have the intent to place a monument to the unforgettable general, Washington. Independence Square lies on Chestnut Street near the State House, where the Declaration of Independence was first read out.

Philadelphia has about 30,000 houses with 220,000 inhabitants, and it is in continual growth. The following excerpt from the printed reports on the number of houses built in 1839 shows the growth of the city:

[209] In the city itself	393 buildings
In Spring Garden	267
In Myamensing	163
In Kensington	134
In Southwark	99
In Northern Liberties	90
In Penn Township	96
In Passayunk	47
Total	1289 buildings

Philadelphia has very significant trade relations both with the other harbors of the Union as well as with foreign lands. The large East Indiamen can go up the Delaware into the center of the city. As a harbor city Philadelphia has an all-too-powerful competitor. The number of ships that put in at Philadelphia in 1839 through 29 November amounted to 10,780, among which 497 came from foreign ports; in the year 1839 in the same period the number of incoming ships amounted to 10,498, including 443 from foreign ports.

On 6 February, we made a little excursion on the railroad to Bordentown; this is on a part of the Camden & Amboy Railroad already mentioned, which joins New York and Philadelphia, was opened in 1835, and cost $2,100,000. At its head as president is Mr. Robert L. Stephens, known [200] as one of the great geniuses in mechanics in the America, owner of several steamships on the Hudson, to whose perfection he has greatly contributed. When we were in New York, we passed a very pleasant evening in his house. The distance from Philadelphia to Bordentown is 30

miles. The railroad goes along the Delaware, which only a year ago you had to cross with a ferry to reach the beginning point in Camden. Bordenown is a little town in New Jersey known as the long-term residence of Count Survilliers or Joseph Bonaparte, former King of Spain, who had a lovely landed property here.[40] After a few hours we returned to the city.

The sessions of the chambers in Washington were approaching their end, so we postponed seeing the various attractions of Philadelphia and went without delay toward Washington in order to see Congress in session.

Just as between New York and Philadelphia, the traveler from the latter city to Washington has the choice of two various routes, both carried by the power of steam. Specifically, from Philadelphia steamships go down the Delaware to [201] Newcastle, and a railroad of 16 miles in length goes from there to Chesapeake Bay, on which another steamship takes you to Baltimore. The second route consists of a continuous railroad that begins in Philadelphia and ends in Baltimore, with 90 miles of length. This railroad, since it passes through three states, was built by three companies which later united into one, and cost $4,200,000. Always preferring the railroads, we again chose the latter route.

On 23 February at 7 o'clock in the morning, we bade the friendly Quaker City farewell and went to the office of the railroad in Market Street, where, as is usual in America, the railroad has its start in one of the liveliest streets. My husband bought our seats for $4.00 each, and we went at once to the wagons, already filled with people. The wagons were very large, provided with stoves, and bound together with little bridges. In the car in which we took our seats, which had room for 50 people, there was a salon where at both ends small nurseries were located, of which one was entirely filled with a woman attendant and small children. Every foreigner must be pleased with the many children that are taken on railroads and steamships, [202] which American women take with them on trips with an age of three to four months.

We had gone three English miles from Philadelphia when we had to leave the cars at the Schuylkill River to cross the river by foot because high water had torn down a portion of the bridge. The river was not at the same level as the railroad, so we had to pass through a true labyrinth of woodwork down to the water and to climb back up to reach the cars on the far side. This wandering in cold and damp was very unpleasant; only the Americans, used to much moving around, paid it no heed; with much agility they crossed the river, taking a part of their baggage with them, and one actually commented, "How nicely arranged!" The caravan came across the river, got into the wagons on the opposite shore, and went on through the pretty little places Lazareth and Chester, coming to the city of Wilmington, where some of the travelers left the cars, and others took their place. One mile from Wilmington, the capital of the state of Delaware, there was a very interesting church that was built by Swedes, [203] shown to strangers as an antiquity. From there the journey reached Havre de Grace on the mile-wide Susquehanna River, across which we went on a steam ferry. So that the baggage of the travelers did not have to be carried from one train to

[40] Joseph Bonaparte (1768-1844), King of Spain (1808-1813), exile in the United States 1815-1844, his estate was Point Breeze near Bordentown, NJ, where he had a large art collection, died in Florence. He was a noted Freemason.

another, a railroad ran across the upper deck of the steamboat, onto which the baggage wagon was pushed from one railroad to another. On the steamboat there reigned chaos. Here there was a man selling cakes, and since we had been traveling since 7 o'clock without any refreshment, a part of the starving company fell on the poor cake-seller, completely plundering him, and the rest of the travelers had to travel on with hungry stomachs, which they did with calm acceptance. In Canton, a suburb of Baltimore, the locomotive left, and we were taken into the center of the city by horses, where we arrived at 2:30.

When we entered the railway depot, there was a mass of Negroes standing who offered us their services, but we had little trust in these offers, and we marveled at the unconcerned nature of the Americans, who entrusted their things with the greatest carelessness to the first and best Negro. It happened that [204] on this railroad all suitcases and knapsacks, etc., were given tags and the passenger received a duplicate; on arrival at the station everyone showing his number will be given his baggage. But since there are so many travelers on this line, we had to wait a long time until the line got to us, and then we continued at 4 o'clock without having time to take a midday meal. We now continued our journey to Washington on the railroad; the large eight-wheeled wagons were again hauled forward by four horses to a mile outside the city. There they were joined together and taken further by a locomotive. We traveled at first on the great Baltimore & Ohio Railroad, from which that to Washington is only a branch. The total distance between the two stations is 38 miles, which you usually travel in 2 hours 15 minutes. The price of a seat is $2.50 — that high because the company must give a quarter of its gross income to state of Maryland. The branch railroad of 30 $^{1}/_{2}$ miles cost $1,660,000. We had gone barely two miles with the locomotive when it suddenly stopped and the engineer only got it back underway with great effort when we had almost backed all the way back to the city. We lost a great deal of time [205] as a result, which the Americans took in good humor. Not a single person complained to the engineer or conductor. In similar situations Americans demonstrate an indifference which is beyond understanding to a foreigner; they think "That's not my business," and wait patiently for the resolution. As soon as the railroad train, steamboat, or postal coach reaches its destination, they jump with great haste from their seat in order to be able to start doing their business.

After a journey of 11 hours for 136 English miles from Philadelphia, we reached Washington at 7 o'clock, taking our room in the Boarding House of Mrs. Polk, near the Capitol on Pennsylvania Avenue, to whom we had received a letter of recommendation in Philadelphia.

[206]

VIII

Washington, the seat of the central government of the United States, lies in the District of Columbia, at the side of Maryland, on the Potomac River, 38 English miles from Baltimore. On the north it is connected with Georgetown by a bridge over Rock Creek, which empties into the Potomac. This district, 10 miles long and

10 miles wide, forming a perfect square, was separated from the states of Maryland and Virginia in 1790.[41] In 1791, when General Washington was President of the United States, he had the plan for the city that was to receive his name designed by Pierre C. l'Enfant. Since 1800 it is the seat of government and the residence of the President, as well as of the other executive officials of the national government.

When I looked out the window that provided a view of Pennsylvania Avenue, the liveliest street of [207] the city, I was no little astounded by the deathly stillness that dominated in comparison with other American cities so early in the evening, only occasionally interrupted by the cries of the oyster peddlers.

The next morning, on viewing the city, my amazement was no less; how differently I had imagined Washington, the capital of the blooming Union, and how much I had found those expectations disappointed! The streets are of enormous length and breadth, but they could be distinguished only with difficulty, for even in the most populated area you see mostly one-story shabby houses, separated one from the other by whole acres of land. The intense action of an active mass of people is not found here; the shops are few, with few goods for sale of poor quality and with a small selection. The few better shops are opened by merchants from elsewhere, only during sessions of Congress and then closing them immediately. The Capitol, built on a hill dominating these silent fields, is to be the center of the city after its completion, from which seven avenues extend in all directions, cutting through numberless other streets. Until the completion of this plan and until Washington achieves its blossoming, a long time will pass,[208] which our generation is not likely to experience. America is still too young a land; for that reason trade blooms so greatly and the internal improvements are so many. People who enjoy the accumulated wealth of their fathers and live only for fine arts and the sciences are too few in this land to populate a great central city, and as a result Washington now has only 24,000 souls, while the city in the grandeur in which it is laid out would easily receive several hundred thousands with ease.

The Union consists of 26 various states, of which each is independent and sovereign and has its own government. Some branches of administration touching all the states and having the well-being of the entire nation as a purpose, oversees the central government that has its seat in Washington, at whose summit the President of the United States stands. The government divides itself into the legislative, executive, and judicial power, to which the Constitution prescribes specific limits. The legislative power is vested in the Congress, which consists of two chambers, that is, the House of Representatives and the Senate.

The House of Representatives is assembled from deputies from the individual states [209] who are elected by the people for the period of two years in proportion to the population. For this purpose, there is a new enumeration every ten years, and then the number of inhabitants is given that may elect one representative. On the foundation of the census of 1830, there was one representative elected for every 47,700 persons, and the number of all representatives was 242. A Representative must be at least 25 years old and for seven years a citizen of the United States, and at the time of the election a resident of the state in which he is elected. In this way, the

[41] The portion of the District of Columbia south of the Potomac taken from Virginia, containing Arlington, was returned to Virginia in 1871.

older and more populated states do not have the upper hand over the newer and less-populated states, and even the last may retain their influence; the Senate consists of two deputies from each state, thus a totality of 52 Senators. These are elected for the duration of six years and elected in such a way that every two years a third of all members leave, and as many are elected to replace them. A Senator must be at least 35 years of age, nine years a citizen of the United States, and also a citizen of the state in which he is elected at the time of the election. The pay of a Representative and a Senator is $8.00 a day during his presence in [210] Congress, and also $8.00 for every 20 miles traveled to or from the seat of the Congress. The regular session of Congress begins every year on the first Monday in December. The Representatives then elect a Speaker, who presides over all proceedings, leads the discussion, counts the votes, names members and committees, etc.; his pay is $16.00 per day. The Vice President of the United States presides in the Senate, fulfilling the same functions.

The President of the United States embodies the executive power, who is elected anew every four years, as is the Vice President. No one can be President of the United States who is not at least 35 years of age, born as a citizen of the United States, and before his election has lived in the country 14 years. He is commander in chief of the Army and Navy, as well as of the militia when it is called to active duty; he can make treaties with the agreement of the Senate, name ambassadors and consuls, name the highest state officials, etc. For the election of a new president, which takes place every four years, each state elects as many electors as the number of Senators and Representatives together. These electors gather in their states on a specific day (the first Wednesday in December) and vote by ballot for the President and Vice [211] President; the results of all the elections will be sent to the Senate, where the votes are counted and the election decided. The salary of the President is $25,000, that of the Vice President $5,000. The principal officials in the executive department, forming the Cabinet, are: the Secretary of State, the Treasury Secretary, the War Secretary, the Navy Secretary, and the Postmaster General, each paid $6,000; then the Attorney General with a salary of $4,000. The salary of an ambassador is $9,000, besides $9,000 for expenses, of a Chargé d'affaires $4,500, and of a Legation Secretary, $2,000. Ambassadors or Ministers Plenipotentiary are only at the principal courts of Europe, specifically in London, Paris, St. Petersburg, Vienna, Berlin, and Madrid, as well as Mexico. In all other courts, they are mere *Chargés d'affaires*. Besides, a large number of consuls is appointed.

The State Department, overseen by the Secretary of State, administers the same concerns as the Interior Minister and Foreign Minister in European governments; the Treasury Secretary cares for financial matters, including the Bureau of Public Lands. The War Department embraces all branches of military administration, fortifications, topographical [212] surveying, pensions, relations with Indian tribes, etc. The Naval Department cares for maritime matters, the arming of ships, their usage, etc. The Postmaster General alone appoints all postmasters in the entire country, makes contracts for the delivery of letters and newspapers, etc.

The supreme justice consists of the highest tribunal, the Supreme Court; it decides in complaints against ambassadors and consuls, in the military and the maritime power, in disputes between various states, in disputes where the United

States appear as a party, etc. These courts are subdivided into regional and district courts. The Supreme Court holds a session in Washington, which begins on the second Monday in January. The salary of the Chief Justice is $5,000, of the others $4,500.

During my stay in Washington I very often attended sessions of Congress at my beloved husband's side. Shortly previously border disputes had broken out between the state of Maine and New Brunswick, which led to very lively debates in both Houses, giving us the opportunity to to hear many fine speeches. The attention and courtesy [213] of Americans toward ladies was demonstrated even in the Capitol itself; in England ladies may not attend sessions of Parliament, but in Washington they direct ladies to the best galleries. The colossal Capitol with its two wings, in the middle of an open square of 50 acres enclosed by an iron fence, lies on a hill and dominates the entire city, whose houses are a great contrast to this imposing building.

The construction of the Capitol was already begun in 1790, and the building was sufficiently completed that Congress could hold sessions there, when suddenly the two side wings were destroyed during the war with the English. After the end of the war the members of Congress met in a building that the citizens of the city had built for its use until 1815, when Congress decided to rebuild the Capitol. The construction was under the direction of the architect B. H. Latrobe, and later under that of C. Bullfinch, and in 1827 the Capitol was completed, which excited general amazement, but did not receive the same recognition from experts, who discovered many architectural errors. The façade of the building is 352 feet long and the depth of the two side-wings is 121 feet; in the center is a grand dome of 145 feet [214] in height. The costs ran to $1,746,718.

The Representatives' hall is in the second story of the south wing, in a semi-circle, built in the form of a Greek theater, decorated with twenty Corinthian columns, for which the marble was from the banks of the Potomac River. These columns carry the very large dome, which is decorated with rich painting; the light falls into it from above, and a large crown-light of bronze hangs in the middle. Above the elevated seat of the Speaker, under an arch, is found a colossal plaster statue of Liberty, under which an eagle carved from stone hovers, presented in flight. This eagle was modeled from life by an Italian artist, Valaperti, a masterwork that recalls his very tragic memory. This young man dealt with no one, always lived in isolation, and soon after the completion of his successful work he suddenly vanished, and no one could detect a trace until his corpse was discovered in the Potomac River.

Directly opposite the Speaker's seat, above the entrance, is a lovely figure of marble representing history; she stands in a winged [215] chariot rolling over the earth's globe. The wheel of the wagon displays the beautifully-worked face of the hall's clock. The life-size image of Lafayette decorates one end of the series of columns, and between the columns are found sofas for those who have admission to the hall; within the barrier in a semi-circle opposite the seat of the Speaker are the seats of the Representatives, before each of which an elegant writing desk is placed.

The session hall of the Senators in the north wing is also built in a semi-circle, 75 feet long and 45 feet high; one of the galleries is supported by Ionic columns and is located over the president's seat. The other gallery rests on bronzed

iron columns and was rebuilt because the earlier ones of stone were too heavy and made the hall too dark. The walls here are draped with bright yellow material. The stairways, which are much too dark and narrow, are in a poor relation to this grand, splendid building.

If you enter from the portal into the building, you come to the rotunda, a grand entry hall with a diameter of 96 feet and as many feet high, which leads to the halls of the legislature and the library. The surrounding wall is divided into fields, and these are decorated with bas-reliefs and paintings. The sculpture over the western entry with a [216] group of five figures shows the moment in 1606 when Captain John Smith was to be killed by the Indians and the chief's daughter rescued him. The image shows how Pocahontas, the chief's daughter, threw herself over the supine Captain to receive the death-blow in his stead. I found the group of figures quite good, but the rather Greek costume of the Indian woman reduced the truth of the image.

On the second bas-relief you see the landing of the Pilgrims on Plymouth Rock in 1620. Here four figures are shown. A Pilgrim in the clothing of the sixteenth century, just stepping from the bow of a boat, kneels before an Indian sitting on the rock, from whom the former receives an ear of corn; a divided response of hesitation and thanks speaks in the Pilgrim's expression. In the back part of the boat is found his wife with her gaze turned to heaven, thankful for the good fortune of having overcome the miseries of the voyage, and near to her stands her little son, who holds the arm of his father and looks about in anxiety and amazement. Of all the figures, that of the Pilgrim is most successful.

The third bas-relief shows the famous pioneer Boon[42] in the year 1773 in battle with the Indians. Boon in hunting clothes has just shot an [217] Indian, who lies crumpled at his feet; from the other side comes another Indian with his tomahawk, and Boon threateningly holds his musket in his left hand, a large hunting knife in his right hand. The most interest in general is drawn to the dead Indian; his eyes are closed and his face shows strong distortion.

The theme of the fourth and final bas-relief is Penn's treaty with the Indians in 1682. William Penn, dressed as a Quaker, stands under an oak in friendly negotiation with two Indians and presents them with a text. The older Indian has a large *calumet* (peace-pipe), as he listens with attention to the speech of the younger Indian. In comparison with the others, this sculpture is very dark and poorly done.

The manner in which the four paintings in the rotunda came to be interested me too much not to make a small sketch of them. The artist of these paintings, Colonel [John] Trumbull [1756-1843], was the adjutant of General Washington in the first years of the Revolution, and then adjutant-general of General Gates. He loved painting very much and had already made great progress in it, and he conceived to cultivate this art so as to render historical [218] events from the Revolution immortal with his brush. He studied painting for this purpose, first in America and then in Europe, where he produced his first historical painting in London in 1786, showing the death of General Warren at the battle of Bunker Hill.

In Autumn 1816, exactly thirty years after the artist painted the battle of Bunker Hill, the Congress commissioned him to paint his four paintings. The

[42] Daniel Boone, born in Pennsylvania in 1734, died in Missouri in 1820, noted developer of property.

preparations were undertaken, which because of the speaking similarity of the portraits and true copies of the scenes which extended to the smallest details, were viewed by everyone with great interest.

The first painting shows the act of the Declaration of Independence which took place on 4 July 1776. It is quite well carried out, and in keeping with general opinion [219] the portrait of Franklin has the greatest similarity.

In the second and third painting scenes of the Revolution are portrayed; the second shows the surrender of General Burgoyne [17 October 1777], and third that of the British army under Lord Cornwallis [19 October 1781]. As with all these paintings the portraits of the persons in question are true and drawn from life. In the first of these paintings I was astounded to find the name of a German, General Riedesel.[43]

The fourth painting shows the resignation of General Washington, which took place on 23 December 1783 in Annapolis. The painting is very fine, except that many persons who knew General Washington in life find the portrait of this hero entirely dissimilar.

Two colossal statues of white marble representing Peace and War are found at the entry doors to the rotunda. Peace, a charming figure, is looking at War in concern and holds an olive branch in one hand. War looks calmly at Peace and stands on tiptoes, hand on sword.

In the small rotunda of the southern wing the capitals of the columns have tobacco leaves, and in the entryway of the House of Representatives they are decorated with the leaves of the cotton plant, which was the idea of the earlier [220] architect Latrobe to give the building some national identity.

On the left side of the rotunda along the gallery of the great stairway is the library. The hall is 92 feet long, 34 feet wide, and 36 feet high, has an arched ceiling, and receives its light from above. The various rooms that I saw attached to the library are very elegantly decorated with Brussels carpeting, sofas, etc. The library contains 14,000 volumes in various languages which are ordered according to the system of Mr. Jefferson. The first library, consisting of 3,000 volumes, was burned in the last war by the English. This loss caused Mr. Jefferson to offer his valuable library to Congress, which it immediately bought. The back wall is decorated with a painting of Columbus.

There are also 142 medallions of Bronze in the library, which with only 25 exceptions were coined by order of the French government. These medallions include all the battles and noteworthy events from 1790 to 1815 that took place under the government of Napoleon. Among these was a medallion noting his return from Elba, which because of its beauty as well as because of the small number of minted examplars, is seen as very valuable. [221] The entire fine collection cost about 5,000 francs in Paris, and the persons portrayed on the coins are supposed to be very accurate. The medallions are placed in several boxes nested on green silk

[43] Friedrich Adolf Riedesel, Baron at (Freiherr zu) Eisenbach, 1738-1800, was commander of the "Brunswick Corps," part of the force that surrendered in 1777 at Saratoga. See Stephan Huck, "Verkauft und verraten? Die Braunschweiger Truppen unter General von Riedesel im amerikanischen Unabhängigkeitskrieg," in *Brücken in eine neue Welt,* Ausstellungskataloge der Herzog August Bibliothek Wolfenbüttel Nr. 76 (Wiesbaden: Harrasowitz Verlag, 2000), pp. 201-226.

made for this purpose. Other than these medallions there are seven additional that were minted in Paris showing famous men of America, with some other subjects. All of those medallions were supposed to have been struck at the order of Congress and are available for sale in the library.

On Pennsylvania Avenue opposite the Capitol and $1^1/_2$ miles away is the house of the President, called the White House. It lies somewhat elevated on a rather large space and has a genuinely charming view over the city, the Capitol and the Potomac River. The building was built in 1792 under the direction of Captain James Hoban, who showed the plan to Congress and also reordered the interior after it was destroyed by the enemy in 1814. The building, decorated with Ionic columns, is 170 feet long and 86 feet deep, crowned with a stone balustrade. The outer series of columns is for the entrance by wagons, and the central entry, with steps on either side leading up, is for pedestrians.

[222] If you enter from Lafayette Square, you come into a large vestibule that is very simply furnished and decorated with plaster work. As you move further forward through a row of columns, it leads through a door in the middle into a salon forty feet in length, whose walls are provided with bright red tapestry and a gilded border; the hearth and the tables have marble surfaces, the curtains and covers of the chairs are covered with red silk like the color of the carpet, in which the coat of arms of the United States are woven, that covers the floor. Two high mirrors decorate the wall, and a great crystal crown light hangs from the ceiling. On each side of this salon large wing doors lead to a smaller square room. These three chambers are reserved for special celebrations. On the west side of this salon is the dining room, of the same size as the salon described, and not far from there is the ordinary dining room of the President. These rooms are all beautiful, but much less expensively furnished than the red salon; the walls are all clothed with green, white, blue, or yellow tapestries, provided with gold stars and a gilded border. Between these two dining areas is a stairway. On the eastern side of the house is the large social room that [223] occupies the entire depth of the building. This hall, 80 feet long, 40 feet wide, is decorated with lovely plaster borders. The walls have a pale yellow tapestry, and instead of the gilded border there is cloth drapery. The four hearths are of black marble, and a great mirror hangs over each of them. Three large crown lights decorate the ceiling, and a very nice Brussels carpet the floor. Under each of the crown lights stands a round table of fine working, and each of the consoles agrees with a round table and carries a fine lamp. The curtains are of light blue material with gold draperies that are held high by a gilded eagle. The borders of the curtains show a series of stars, and above the doors in a glowing half-circle are 24 stars, emblematic of the states of the Union. Sofas and chairs are covered with blue damascened silk material.

The chief stairway on the left side of the entry hall is covered with Brussels tapestry, and if you go up the stairs, you come to a large vestibule where the visitor waits until announced to the President, and then proceeds a few steps higher to his quarters. This is almost as large and furnished in the same taste as what I have already described. In the middle stands a large table covered with writings, plans, books, etc., [224] and near the hearth is the writing desk. The other rooms are for the President's family.

The first President to occupy this house was John Adams, who received $14,000 for its furnishing. Jefferson, who was President for eight years, received $29,000 more. Madison received over the same number of years $28,000. The total cost for the furnishing of the building continued until it was destroyed by the English. When Monroe received the Presidency, Congress approved providing him with $50,000, where almost all furniture had to be imported from France, and his successor John Quincy Adams received $20,000 more. When General Jackson entered the house in 1829, he found a house whose furnishing had cost $70,000; despite that, he received another $45,000 for it, which he spent. Van Buren received $23,000 for the same purpose.

Despite the significant sums that Congress has given for this purpose with such liberality, the furnishing of the building is in no relation to its size. It is even mentioned in Congress that many private houses are much better furnished, and that a house quite nearby considerably exceeds [225] that of the President in every respect. The best purpose would be to provide a measured amount for a garden, for there is little or nothing of that sort, and the neglected grounds so close by the splendid building are disproportionate.

Near the President's home is located the building of the State Department, the Treasury, and the Navy and War offices. A very beautiful new building for the Treasury is being built, since the earlier one burned down on 31 March 1833. That was the case with the State Department, and other than some expansion, it will be generally so.

Although my interest in the destiny of America's original occupants that I already had in Europe had diminished a great deal during my presence in the Union, I did not decline to accompany the lovable Mrs. Page, the wife of a captain, who had earlier had much to do with the Indians of various tribes, in visiting the War Department. A gallery of paintings of Indians of various tribes is located here, particularly of their chiefs, and the expression of noble pride that was manifest in the physiognomy of these savages interested me intensely. But what drew my attention [226] almost as much as the paintings were the already civilized Indians who went with us through the gallery, innocently gazing at the portraits of their ancestors and brethren. Among the many pictures I saw here, one particularly stood out: it was a young Indian woman Ma-Hong-Ya, an Osage, with her child; the beauty of this woman, the fire of her black eyes, with the expression of her entire being, the most charmingly open little face of her child with its little speaking, sparkling eyes, must impress every observer. I found the destiny of this young Indian woman as remarkable as her blinding beauty. About 12 to 14 years ago an American had made a contract with this savage and several others to bring them to Europe, to display them there, and to earn a fortune through this speculation. But on arriving in France, he found his income not what he had hoped, so he abandoned the poor Indians without their knowledge in the monarchy's capital, leaving them to their destiny. Ma-Hong-Ya was wandering the streets of Paris when the Duchess of Angoulême, when informed of her misfortune, had her come to her palace. The beauty of the Indian combined with her helpless situation, moved the Duchess so much that she kept the unfortunate [227] in her palace until she was separated from the little one, and she was then sent at no cost back to her homeland. We observed these and other

interesting portraits of the original occupants in great detail, and we then went from there to the State Department.

Here they showed me some very interesting documents; among others the charters of recognition of the American nation by various sovereign powers of Europe, confirmed with original signatures, and the original of the Declaration of Independence of 4 July 1776. When it was written, only one full sheet of parchment could be found in the entire Union, and even this did not appear to be of the best quality. There are also some interesting letters by Washington's own hand.

According to the American Constitution, it is prohibited for any civil or military officer to keep any gift from any crowned head, so he must deposit it as quickly as possible in the State Department. So here I saw a splendid box set with diamonds, in whose center the letter A under a crown of the same precious stones shone. With this splendid gift the Russian Tsar Alexander honored the American *Chargé d'Affaires*. In the same way, under other circumstances, there was also a sabre that Commodore Biddle, and [228] a Turkish shawl, which an officer's wife had also received as a gift.

And since the director of the Patent Office had invited us with much courtesy to see it, we did not neglect to visit this interesting institution before our departure. Everyone who has made a new invention must present, along with the description and drawing, a precise model of it before the patent may be prepared. On 15 December 1836 fire destroyed the earlier Patent Office, where the best models and drawings of 10,000 inventions, besides the interesting correspondence of the famous Dr. Thornton and many other distinguished men, were lost to the flames.

In order to make this loss good, as much as possible, the Congress passed a law on 3 March 1837 that all persons who received patents before 15 December should present them to receive a renewal without further ado. Those persons whose applications had been unsuccessful could try their luck again through improvements.

What they showed us first were several outstanding examples of Indian Corn, a single stalk bearing ten ears, each the size of a hen's egg. We have no concept here of such splendid Turkish Wheat, which only the richness and fruitfulness of American soil produces and of which I [229] saw three varieties. So-called Chinese Corn was introduced to North America along with tea. Each plant, which grows to eight or ten feet, bears cobs ten to twelve inches long. A single plant contains in this way two thousand kernels, which must be due to extremely good soil. A second variety is Duton-Corn, which flourishes in soil no less good and endures the frosts of autumn, also giving a good crop. Baden Corn is also a variety of Turkish Wheat, which is planted widely here. We received some samples of all these varieties.

The models are located in a place of their own, but there are so many that you can view all of them only with difficulty, in that they are mounted on two levels. The Americans, particularly the residents of the eastern states (Yankees) are noted for their inventive genius, and here I found an opportunity to marvel at it. Models of every imaginable machine are found here. I saw many steamboats, including those that were used to clean rivers of mud and trees, a mass of various sawing and plowing machines, devices to prevent sparks from locomotives, among others the invention of a lady from New [230] York, probably like so many others who have

burned several dresses; further, machines to remove the roots of trees, furniture, stoves, etc. After we had inspected all with great effort and thanked the official for his goodness several times, he made my husband the offer to give him on request the drawings of the models to take with him.

During the presence of Congress in Washington, many excursions are made to Mount Vernon, 17 miles from Washington in the state of Virginia. Here is found the home and last resting place of General Washington. The home belongs to a relative of the departed, who has done little for his inheritance and has left it entirely decayed. The two-story house is built entirely of wood, with a view of the Potomac River. The farming buildings are on both sides of the house. Not far from there is the resting place, in front of which some oaks and cypresses stand. A small wooden door in an old wall opens the way to the grave of the immortal hero. Earlier it was open to every visitor, but since all cut off something of the cloth covering the coffin as a souvenir of the place, it is now permanently closed, and only in [231] honor of General Lafayette it was opened after a long time.

IX

Our intention to remain in Washington during Congress was achieved, the sessions having been ended for several days, and Washington resembled a spa that after the end of season became ever lonelier, and so we, too, decided to leave the city. Since we had spent some time in every large city except Baltimore, and my husband particularly wished to inspect some railroads in this city, we decided to take the short return to the capital of Maryland, and so on 7 March in the afternoon [231] at 4:30 o'clock we went to the station. The cars were very filled with travelers, and since I knew the area already, I entertained myself with the three Indians I had seen in the paintings gallery in the War Office who were now traveling with us to Baltimore. If I compared these original inhabitants to the Negroes who brought the travelers' baggage to the station, I could not draw parallels between the two. The motions of the former were free and betrayed an awareness of their own strength, while those of the latter expressed the feeling of captivity and low subordination.

Evening at 6 o'clock we reached Baltimore and chose Barnum's Hotel, which was well recommended to us, as our place of residence. In front of the station we received another example of the Americans' good cheer, which had always appeared in their travels. According to the general custom the hosts had sent their people to carry the baggage of strangers, for which you paid. When we asked the carrier for Barnum's Hotel how much he wanted for his effort, he responded, "Twenty-five cents apiece," whether it were a large bag or a little package. To understand this talk, we turned to another carrier, who took the baggage of the [233] other travelers for a much lower price, but none wanted to take our baggage to Barnum's Hotel, and we had to agree nicely to this unjust demand and pay some dollars. When we told an American acquaintance about this, we learned that all the carriers were in agreement, and in this way the host of that hotel earned an annual income of $30,000.

Baltimore, the capital of Maryland, lies on the Patapsco River, which empties in the Chesapeake Bay, has 120,000 inhabitants, and a very advantageous situation

for trade, consisting mostly in the export of tobacco and flour. It is one of the older cities in the Union and was founded in 1729; it has its name thanks to its first settler, Lord Baltimore, who came from England, for which reason the Catholic religion predominates.

In the north Maryland is the first of the slave states, since all states south of the Potomac, and Maryland north of that river, are included under the name of slave-holding states. The notion of being in a slave state brought my mood to complete distress; it was inconceivable to me how an enlightened, educated person, particularly the American, who has done so much for [254] his freedom, could tolerate people beside him who were robbed of their greatest good, which is liberty. To tolerate the slaves of past relatives might be overlooked, but that there were still offices in Baltimore where the slave trade was carried on, that was what offended me the most. Such an office was found in Barnum's Hotel, where we were living, where slaves were sold and bought, and the slave trader could make a great deal of money and have several young people helping him in his many transactions. As a young free Negro told me, the value of slaves depended on their age, their health and capacity; the usual price for a man in the best years was $1,000 to $1,200 and more, that of a woman $700 to $800, boys or girls could be had for $300 to $400 apiece. Other than this office, which I had to pass every time I went out, there were five or six others in the city. Every slave trader has a special building to keep slaves, a jail, which was closely watched, and whose windows are provided with thick iron bars, making escape impossible; those whose stubbornness is too great, are also bound in chains. One of my acquaintances told me that she had visited a female slave [235] in such a building who had earlier been in her service, and was not restrained there, but that the woman trembled when a slave trader came to look into the building to be sure everything was clean and in order.

Among the beautiful buildings in Baltimore the Cathedral, for which J. B. Latrobe both made the plan and led its construction, holds the first rank. The money for the building fund was collected by Catholic priests who traveled all the states of the Union for this purpose; further, ladies collected a significant amount of money through fairs. The building, built in the Greek style in the pattern of a cross, was begun in 1800 and constructed sufficiently in 1821 to hold divine service. Due to a lack of money the bas-reliefs in the areas over the entrances and windows have been changed into Biblical passages, and the Ionic *porticus* as well as the completion of the towers have been saved for better times. The external length of the building including the *porticus*, which is not yet built, is supposed to be 190 feet, the width 177 feet, and the height from the ground to tip of the cross 127 feet. In the Cathedral, the light descends without your seeing the windows in the church, which makes a very good effect. There are niches on either side of the high altar in which [236] there are marble altars for the everyday divine service; all three altars are contained within a common floor of mahogany throughout the entire width of the church. Over the main entrance is a separate gallery for the Negroes. There are two paintings in the side wings; that on the right, painted by Paul Guérin, shows the removal [of Christ] from the cross, was a gift of Louis XVI[44] to the archbishop; that on the left shows how St. Louis buried his officers and soldiers who were killed at Tunis.

[44] Louis XVI, King of France, 1774-1792.

St. Louis could find no one in his army willing to bury them because they feared infection, and since this heroic prince could not tolerate that the corpses of so many brave men should be the booty of hyenas and raptors, he went himself to inspire his army as a good example. In the painting, he holds the corpse of an officer in his hands, which he places in a grave dug in the sand. This painting, from the brush of the famous artist Steuben, was given to the church by Charles X, King of France.[45] What disturbed me is that all the pews in the church were closed; as I heard later, it was done to win the congregation a better income.

In Baltimore I made the acquaintance of two young women, specifically [237] Mrs. John Latrobe and Mrs. Moale, when she saw the treatment I had done about the beautiful cathedral, she moved me to visit some Catholic institutions in their company. I received this friendly offer with much pleasure, and so we went first to the cloister of the Sisters of Providence, which particularly interested me because the religious community contained there consists only of "Colored Women." They were established by a French priest, Monsieur Joubert, with the approval of Archbishop Whitefield, on 5 June 1829. In the next month, on 3 July, the four founding sisters took their oath, and currently there are thirteen sisters and two novices. They renounce the world forever and dedicate themselves to God, to prayer, and the education of "Colored Girls." Their habit is not entirely like those of nuns: it consists of black woolen garments with large collars; around their neck they carry a ribbon with a crucifix, and their head-cover consists of a white cap of a quite unusual pattern. The impression that these "colored sisters" made on me cannot be described; these black faces, surrounded by black garments, were to me an entirely special new phenomenon.

They dedicate themselves with great zeal to the education of [238] children, which other than religion and morals includes teaching reading and writing, arithmetic, English, French, as well as sewing, embroidery, knitting, washing and ironing. The sisters now intend to teach their pupils cooking, pastry and sugar-baking. A pupil living in the institution pays $4.00 a month as well as $1.00 a month for heating in the winter; those sleeping at home and only receiving food and insruction pay $2.00 and 50¢ for heat. Girls who only come for instruction pay $2.00 a quarter-year, 50¢ for heat, and for the use of books 37 $^1/_2$¢. This includes most of the pupils; the number of girls who live entirely in the house is insignificant. I must remark in addition that for the latter, the use of books, for sickness care, for linen and its improvement, they have $24.00 a year to pay, for the case when the parents or relatives do not wish to bear these costs, and should these pupils catch a dangerous illness, the physician's bill will be added. If they bring no bed with them, they may receive one from the sisters for the price of $10.

All children whose parents live in the city may [239] have the midday meal with the sisters on the first Sunday of the month, and stay with them in winter until 5 and in the summer until 7, which is always a great festival for youth that they may lose only for serious cause. The vacation for the black children always begins on 10 August after the distribution of prizes and lasts until the first Monday in September.

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[45] Charles Auguste, baron de Steuben, French painter, 1788-1856; Charles X ruled as king of France from 1824 to 1830.

When I went through all the localities, in which a model cleanliness reigned, I found in a large schoolroom several little black girls taking the midday meal gathered around a table, at which a black sister presided, keeping the little ones in order.

The sisters have a right friendly chapel, called St. Francis Chapel, in which a priest from the seminary says mass twice a week; on other days they visit other churches. Going out, as long as it is done communally and not too often, is allowed.

After talking for a long time with a black sister, with whom I spoke French the entire time, she showed me her flowers, which she had planted in the most tasteful order before the entrance into the Chapel; she guided us to the post office with the heartfelt request for me to entertain the institution again with a visit on my next visit to Baltimore.

Great is the service of these Sisters of Providence. Besides enriching youth with useful knowledge, they raise a race of mankind which stands so far under the whites and here is in such contempt. The girls will either become excellent maids or good mothers who will pass their virtues and religious principles to their children, of which the witnesses are said to be many. — Outside this cloister of the Sisters of Providence there is no similar institution for Negro women in the entire Union.

From here we lead on to the cloister of the Sisters of Visitation, which does not permit us to enter the interior of the building but only to speak with them through a grill. The warm faces of some very young nuns whom curiosity had lured to the grill, faces that somehow did not harmonize with their dark clothing, for quickly they returned back to their cells. My companion tried everything to win us entrance, but in vain; immediately when they heard that I came from Europe and was intending to travel to Mobile, the older sister became somewhat friendlier; they decided to have some sisters play piano and harp in the interior in our honor, and they would [241] open the door so we could hear it. How amazed I was to hear familiar melodies and opera instead of spiritual music! Since the entertainment with the sisters through the grill did not last long, I wished them farewell, and the older sister gave me a letter for Mobile, to her own sister, who was also there in a cloister of the Sisters of Visitation. These sisters also dedicate themselves to the education of girls, and I will not bore you with describing their educational system.

Since the day was so beautiful, together with the two ladies who had accompanied me in the morning, I visited St. Mary's Orphans' Asylum, which stands under the control of the Sisters of Charity. In this institution, which is headed by five sisters, all Catholic female orphans are accepted and receive here instruction, food and clothing. They may remain until their fourteenth or fifteenth year, where they are then taken in service of ladies of the city until their eighteenth year. After this time they are hired as maids, but they seek to create some other way to support themselves. These girls as a rule perform their service with great zeal and thoroughness; but as a lay person told me, should they become alienated, for many [242] American women will not treat them with the same lovable way as do the Sisters of Charity, and so many a girl is not able to accustom herself well to her new situation.

The costs to sustain this humane institution are covered by the Catholic ladies of the city, who gather the money every year for this purpose. The entire institution

is as simple as it is purposeful; the food of the orphans is simple and their clothing cleanly. Other than one woman who cares for the washing, there are no servants, since the older girls under the control of the sisters must do everything. Two hundred girls a day visit the school belonging to this institution in which the orphans participate. Every morning before the beginning of school, the sisters attend mass, for which purpose they have transformed a room into a little chapel. When I visited them, there were 47 orphans, of whom the older girls were occupied in the house, and the younger ones on the command of a sister had to file past us and give their best. Some little dears sang very nicely, and you had to feel inner sympathy with the innocent little beings with their gentle voices making music, not [243] knowing what a heavy loss they had suffered so early on life's journey.

We made a small excursion to the friendly little town of York on 13 March in order to observe the railroad leading there, the Baltimore & Susquehana Railroad. We had heard much about the splendid picturesque region; the weather for a journey was utterly positive, the sun stood friendly in the heavens, and the air was as mild as on the finest day of spring. The chief engineer, Mr. Trimble, had brought us from our hotel to the railroad's bureau; his plan was to escort us, but because of his many business duties his intention was hindered, so he gave us a young man to accompany us. The building of this railroad, 58 English miles long, began in 1830, and on 4 July 1831 a small stretch of six miles was opened with a single track. The entire line was only completed in August 1838. It extends from Baltimore to the little town of York in Pennsylvania, from which a company of shareholders wishes to extend it to Columbia. In the morning at 10 o'clock we departed Baltimore and traveled from the depot in Calvert Street, as usual with horses until outside the city, where the locomotive continued further. The size of the car was nothing new to me, for I [244] had traveled in the same from Philadelphia to Washington; what surprised me was the baggage wagon, in which three divisions were found, the first for baggage, the second for Negroes, and the third for specific destinations.

My husband had taken outside places with the men in order better to oversee the train, leaving me with my thoughts, which again dwelt on the cleverness and daring of the Americans, who in this line with an admirable lightness have overcome the greatest problems of the terrain. This nation did not start with streecars, if an area was already populated, but rather it builds the streets first themselves, expecting that the population will find its place as a result. And in deed they are right, insofar that as a result of laying all the railroads that we have ridden up to now, a great number of houses and hotels have arisen. You must see the area to get a proper concept of its beauty; the line runs mostly between high mountains and through very romantic valleys that were sometimes partly built up, but mostly were still covered with forests. Since this mountainous region is naturally very rich in water, the valleys now have many mills that contrast with this lonely wild romantic [245] region quite nicely. The railroad passes over many small bridges, through a tunnel cut through rock and over a mountain peak whose height is about a thousand feet. The works in the earth and the tunnels of the mountains are very interesting, and many of the latter had to be blasted with gunpowder. The squandering of marble on and in the houses of Philadelphia could now be explained, for it is found here in great quantities; the

sun that threw its rays on the blinding stone and reflected a thousand colors back, produced a splendid effect.

Several miles from York the many German settlements gave me great pleasure; the careful working of the soil, the varied types of cattle, the building of barns, all of it revealed the German inhabitants. In the afternoon at 3:30 o'clock were arrived in York, after spending five hours to go 58 miles. I was amazed at the great number of Germans living here, from whose earlier settlements in this area such a friendly little town as York arose. It is already almost a hundred years old, which is already remarkable for an town in America. "Oh that's an old town," many told me. How fortunately and satisfactory is the life these people live here in America! [246] While in Europe they would probably would have led a troubled, miserable life, through the intensity of their hands they have established a careless existence; they have become prosperous people, and thank heaven daily that He has brought them to this land. The Germans here have their own German divine service and their own German newspaper. How many hard-working German artisans, who in Europe are squeezed by guild compulsion and excessive competition, could still find shelter here!

The hotel on the main street of the little town was a very friendly house around whose two stories, as with many houses in the country, a broad roofed gallery or piazza runs. In the winter these galleries make the rooms a little dark, but in the summer, when it is dreadfully hot, these structures are very useful in that they ward off the rays of the sun, providing in the morning and evening a generally cool, pleasant experience. I was also intrigued about the inner furnishing of this hotel in this little town. Besides the good preparation of food, the service was excellent, and the women had their own parlor provided with carpeting, as everywhere.

When I had barely taken my seat by the hearth, some people entered the room who [247] called me by name and greeted me in a very friendly manner. I looked up and recognized to my amazement Mr. Hinchelwood with his sister. Destiny was playing its own game between us and this gentleman, and our frequent mutual meetings on this journey without any advanced discussion was genuinely amusing. Mr. Hinchelwood is a wealthy planter from the West Indies (Jamaica), who travels about the country for amusement. When we were making our first journey into the interior, we met him in the railway car between Albany and Schenectady, and since we were traveling alone with him, we relaxed with an everyday conversation soon interrupted by his leaving the car. This man of the hot zone was then on his way to get his sister for a little journey. She lived in a small town in the state of New York, because she had no love for life in Jamaica because of contact with the many Negroes.

Mr. Hinchelwood had disappeared from our view as well as our thoughts when we met utterly unexpectedly with his sister in Philadelphia in the very boarding house where we were staying. We always greeted her mutually at table, until we missed her one day and learned that she had left the city. My husband and [248] I was hardly a few days in Washington when our old acquaintance from the South entered the guests' room; he did not remain long in this city, and as he told us, his sister had remained behind in Baltimore, and he was considering going there to get her, but where he would be going from there was unknown to him. How could

we have guessed that we would rediscover this planter so soon and in a little country town! His sister told me that they had been here for 14 days, and thought to remain another week, since her brother was very pleased here in the hotel, where the food was half-prepared in the European style and the prices were low. I made every effort not to laugh out loud at this Epicurian confession, and I had to marvel at his modest temperament to stay so long at this time of the year without any occupation but to satisfy his gums.

In the afternoon my husband inspected several railroad buildings, and the next morning, after we said farewell to the planter and his sister, we traveled back to Baltimore in splendid weather. A family traveled with us in the car from York who were settlers and other than beds and commodes in the baggage wagon brought a mass of other homemaking articles. The [249] return went well, and at 3 o'clock in the afternoon we found ourselves again at the dining table in Barnum's Hotel. On 16 March my husband made another excursion to Harper's Ferry and Winchester, both to see a part of the Baltimore & Ohio Railroad, which was now open 82 miles to Harper's Ferry, as well as the line from there to Winchester in Virginia of a further 32 miles, and to gather the usual information about their operations; he only returned on the evening of the following day. I remained behind in Baltimore because I had some farewell visits to make, and I made arrangements in the meantime for our upcoming departure. During this time I also passed some really pleasant hours with the family of Mr. B. H. Latrobe, who is engineer of the Baltimore & Ohio Railroad and to whom my husband had much information on this interesting enterprise to thank.

We departed Baltimore on 19 March, and since we wanted to visit the capital of Virginia, our first route was back through Washington. During our first visit it was not possible for us to be presented to President Van Buren, for in the last days of our previous visit he had been engaged until late in the night in the Capitol signing bills when he usually received gentlemen and ladies. [250] For that reason my husband used the time of our second visit to visit him with the minister Mr. Forsyth. On 20 March we visited Mr. Hassler, who has been placed with the general government to measure the sea coasts and to control the preparation of test-measures and weights.

I was heartily glad to depart Washington on 21 March, for other than during sessions of Congress this city presents a highly melancholy image; in the boarding house, other than a few small rooms, the whole building was closed, and company at table consisted of the three unmarried ladies of the house, their brother and ourselves. He held a position in the War Office under the presidency of Van Buren, and so the owners of the house, as is easily understandable, are zealous partisan of the so-called Democratic Party. The episode with the Postmaster General, which caused me no small amusement, was reviewed far and wide. Specifically, the Postmaster General Amos Kendell deprived a large number of postmasters of their positions without a statement of cause; when the Senate learned this, it demanded an explanation, which was not given, and only with the second demand reached him, he briefly replied, "The answer has [251] not been ready." The Senate regarded this response as an insult and asked the President to discipline the Postmaster for this, upon which a very courteous letter of apology was issued, which satisfied the Senate.

After dinner we made a promenade of Pennsylvania Avenue, and at 7 o'clock in the evening we took a rented coach to the Potomac River, which was rather distant, to take the steamship *Augusta* downstream to Fredericksburg. The late evening hour is very uncomfortable for the travelers, but it is not to avoid, since the steamship voyage is precisely timed to meet the railroad trains arriving from Baltimore. The steamship *Augusta* also carries the mail, and compared to the other American steamboats it is very small; the ladies' cabin only has room for 24 beds. You pay $4.00 per person, and for this you not only receive 60 miles on the Potomac, but also nine miles with the postal coach to Fredericksburg, where the railroad begins. After the arrival of the railroad wagons from Baltimore, which brought only one lady and several men, the boat departed, at which point we had supper, at which the Captain, a young, courteous [252] man, presided. We quickly retreated to our cabin and sought to enjoy a little peace. But I was restless for a time until we passed Alexandria, where the boat halted, could not see much of that city due to the darkness of night. The conversation among the ladies soon fell silent, and we gave ourselves to sleep, from which we were interrupted about 11 o'clock by the arrival of the boat at the landing. In the brief period of four hours we had gone sixty English miles, a speed to which the pace of the river stream contributed a great deal. The Captain, with a lantern in each hand, walked ahead of the column moving toward the stages standing ready, and it was he who collected the tickets from the passengers. The country through which we passed was mostly very wooded; the road left much to be desired, and the fearsome blows and swaying of our coach, from which we had been so long spared, applied themselves with renewed force on all our members, and at every moment we were threatened with spending the night in the fields of Virginia.

About 1 in the morning we arrived in Fredericksburg, where we exchanged our seats in the postal coach for [253] those in the railroad wagons. This railroad extended then only from Richmond to Fredericksburg, and is supposed to be built fourteen miles further to the Potomac River, so that the travelers may go directly from the steamboats to the railroad and vice versa. Its current length is 61 $^{1}/_{2}$ miles; it was begun in December 1834, opened in January 1837, and cost $1,200,000. The railroad is very lightly built and has only thin iron strips nailed on wood. Since you depart Fredericksburg between 1 and 2, the inventive Americans have put large rocking chairs instead of normal seats in the wagons for the comfort of the travelers, and in the middle the usual small stove, over which a large lamp hung, which shed its magic light on the slumbering company. Adjoining this big sleeping area was a small one in which some sofas were supplied for ladies. We closed the second half of the night splendidly in these rocking chairs until our arrival at the station at 6 o'clock in the morning. The locomotive, which in other cities ordinarily had to remain outside the city, went here right through a wide, lively street into the center of Richmond.

In Richmond we had great trouble finding lodging, and after my dear husband [254] had been in more than twelve hotels and restaurants, we had the choice of a very mediocre boarding house or going to the next station. But since my husband wished to observe several railroads and also was expecting several letters to be sent here, we submitted to our destiny and took our residence in the dubious

boarding house. Before we arrived in Richmond, a Democratic Convention had completed three days of sessions, ending the night before. The deputies to this meeting, who were still here, consisting of adherents of President Van Buren, resolved to support his government and to vote for him in the next Presidential election, and for this reason extended a resolution to the people. Other than this Democratic Convention, the legislature was in session at this exact time, which always draws many visitors. Unfortunately, the largest hotel had burned down some weeks ago and transformed into a heap of ashes.

[255]

X

Richmond, the capital of Virginia, one of the oldest cities in America, is very romantically set, located on the slope of a hill by which the James River runs, and with its capitol in the first flush of rejuvenating nature, is very picturesque. It is the seat of the legislature and has more than 20,000 inhabitants, of which half are blacks. Trade, favored by the situation of the city on the James River, through its many railroads and the James River Canal, is blooming, while the 60-foot fall in the river provides enormous power for the numerous factories. [256] The main products exported from here are flour and tobacco.

As in Philadelphia, the naming of streets is by numbers, but which is never marked, which easily misleads a stranger who is not ready to give up on the alphabet. Another difficulty is that the streets are not provided with sidewalks, except for little ones in brick running along the streets, and sometimes not, and the streets are very poorly paved, which causes such a true swamp when downpours occur that you are incapable of going out. But what makes the worst impression on a stranger is slavery, which reveals itself very offensively. One morning I was takng a walk to Church or Richmond Hill, on which is found the oldest Protestant church of the Episcopalians, with a lady of Richmond, Mrs. Robinson; from this hill can be had the most beautiful view of the canal and the James River, across which a bridge $^{5}/_{8}$ of a mile long leads to the railroad to Petersburg. On the other side of the river are some truly nice farms, and in the middle is found a charming island. On the return from my walk I noticed a large crowd of people gathering pressingly in front of a house, in front of which there was a red flag [257] displayed. When I went to see the cause of this, I heard that a female slave was to be auctioned off, and I actually saw a young girl standing in the middle of a mass of household goods, being offered for sale with them. As I passed by, a bedstead was brought out. I did not experience what lot was received by this poor girl; I was too offended to wait until the end of the auction, and with broad steps I hurried home. Many auctions take place in Richmond in this manner; only a few owners have their slaves sold in public offices through advertisements in the newspapers.

As in Maryland, servants here consist only of slaves. As soon as a young girl marries, her father commissions a broker to buy a certain number of slaves for the household, for which he receives a specific fee. Generally, Negroes are regarded like other movable property and dealt with accordingly, so in printed reports they are

placed above railroads, etc., under real estate: “Negroes estimated at …”; under incomes, “Negroes sold for …”

On 26 March we visited along with the president of the Bank of Virginia, Dr. John Brockenbrough, [258] two iron rolling mills located in the city, which was all the more interesting to me because I had never seen such an operation before. One of these iron works lies on the James River Canal, and water is taken from the canal to power the great iron rollers. The business that owns this work is called the Tredegar Iron Company, and we received with all attention and shown around by the president of this company, H. Deane, Jr.. I will now attempt, so far as it is possible for me, to give a short description of this manufacture.

The pig iron used here comes from two blast-furnaces, one 65 miles away in Buckingham County at Beargarden, and the other near Fredericksburg. The first blast-furnace is 36 feet and the second 32 feet high; both are driven by charcoal, and former produces 980 to 1,000 tons of pig iron a year. This pig iron cost $37.50 a ton, delivered to Richmond. The pig iron is melted in ovens, called “puddling furnaces,” and mixed by a worker with a long iron rod placed through a small hole in the oven, working with it until it is a sticky mass or a ball. This ball is then removed and placed under a large cast-iron hammer [259] called the “squeezer,” pressed or squeezed, and while it is still soft, cut in two. In other ovens the puddled balls are thoroughly hammered, so that much more dross comes out than with the squeezer, which only presses it down. The pieces of iron are then put in what is called a sweating oven, where it is mixed with other pieces, including scrap-iron and melted, the whole rolled out and cut again into pieces.

The pieces of iron received in this way are now reheated in other ovens and then come under the sheet rollers or the bar-rollers. In the latter case the glowing iron is first forced through larger and then narrower openings until they achieve the required strength and form. With sheet rolling, each time the piece goes through, the screws are tightened so that the upper is closer to the lower roller until the desired thickness is achieved. Truly you have to marvel at the skill with which the workers deal with the glowing masses of iron; the rollers go very fast, and in the very instant in which a piece emerges, it is passed immediately to another man standing there to place it under the rollers again. It all involves using the brief time when the iron is glowing red and still so soft to extend it into the proper form. You really see the speed of this manipulation and understand that only extraordinary skill can prevent daily accidents. The workers at the rollers wear ordinary clothes, but those at the hammer have boots whose upper portions are of sheet metal, and they have protection for their eyes.

The rolled iron bars look very smooth, which arises from the fact that you mix the puddled iron with scraps that give it a very good quality. You buy a ton or 2,240 pounds of scrap for $30.00 or $37.00, and sell common bar iron for $105.00 a ton, but sheet iron for 8¢ a pound. Bituminous coal, which is used in these works in the furnaces, cost 18¢ a bushel, and a ton is 83 bushels.

All of the workers here are free white people, and they do not tolerate blacks working with them; they may only use them outside the building for other purposes. The white workers are always employed by contract for a year under the condition that a quarter of their pay is [261] held back. If they give their notice a month early,

they can leave the factory during the year and will receive their held-back pay, but if they leave without giving this notice during the contract year, then they do not receive their back-pay. The payment of the workers is according to the ton of wares produced. Puddlers receive $5.25 per ton of iron produced, the kneeders 98¢, the rollers $1.80, the stokers $1.60, and those who lay on the last hand, $1.75, all per ton of completed wares. In this the workers themselves have to pay the boys they need for help.

The factory ordinarily produces 55 tons a week, partly bar, partly sheet; it is hoped to raise production to 80 tons a week. On 1 May 1837 the factory got underway; on 18 March 1838 it had to close because the canal was closed for expansion. Since 8 January 1839 it is back in operation, and since the canal in this area has been entirely restored, it was figured that no more reduction would take place, and they hope for a great profit, since the factory costs relatively so little and the iron prices are so extraordinarily high. In these conditions it saddened me to hear that the actual builder of this [262] factory, who alone created the machinery and led the construction, received no thanks for his efforts. This man was an Englishman from Wales whom Mr. B. Deane found as a common laborer in an iron factory in America, working for low pay. He discovered in him the capacity to create a great factory, and hired him at a relatively low salary. After he had led the plant without the slightest error, the Englishman remained as its leader, but one day he fell into a dispute with an American worker, hit him, and the American stabbed him with his pocket knife.

After we had viewed this iron work thoroughly, we went in the company of Dr. Brockenbrough and Mr. Deane into a small boat, with a black man rowing, into the James River to Pretty Island. This island belongs to the first of these gentlemen; to reach it cost some effort, since we had to maneuver around the stones in the river. Pretty Island, with an area of sixty acres, is located high above the water, and you enjoy from there one of the finest views toward Richmond lying opposite. The city with its many trees in bloom, the first I had seen here, had a magic all its own. On [263] this romantic island is found the second iron works, which is smaller than the first. On the way back we saw other mills and encountered many wagons pulled by mules, carrying flour.

Richmond is the chief market in America for the tobacco trade, in which Virginia delivers two fifths of the entire amount of the tobacco produced in America. On average the annual tobacco harvest:

In Virginia	45,000 hogsheads
Kentucky	35,000
Maryland	31,000
Ohio	4,000
	115,000 hogsheads

Of this 90,000 hogsheads are exported and 25,000 consumed in the country. A hogshead weighs 12 hundredweight and will pay according to the quality of the tobacco $60 to $250. The annual export of this product runs about $8,000,000.

On the following day, 26 March, 5 o'clock in the evening, we left the capital city of Virginia to take the railroad to Petersburg. An omnibus took us to the station building of the railroad, and on one of the most splendid evenings we traveled through the charming fields of Virginia. The railroad which joins the towns of Richmond and [264] Petersburg is 23 miles long, runs in an almost straight line, passing by the city of Richmond on a bridge over the James River, which is seen as one of the greatest constructions in America, but which, as we saw on our frequent promenades, had already sunk in parts. It is 3,000 feet long, 60 feet above the water high, and has a span of 150 feet. The cost of this viaduct alone runs to $125,000, and that of the entire line, including depots, steam engine and passenger wagons to $750,000. Hilly Richmond, embraced by the golden rays of the evening sun, and the James River, whose waterpower drives so many cotton spinning mills and grain mills, quickly disappeared from our sight; the area grew ever more wooded and after $1^1/_2$ hours we reached Petersburg.

The view of this city, which we had expected with so much curiosity, did not correspond to our expectations, for the first houses we passed were small, covered with shingles and had only two windows. The situation of the town on the Appomattox River is very romantic, and what it lacks in art, nature has compensated richly. The town is only in the process of arising, and trade will, with time, certainly bloom, for which there is already every expectation, [265] and the river and the crossing of several railroads will contribute much. The "Nevsky-Prospect" of Petersburg[46] is Sycamore Street, with small sidewalks of brick; we lived in Bolingbroke Street in the hotel of the same name, with which we very satisfied. The town has 11,000 inhabitants, of which half are Negroes, who are again divided into two halves, free and slave. Following a recently passed law the slaves achieving freedom may no longer remain in a slave state but must either go into a northern state, or they will be sent to Liberia (a colony in Africa). In Petersburg very much is being done for the emancipation of the slaves, and many owners give them freedom willingly, thereby losing a considerable part of their wealth. So a friend of a lady I know well only recently, and out of purely humane and religious feelings freed her fourteen slaves, each worth a thousand dollars, and sent them to Liberia, giving them not only the necessary money to travel, but also a mass of provisions for the journey. Similar examples are supposed to have happened frequently in Virginia. The slaves here are neither bought in offices nor sold, but only two individuals still deal with slave trading, which they pursue in secret.

[266] What pleases me especially in Virginia is the splendid green throughout the year, which is nowhere in the Union and certainly nowhere else so flourishing. The churchyard near the town is particularly attractive, and not for masterpieces of sculptural art, but uniquely and alone for the abundance of nature. Many family burials are surrounded in squares of brick that are overgrown with ivy and cypresses. The graves are mostly covered with flat stones, and the simple, sensitive inscriptions stand in harmony with the whole. In the middle of this cemetery stands the interesting ruin of a church that was built many years before the

[46]Here Gerstner is trying to compare Petersburg, Georgia, with St. Petersburg, the residence of the Tsar of Russia at the time, which she and her husband thought of as home. Nevsky Prospect is a major avenue in St. Petersburg.

Revolution, and for which the bricks were brought from England. The sole sensual decoration of the old enclosure is a tall, dark cedar. Many families in Virginia have their graves in the garden of their own house; only in modern times are the dead normally buried in the churchyard. Such family burials are said to be found in Maryland as well.

The sole beautiful building in Petersburg is the Episcopal Church, whose construction was only completed this year (1839). The solemn dedication of this is supposed to take place in a few days, and they only await the organ, which the famous [267] organ maker Colonel Pollard built in New York. In his raising of the building capital of $22,000, which was gathered from the congregation of the Episcopalians, the priest Mr. Bartlett had performed great services. But in order to raise the $2,000 for the organ, which was outside the construction capital, the ladies held a fair, which produced a profit of $1,500; they hoped to supply the remaining $500 in the autumn through income from several oratorios that the church decided to present. The friendly, roomy church has eighty seats, which were rented for an annual sum of $67.00. All of these were given away by the time of the completion of construction; in fact, many paid up to $200 to obtain a desired seat, and about thirty families could not obtain a seat at any price. In the chancel in front, over the entrance, there were still two galleries, each with ten seats; the highest of these is reserved for the Negroes.

Even in little Petersburg there was a Female Orphans' Asylum that was founded by several ladies of the city in 1812. The education and care of the children was provided by a matron, who received $75.00 for each individual. The institution is very small, but its charitable results are [268] very palpable for the entire town. Besides, there is a Poor House, which is supported by the harvests of the fields owned by the institution.

One wonderful result of my visit in Petersburg was the acquaintance of Mrs. Osborne. Mr. Osborne was president of the railroad and had shown himself particularly helpful to my husband.

On 30 March, at 8:30 in the morning, we left dear Petersburg and traveled on the Petersburg & Roanoke Railroad to Blakely, sixty miles from Petersburg. An omnibus brought us to the station, and I was heartily glad to take my seat in the car, since the rain poured from the clouds in powerful gusts. The railroad ran from Petersburg to the Roanoke River, and close to its end it connected to the Wilmington & Raleigh Railroad in North Carolina; it only had wooden rails, and its total bank cost amounted to only $800,000. As usual the railroad cars were very large and had salons at either end, of which one was reserved for the use of the ladies. The mostly wooded region offered no variety, and because of the stormy weather we had to close the wagon windows continuously.

About a mile before Blakely the railroad wagon stopped at a bridge, since here the railroad to [269] Blakely was also used for another from Portsmouth to Weldon, and the passengers going to the latter town had to leave the car with their entire baggage to take the two miles to Weldon on the other railroad. To our astonishment, we were the only travelers remaining, and as my husband happened to look out the wagon window, he saw a Negro having carried our baggage a good distance to the other cars; he ran after him and complained of his rushing, to which

the Negro with great marvelling told him that he could never remember when any traveler stayed in Blakely, and so he had taken the baggage. After the large group departed, we continued on alone a few minutes later until the wagon suddenly stopped before a rather large hotel in the middle of the forest, and we were told that we were in Blakely. I hoped that behind the trees there were at least a few houses to be seen, but my expectation was disappointed, for other than the hotel, a small house, a large goods depot and some log-houses of Negroes, assembled from raw tree trunks, I discovered no human residence.

[270] It was inconceivable to me how the Americans could lay a railroad here in this wasteland, until I received the following information: when the railroad company was organized, the owner of lands on the Roanoke River offered a hundred acres free and further promised to take shares for $10,000 if they would have the railroad end in his holdings on the Roanoke. Specifically, he believed over time, as a result of the railroad, a large town would arise there, and his other land would rise significantly in price. The company accepted this offer and led the railroad to the specific point in the heart of the forest, where it built the hotel, housing for the personnel and a storage for the goods, only no one currently was moved to follow this good example.

Later another company built a railroad to the Roanoke, going from Portsmouth to Weldon; both lines now cut a mile from Blakely and two miles from Weldon; the railroad from Portsmouth runs on a bridge over the Petersburg line, which travels in an underpass. The travelers from the south going to Weldon travel two miles on the Portsmouth line and must go with their baggage to the Petersburg one. Conversely, those coming from Petersburg travel [271] 59 miles on the former line and must go then travel on the cars of the Portsmouth railroad to go back the two missing miles to Weldon. You can imagine how uncomfortable this exchange of seats is for the travelers, and how easy it is to misplace baggage.

In our hotel, lying so utterly cut off from all living beings in the middle of the forest, it looked quite an adventure, and the hotel personnel were utterly amazed to have guests in their house. It is unbelievable how suddenly the shift of weather takes place in America; in Petersburg we had lovely, warm days, and here it was so stormy and cold that we had to order a good fire. A Negro in a linen smock, flying hair and bare feet appeared in our room and dragged whole tree trunks that I had seen from our window being felled by another Negro, into the very large hearth. Soon a very large fire was burning at which we could thaw our frozen arms and legs, until we were summoned to the midday meal, which consisted only of fish and eggs. The fish, from the Roanoke and of excellent quality, appeared to be the chief nutrition of these forest-dwellers. After eating, we went together with the director of the hotel, who is an agent of the railroad company, to walk in the forest to the [272] pulling machine. By means of this machine, drawn by horses, goods are brought from the river, which is normally forty to fifty feet lower than the railroad, with unbelievable speed.

On Easter Sunday, in the morning at 8 o'clock, we left lonely Blakely and traveled entirely alone in the great car one English mile to the bridge, where we joined with those coming from Weldon. I have already mentioned how uncomfortable this arrangement is for the passengers, since the stop caused by this often lasts from one to two hours, and our own patience was tried with 1 $^{1}/_{2}$ hours.

During this time I found my shelter in the small wooden inn which was built close to the bridge and in which the travelers of both railroads waiting for the cars ordinarily find protection against the stormy weather. On entering the little heated room I really had to marvel that the wind, blowing from all sides through the walls, permitted the fire in the hearth to burn. Wooden buildings here are very weakly protected, and only the chimney is built of brick. The railroad cars from Weldon finally came, and we went quickly through the wooded countryside, whose monotony was only broken by the magic of some flowering trees. [273] Our entire traveling company consisted of eight persons, hardly to be seen in the big railroad car, and it was only in Suffer, a few miles from Portsmouth, that a group of Negroes in their Sunday best came into the wagon, which provided much material for entertainment. These were the first I had ever seen in the company of whites, and I was no little amazed until I learned that in the Southern states in many ways blacks are handled better than in the North. We reached Portsmouth about 2 o'clock, and in a time period of six hours we had covered a distance of 76 miles.

The city of Portsmouth lies at the mouth of the James River, which empties here into Chesapeake Bay, an arm of the Atlantic Ocean. Opposite to it lies the city of Norfolk, and a steamboat than goes back and forth every half hour holds these cities in continual connection. The weather, that was just as stormy the next day, unfortunately made it impossible for us to go out, hindering us from seeing the city of Norfolk. Portsmouth has 6,000 inhabitants, of which two thirds are white and a third Negroes. The local Navy Yard with its dry-dock is supposed to be the largest in the Union, and the ship of the line *Pennsylvania*, a four-decker of 140 cannon, [274] of no less of interest. Since the weather was so bad, I entertained myself with my travel journal, and in the evening I surveyed the newspapers, which had one article that drew general interest. Mr. Nicholas Biddle had resigned his office as president of the Bank of the United States,[47] which he headed as director for four years and sixteen years as president. In his speech of departure, presented to the directors, he gave as his grounds that his health and his age made it desirable to him to return to private life, and that he had only awaited a proper time which, he believed, had arrived. Mr. Thomas Dunlap, the second cashier, was named to his place.

Since the weather was so bad, the city of Portsmouth had no great attractions for a longer visit, and we were also hurrying to go to the Southern states because of the advanced time of year, so we departed the city on 2 April on the Portsmouth & Roanoke Railroad again, to visit the capital of North Carolina, Wilmington. The railroad is 80 miles long to Weldon, ending on the Roanoke River, costing $850,000. The area we passed was very uninteresting, for we were only passing through forests and great swamps. In Sansemone County [275] we came through the Dismal Swamp, known as one of the deepest swamps in North Carolina; here it was where the great insurrection took place in 1831. The Negroes, who lived here in the middle of the forest in their log houses, fell upon and murdered the whites, after which they all hid in the swamp. The whites could not seize the robbers except by surrounding

[47] Nicholas Biddle, 1786-1844, President of the Second Bank of the United States, 1823-36, then of the re-chartered "Bank of the United States of Pennsylvania" until 1839.

the swamp, and in this way, they shot a portion of the Negroes; the others were hanged.[48]

The weather that was so bad at the time of our departure had improved, and after we took our midday meal in Weldon, we traveled from there for twenty miles on the Wilmington & Raleigh Railroad, which was still being built, until it ended in the middle of the woods. Here there were postal coaches waiting for the continuation of the travelers, to bring them to Waynesborough, 57 miles away, from which the further railroad stretch to Wilmington ended. Since the railroad had been completed at the two ends, they maintained postal coaches at the cost of the railroad company on the uncompleted stretches. It was 4 o'clock in the afternoon as we took our seats in the coaches, and of the two roads that led to Waynesborough, we [276] chose the so-called Upper Road, because they had recommended this as better than the Lower Road. The torments we endured in the stage are not to be described; for not only did our heads fly to the wagon floor more than once, but we were thrown so often to the side that we expected in every minute to be overturned. The swamp, which we often pierced without a trace of a road, was so great the water was at the same level as our wagon windows, and we could only be glad that we did not remain stuck in the swamp. This was the good road, of which the president of the company, General Owen, in his report on the undertaking, said, "It is one of the finest roads in the world." This was a counterpart to our experiences on the journey from Philadelphia, where someone cried out over the ruined bridge, "How nicely arranged!"

About 5 o'clock in the morning, as the day dawned, the tired travelers came to the inn in Waynesborough, where we were headed when we chose our road for this journey. The morning was very cool, and other than a Negro who carried huge stumps into the room's huge hearth, the entire rest of the house's [277] residents appeared to be fast asleep. After we had warmed our arms and legs on this hellish fire, the other travelers came in, and we breakfasted together in a large hall made of planks that looked more like shingles, and in which the cold wind came in through the doors and windows from all sides. About 9 o'clock we finally returned to the railroad through wooded and swampy areas similar to what we had left a few hours before. Some miles from Wilmington we passed two small prairies, and about 2 o'clock in the afternoon we final reached the latter town. I must remark that add that they had not asked from us any payment for the seats, since the officials of the railroad had received instructions from General Owen, who knew of our approach.

Wilmington, the capital of the state of North Carolina, has 3,500 inhabitants, of which the greater portion began to depart in the summer — from the end of May to September — for the seacoast or the baths roughly eight to ten years ago, due to the excessive heat and the exhalations of the soil. Even now many families leave the town in the summer, but the climate is supposed to have improved because of the location of five steam sawmills, since the air has been significantly purified by the quantity of [278] smoke. The soil here is very sandy, for which reason the main streets have been covered with sawdust. The main railroad station of Wilmington rests on tree pitch, of which a barrel of 320 pounds in weight is sold for $2.50. This variety of "money making" is not combined with great exertion or effort, since the people strip the bark off the trees so that the pitch runs out on its own. On our travel

[48] She is referring to the Nat Turner uprising in Southampton County, Virginia, of 1831.

we saw many such trees, whose sight really distressed me, since they die in eight to nine years.

I saw the first rice field in the South in Wilmington, lying on an island between the North East and the South River, which is six miles long and two miles wide. on 5 April, a splendid evening, we went to the island in the company of Mr. Green, one of the directors of the railroad, where a rice plantation is located. Since the milder season had only just begun, we saw very little of this planting. Rice fields are not very extensive in North Carolina, since the slaves here have almost all been sold to the southern regions, and growing rice cannot be done by whites because of the evil exhalations of the soil. Rice was first grown at the end of the seventeenth century, in South Carolina, and very quickly became an important staple [279] crop, particularly in the two Carolinas and Georgia in low, swampy regions subject to flooding from the sea. The annual export of this article is about $3,000,000.

On the day of our arrival in Wilmington the entire population of this town was in great excitement because a messenger came here to arrest a person who had cheated someone of $1,800 and fled from Charleston. An extra locomotive was sent on the railroad to bring him back, and they seized the fugitive at the end of the line in Waynesborough as he was trying to continue his journey. The highest court was holding a session here, the matter was dealt with immediately, and a judge held a long address to the people in which he said, among other things, “The railroad does not simply serve to carry travelers, but also to seize criminals.” — additionally, he recommended the prisoner to the goodness of the public. Immediately, $168 was collected to pay the cost of the pursuing the accused with a locomotive and to feed him during the investigation in Waynesborough.

On 5 April, a splendid spring morning, Mr. Green and his daughter made me a visit, [280] inviting me to a walk. I accepted this invitation with double pleasure, because I was very interested in contemplating the great richness of nature of the South that already reaches a high degree at the start of April. Our way directed us past several pretty gardens in which I saw many exotic plants that only appear for us in greenhouses, as well as many entirely strange-seeming plants. It was 9 o’clock in the morning, and yet the heat was so pressing that I was glad when we entered the forest, which in truth more resembled an enchanted garden, a great contrast to the other woods that I had seen on my journey to this point. The great old magnolia trees were particularly beautiful, and the wild yellow jasmine spread its balsamic mist far and wide. We were walking in the forest along the river for some distance when we found ourselves before a wooden fence in whose background the most lovely of cottages emerged. Mr. Green told me that this was the home of his cousin and bade me to enter to rest a bit from the intense rays of the sun. The most lovable housewife received us heartily with two of her eldest daughters, and after we had regathered our strength, we inspected the environs of this romantic country seat, which on the one hand had a [281] view of the river, across which charmingly a bridge led to the rice field opposite. This cottage had even been built before the Revolution, which for America is already a significantly long time; its honorable appearance looked entirely in harmony with the old trees that shadowed it.

Trees in the Southern states have a peculiarity that I have never seen: it is simply a variety of moss that hangs on many branches like swathes of mourning

crepe and bestows its own charm. The faint green of the moss is in strong contrast to the lively fresh green of the trees, in whose shadows you would wish to linger forever. Americans use this moss to stuff mattresses and pillows, and it is supposed to be very lasting and elastic. After I thoroughly enjoyed in my heart beautiful nature and marveled at the many splendid trees and plants, we bade farewell to the dwellers of this little paradise and returned on another woodland way back home, every bit as romantic. In the area of Wilmington in the summer there are very many snakes. The varieties that you find here most often are the so-called Coach-Whip and Moccasin, the latter only found in swampy areas, near rice fields. At the end of June [282] then in July and August, these animals ordinarily appear, but they are not as dangerous as the Rattle Snake, which on its approach always makes a noise and warns the wanderer.

With many conversations, we came to the railroad station, where I found my husband just as the train from Waynesborough arrived. To our pleasure it brought General Owen, the president of the Railroad, whose acquaintance we had first made on the Great Western. We were happy to greet one another in his homeland, and until our departure we still had some enjoyable hours together with him. I did not get to see the General's wife, because of her weak health, but made the acquaintance of his eldest daughter, whose lovable, charming conduct harmonized with her beauty, provided me much joy. In Wilmington I came to know Mrs. Gwyn, in whose husband my own husband recognized a very well-informed, knowledgeable engineer. We passed an evening with them most comfortably and cheerfully.

The day of our departure, 7 April, came, as we were to exchange the capital of North Carolina for that of South Carolina. Every afternoon at 2 o'clock a steamboat departs for [283] Charleston, which travels a hundred miles on the Atlantic Ocean in 14 hours. I felt some hesitation to take another sea voyage, for all the terrors of the *Great Western* were still present in my soul, and only the idea that the movement of the ship near the coast is always less gave me some courage. In the greatest heat of the sun we went aboard the ship, where some of our acquaintances came to bid us farewell. The good Mr. Green brought me wonderful yellow jasmine whose discovery in the flourishing forest had given me so much joy. The steamboat, to whose protection we now entrusted ourselves, was not one of the biggest, but very comfortably and comfortably furnished, and the midday meal left nothing to desire. A great part of the company left us in Smithfield, a tiny town at the mouth of the Cape Fear River, 30 miles from Wilmington, and the number of travelers to Charleston was very few.

So long as our steamship moved in the river, the voyage went well, but as soon as we entered the ocean, I entered a high grade of seasickness, and even my husband was not immune. I rushed to the deck into the open air to be free of this fatal sickness, [284] but in vain. So it returned with greater strength, and there was no choice for me but to allow myself to be led by the chambermaid into the ladies' cabin. Here again I had to admire the good nature of American women; the two ladies who still remained and saw me in my miserable state made every effort to make me better, and they showed tender concern. The illness did not depart until the boat had landed in Charleston the next morning at 5 o'clock.

XI

The first impression of this city[49] was entirely different from all the other American cities [285] I had ever seen before. In the billow and pushing of the crowd a tiredness all its own showed, a result of the warmer climate always causing a slight sleepiness of the body. The city of Charleston arises on a narrow space between the Asley and the Cooper River, and it has a population of 40,000 souls, of which more than half are Negroes. In many streets of the city, as in almost all Southern cities, large trees are found, and every house is provided with Venetian blinds and porches to keep off the intense burning of the sun to some degree. Due to the great rarity of stone in this region, the streets are not paved, but all sprinkled with oyster-shells and muscles, that cause an extremely uncomfortable fine dust that works particularly badly on the eyes. The oyster-shells, which are found here in great profusion, are burned by the Negroes and produce an excellent mortar.

We wanted to make our home in Jones' Hotel, whose owner is a Negro, and which was particularly praised as very outstanding, but when we later learned that it was only for men, we took the omnibus to the Planters Hotel,[50] where we had to settle for a very small room, because of this many guests there. The owner of this house had accumulated [286] a fortune of $30,000 in the short period of 14 years. When his daughter married close to the Mississippi, Mr. Meyers gave up his hotel, bought a cotton plantation in that region, and also erected a significant steam sawmill. Due to this last, and perhaps other speculations, he lost his entire fortune; since Americans never lose their courage and can always shift to another business with ease, so Mr. Meyers bought another house in Charleston and erected a new hotel which seems to promise a second positive result.

When I went to breakfast for the first time in Charleston, I could hardly resist laughing on entering the grand dining hall about the efforts to deal with the heat. The sugar containers were all covered with little lids, and at the upper end of the table, where the lady of the house presided and the ladies had their seats, there stood a little Negro slave waving a peacock feather tied to a long pole to keep the flies away from the food. I later found a slave performing this office in several families. The table offered us at the very beginning of April green peas, asparagus, lettuce, radishes, and strawberries aplenty.

[287] The heat is supposed to be very intense in the summer, and the exhalations of the rice fields cause epidemic illnesses every year. A large part of the population is an annual booty for Yellow Fever, which is inclined to rage here in the summer months just as in New Orleans. Several years ago, when the region around Charleston was still covered with forest, it was supposed to have been healthier. But later, as the forest disappeared more and more, the Yellow Fever showed itself to a much heftier degree. The first authentic report of an outbreak of Yellow Fever is from 1647, where it prevailed in the West Indies. It appeared in Boston in 1693 and in Charleston in 1700. In the course of the eighteenth century it now appeared in this

[49] Pages [284] to [313] were translated and annotated by Frederic Trautmann in "South Carolina through a German's Eyes: The Travels of Clara von Gerstner, 1839," *South Carolina Historical Magazine*, vol. 85, issue 3 (July 1984), pp. 220-232.
[50] Trautmann (p. 221) locates Planters Hotel at Church and Queen Streets.

city on various occasions. At the start of the nineteenth century it was very intense, then faded away for a time, and returned in the last several years. In 1838, 353 died, and in 1839 it was 134. Natives are less inclined to catch the Yellow Fever than foreigners; ladies are also more likely to be spared than men. The months in which Yellow Fever rages the most are August, September, and October. It normally commences at the end of July and vanishes at the start of November.

[288] What particularly amused me in Charleston was to go walking on Sunday afternoon after the end of the Divine Service and see the Negroes in their pretty Sunday best. They are reputed very vain, and the concentration of so many bright colors is in marked contrast to their coal-black faces. Here I often listened to the bells playing in the steeples, reminding me of my time in Belgium. No Negro slave is allowed to be on the street before 6 o'clock in the morning or after 10 in the evening without a pass from his owner; otherwise he would be arrested and only his Master may free him from punishment if he is found in the City Yard before 9 o'clock in the morning, and must pay a dollar.

In 1822 there was the notorious great insurrection of the Negroes, when many whites were murdered.[51] In the aftermath of this revolt, since the whites wanted to protect themselves, they requisitioned an old fortress owned by the federal government and erected a citadel. The Americans are responsible for its entire organization, and the exercise of their troops provided me with much material for entertainment, for the heroes gathered in the most varied of clothing; one was in full uniform or only a uniform blouse, the others in civilian clothes, some in summer, others in [289] winter clothes, and these fellows did their maneuvers with the bayonet or walking stick instead of the sabre. But what provided me with even more fun was to watch the last tattoo in the evening. At the ten o'clock bell, a white drum major stepped into the line of columns in front of the City Yard and beat the grand alarm on his drum; on his right sat a Negro with a small ordinary fife, on which he summoned forth the most various of melodies at will. In front of both of these heroes sat a large, white dog, its face turned toward the *virtuosi*, and in the foreground stood some Yankees with their large, wide-brimmed white straw hats, watching and listening to these children of Mars. The whole scene was illuminated by the soft rays of the moon, and it lacked only a painter to immortalize this unique group with his brush.

Besides the insurrection, another crisis threatened the state of South Carolina some years ago. Specifically, since there are no manufactures in the South at all, the residents dedicate all their zeal wholly and alone on planting cotton, and so they no longer wanted to support the very high customs duties on the importation of foreign goods. When some members from South Carolina made a proposal to the Congress in Washington against the tariff law, the Congress rejected it, upon which the inhabitants of the state [290] of South Carolina passed the Nullification Act against it, declaring that the individual states had the right to declare laws of the general government applying to the entire Union to be null and void. Those citizens who were attracted to this principle were called the Nullifiers, and this party still has a great following. General Jackson, then President of the United States, now threatened to intervene with military force, which did not terrify the citizens at all,

[51]This is the Denmark Vesey uprising of 1822.

but rather they locked themselves into the citadel and prepared their own weapons to defend their ships. Once the situation had reached a critical point for the Union, Mr. [Henry] Clay of Kentucky made the proposal in Congress to reduce the tariff in steps, so that by 1840 the customs duty on no article would exceed more than 20%. Southerners were satisfied with this compromise, and peace was restored.

No city in the United States was so intensely visited by fires than Charleston. In 1836 several fires followed one another, and on 27 April 1838 a large portion of the city burned entirely down. Of the most populated part of the city, 145 acres were devastated and 1,158 buildings destroyed. Evaluation of the total property loss from this dreadful fire [291] ran to $4,000,000. Among the many houses that fell to the flames was a large hotel that had been completed only days before and dedicated with a great banquet. To the present day the origin of this dreadful fire has not been discovered, but there is general speculation that it was the work of several Negroes. Many burned-out streets have already arisen from the ashes, and the building workers were still preoccupied with raising new buildings while we were there. The state government of South Carolina granted a loan to the city, or rather to the home owners, of $2,000,000 to aid in rebuilding the city.

Before the Revolution, the city of Charleston had a significant direct trade with England, which was carried on by American and English ships that sailed in both directions. After the end of the Revolution, so much capital concentrated in New York that after a few years the greater part of American trade went through New York. Ships bearing textile products from England, France, or other European states, land in most cases in New York and usually deliver their goods there. These wares [292] are then taken by other ships to the coastal cities or through inland communications routes into the interior of the United States. New York merchants grant those in the American interior, but chiefly merchants of the Western states, credit for six to twelve months, while the merchants in Charleston and other Southern seaports only extend credit for two to three months; all the banks in New York discount exchanges for six months, while those in Charleston only discount exchanges in two months. It is no wonder that merchants in the interior prefer New York as their market; all American trade only arises on the basis of an extended credit system. Preference is automatically given to whomever grants greater and longer credit, and so New York will practice a trade monopoly in these, the freest of all states in the world.

For the same reason, merchants in Charleston move the bulk of their wares through New York, indeed a very large part of the cotton is sent from here to New York and only from there is it shipped to Europe. The citizens of Charleston, possessed by the desire to open direct trade with Europe, preferably with England, sent a call to their fellow [293] citizens in North Carolina, Georgia, Alabama, Florida, and Tennessee, to a meeting in Augusta, Georgia. This assembly took place in April and then again in October 1838 in Augusta. For this year the meeting was held in Charleston, and in April 1840 it is to be held in Macon, Georgia. The purpose of this and all subsequent assemblies is always the same, to seek means by which direct trade — avoiding New York — from the Southern ports to Europe can be

achieved. This goal shall be pursued with American persistence until it is achieved, as so many other goals have been achieved in this remarkable land.[52]

About 200 delegates of the aforementioned states found themselves in Charleston, and the assembly took place in the fine local theater. I took this opportunity to be a witness to Southern debates, and I attended one session, the final one, to which General [James] Hamilton[53] took us in his carriage. On the stage sat the president, the secretary, and five committee members, who had earlier been named to keep order. On the lowest level were the seats for the delegates from South Carolina, the largest delegation; in the lowest loges were the members of the [294] other states, whose names were to be seen on a board displayed in front; some other loges were for ladies and their escorts. On the third level an audience was admitted, well attended. As everywhere in America, there was no oversight of any sort. Every person took his seat peacefully, and with the exception of applause the assembly showed restraint and order.

As I entered on the third day of the assembly, Judge Longstreet of Georgia[54] was already speaking, and with the full liveliness of a Southerner through words and actions disputing whether the Southern states, and particularly South Carolina, were behind the northern and eastern states in education, had done nothing for trade, and whether the publication of a periodic newspaper would have no prospects. In this journal, which they wanted to name the *Southern Review*, the discussion of this object would serve no purpose, for it was already totally impossible to find a capable editor, and it would introduce unnecessary debates; it would hence be much better to proceed at once to "physical exertions" and establish a company with a capital of some millions of dollars to bring steamships and regular packets into operation. The assembly [296] applauded several times to the speaker from the loges; only on the lowest floor, where the delegates of South Carolina sat, appeared not to support Judge Longstreet portraying the failure of education in that state in such strong terms. All eyes were now on Mr. Preston, Senator of South Carolina in Washington;[55] he rose and immediately responded with so much more fire than his predecessor the accusations of the former. With a dreadfully powerful voice Preston — as it appeared to me, not forgetting his love of self and desiring his election in the coming turn, called out to the assembly, "We possess an intelligence not exceeded by any portion of the world." A threefold repeated applause emerged from the galleries and the lowest level broke out at once, — a scene such as you will find only in this peculiar land. After a speech lasting three quarters of an hour, during which the speaker grew very hot, the public appeared to expect that he would cease. To keep his public warm, he called out, "I will speak a single word more." Here I went

[52]Michel Chevalier, *Histoire et description des voies de communication aux États-Unis et des travaux d'art qui en dépendent*, vol. 2 (Paris: Charles Gosselin, 1841), pp. 151-160, on the search for direct contact of the Southern cotton trade to exclude New York.

[53] Trautmann, *South Carolina Historical Magazine*, p. 225, has James Hamilton (1786-1857), as a "businessman, politician, and early supporter of independence for Texas."

[54] Trautmann, ibid., has Augustus Baldwin Longstreet (1790-1870) as judge of Superior Court (1822-1825), president of four Southern colleges and noted author.

[55] William Campbell Preston (1794-1860), US Senator 1833-1842, serving as a Nullifier, then as a Whig.

ice-cold, for I thought of the French, "*Je ne dirai qu'un mot*,"[56] for the single word consisted of as many words as the [297] orator could produce in half an hour. Now he was too exhausted to speak further, and a very young man, by the name of Stevens from Georgia,[57] who disputed the assembly with a loud, jarring voice, that the delegates would render themselves laughable if, on returning home, they would have to say, "We held three sessions to set the way how trade could be improved, and we concluded by proposing the publication of a *Southern Review*." It was then disputed yet more and the publication of the journal finally accepted. When I later spoke with a member of the assembly about its purpose, he explained to me that it was of the greatest importance that merchants take a higher rank in society. Up to now, the planters had the first rank, the lawyers the second, the doctors the third, the manufacturers the fourth, and the merchants only the fifth rank. Through this Commercial Convention, it became necessary for the merchants to rise in rank, and in this way a great purpose was served.

For the evening of 17 April the entire assembly was invited by the city of Charleston to a festival dinner. A large tent had been placed in the courtyard of a newly-built hotel, where ten tables were placed. each set for forty persons. The guests [297] found themselves in the City Hall, including the five consuls of foreign powers who resided here, and who were individually asked to appear in uniform. The entire company, at whose head a band of black musicians walked, filing in pairs to the place of the dinner. The people in the street, mostly Negroes, looked with large eyes at the five uniformed gentlemen. At the tables the company was divided in a particular order; my dear husband was placed between the Governor and the English Consul.

Among the many toasts that were made, and among the speeches that were given, that made by General Hamilton stood out. Specifically, after he presented a toast to the health of the Republic of Texas, he declared to the assembly that Texas was the most beautiful land in the world; its inhabitants were the most noble and honorable people in the world, and a fort they had erected, was better than the best of all the forts that Vauban built![58] To be sure the assembly drank to the health of the Republic of Texas, only everyone knew that General Hamilton would be going to England in a few weeks to negotiate a loan for Texas, and that state bonds for this happy republic would not bring half of their face value, so no one seemed inclined to name this land the Eden of our globe. [298] The gathering dissolved toward midnight, and on the following day every American declared that it was "the finest party in the world."

At the Commercial Convention, the taxes imposed on merchants also came to be mentioned, on which I made the following notes: Merchants in the city of Charleston paid the state a tax of 60¢ for every $100 of goods that they have on hand

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[56] Phrase attributed to Pierre-Augustin Canon de Beaumarchais (1732-1799).

[57] Alexander Hamilton Stephens, 1812-1883, served in the US House of Representatives 1843-1859, was Vice President of the Confederate States of America, 1861-1865. He was famous for his speech in 1861 declaring the inequality of the races as the "cornerstone" of the Confederacy. He treated his slaves with notable kindness and had them taught to read and write.

[58] Sébastien Le Prestre de Vauban, 1633-1707, Marshal of France and the greatest military engineer of his time, building roughly three hundred fortifications. He lost his position at the court of King Louis XIV for advocating universal taxation of all classes, including the nobility.

on 1 January. The value of these goods was set as the purchase price, asserted and sworn as correct by each merchant. The same merchants paid the state authorities in Charleston an annual tax amounting to 20¢ for every $100 of sold goods. The basis for this is always for the time from 1 April to 31 March, and sworn to by each merchant. Further, each owner of a Negro paid a dollar in tax to the state, regardless of the age of this Negro; also the city authorities receive for every Negro below 12 years of age $1.50, and if over 12 years $2.50 as a tax. The total property in lands and houses is appraised and pays an annual tax to the state, to the municipal authorities in the towns. Finally, there is a tax of $20 for a wagon and two horses, even a [299] tax of $5 for every dog, paid to the municipal authorities. And yet it is generally believed that taxes are entirely insignificant in America.

The principal staple product of the United States consists of cotton, producing for it an annual income of $80 to $100 million. — Cotton plantations are limited to the thirty-fifth degree of longitude, which is also the state borders of South Carolina, Georgia, Alabama and Mississippi. These four states, along with the more southern Florida, Louisiana, and a portion of Arkansas, are those states where the entire production of this vital article takes place.

Cotton is produced in regions where poisonous exhalations ordinarily take place, so that for this reason it is planted and nurtured entirely by Negroes, since most white people would find their death there. Fevers of various types, including the almost annual Yellow Fever, prevail in these regions from June to October. Most planters flee into the mountains or travel to the north of the Union, and only a few whites remain behind to lead their work, particularly the overseeing of blacks. Only at the end of October do the planters return to their homeland, finding there the ripe fruit of the labor of their Negroes.

The cultivation of the cotton plant was only [300] weakly pursued until the end of the previous century, and only forty years ago it experienced over time a significant rise, and will continue so long as the black population here increases. The production of cotton is boosted by the rising prices and the ever-rising demand, and as a result the price of Negroes, which ten years ago was only $700 to $800 for a good worker, is now $11,000 to $12,000. Only the far smaller landed properties in the six states mentioned have been cultivated; there is a lack of hands to cultivate the rest, and this explains why the Southern states are so opposed to the suspension of slavery and against the association of masters and slaves, for if the slaves are taken away from the planters, this same region where today there is prosperity and wealth, must descend into poverty. Since I will speak later of this vital subject, I will remain now with the culture of cotton.

The lands covered with forest and destined to cotton cultivation are first opened for it by burning the trees. Specifically, in the heat of the summer wooded areas are set ablaze, so that the grass and the small trees, then the bark of the large trees from the bottom to several feet in [301] height burn; the large trees are then felled, dragged away, and planted with Indian corn between the remaining trunks for one or two years. In the following years the planting of cotton begins; the land will be plowed or turned with the spade, and then the black kernels, the seeds of the cotton plant, are sowed in lines as is done with peas or other garden vegetables. No matter how many years cotton is cultivated, the dung of horses or cows must never

be spread there. After some years the field simply needs to be plowed somewhat deeper to bring fresh earth to the surface, then the cotton plants remain standing and are then plowed under early in the year; sometimes it is also fertilized with seed kernels. Specifically, you pour hot water on cotton-plant kernels, which are always present in great number with every planting, or boil them down and then shake the seeds into rows cut like a ditch. The cooked seed kernels are now covered with some earth, on which other fresh seed kernels are scattered, and this covered once more with earth. The lower kernels soon ferment and serve as a warm bed and as fertilizer, and often salt is strewn below the seed kernels, which also contributes to its growth.

[302] In South Carolina the plants rise above the ground as early as the middle of April and achieve a height of about five feet. Because of their growth the plants must sometimes be reinforced by the Negroes with ditching. After the flowering, capsules are formed in which the seeds with their surrounding cotton stick. If the seed is entirely ripe, the capsules spring open and a part of the cotton is ruined. Everything now depends on the capsules being collected at the right time, and this situation determines the number of acres the planter plants with cotton. This is because for each acre, a certain number of workers is required to collect the capsules, but each planter has his specific number of Negroes, so he can only cultivate a certain area with them.

Now comes an extremely important operation, which is the separation of the cotton from the seed kernels. Thirty years ago this was still done by human hands, demanding a great deal of time and limiting the extent of planting. About thirty years ago a machine was invented by an American named Whitney,[59] whose introduction made the expansion of planting dramatically, operating almost alone. The inventor received nothing but $30,000 from North Carolina; in other states his right to a patent was disputed, [303] and to the present time there has been erected no monument such as has been done in England for the inventor of the steam-engine, so that they hardly know his name.

An acre of land in this region produces 1 $^{1}/_{2}$ bales of cotton @ 320 pounds per bale, thus 480 pounds. In the state of Mississippi the production per acre is twice as large. The cost of production of a pound of cotton runs at 8¢; less in Mississippi. In 1838 the sale price in Charleston and the other Southern ports of the Union is between 8¢ and 12¢, and the export is stated in the public reports in the ports at:

	bales	@ lb.	= pounds
Mobile	300,000	450	135,000,000
New Orleans	700,000	450	315,000,000
Charleston	275,000	320	88,000,000
Savannah and Darien	225,000	320	72,000,000
St. Joseph	90,000	320	28,000,000
Wilmington, Norfolk, Petersburg	70,000	320	22,400,000

[59] Eli Whitney, 1765-1825, invented the cotton gin in 1793, interchangeable parts for guns, 1801.

Total	1,660,000	661,200,000

On the whole, you can figure the export at 1,700,000 bales, which at 10¢ a pound comes to the enormous sum of $67,000,000. The harvest in autumn 1838 was not as large, and you figure the entire production at only 1,400,000 bales; the price varying according to quality of the [304] cotton then from 14¢ to 18¢ a pound, so the planters received an even larger income than in the previous year.

It is in fact astonishing how brief a time it took for the cultivation of cotton to achieve its enormous expansion and importance in the United States. It is only in 1789 that the first cotton was planted in the South, and in 1791 or 1792 they began to expand its culture. The planting was only done on a large scale in South Carolina and Georgia, and the other states in the South and Southwest followed later. In 1793 Eli Whitney from Massachusetts invented his cotton gin; in this year the export of cotton was only 487,000 pounds, ten years later, in 1803, it was already 41 million pounds, in 1823 174 million, in 1833 325 million pounds. The present number of slaves might restrict the production of cotton to about 2,000,000 bales or 800 million.

The production of cotton in the entire world is estimated at 1,000,000,000 pounds. Of this, England consumes 350 million, in the United States 150 million, in France 80 million, in China and India 250 million, in South America 15 million, in Germany 35 million, in Spain 10 million, in Prussia 25 million. The value of the annually produced cotton cloth in England is estimated at $170,000,000, in France at $70 million, in the United States at $60 million. In 1838 the consumption of raw cotton in the whole of Europe was 500 million pounds.

Since during our presence in Charleston on 21 April a Camp Meeting took place nearby, we decided to attend it. These Camp Meetings are annual gatherings of the Methodists, who assemble early every year under the open sky to perform their prayers communally over four or five days. They are supposed to be a direct copy of Jesus' Sermon on the Mount, and to those Methodists, who live in isolated places without churches, it offers the opportunity to hold devotions with their brethren. The land needed for these meetings, consisting of about forty acres, was given to the Methodists by an American. It is only sixteen miles away from Charleston, and for the duration of this [306] festivity steamboats pass back and forth on the Wando River and bring, besides many Methodists, a large number of strangers to the meetings. The competition among owners of steamboats went so far on this day that one of them had an article inserted in the newspaper calling on all gentlemen to travel in his boat because he alone owned a wharf, and hence all the other steamships would be unable to unload on the riverbank. We very much desired to watch the ceremony without enduring an adventure, so that on the basis of the article we bought seats on the much-praised boat. The largest part of the people on our boat were Negroes, who almost all belong to the Methodist Church and as a result rushed to the Camp Meeting.

The region through which we passed was very flat but decorated by nature with such plenitude as we had never before seen in this land. The shadows were more various and the green much fresher and livelier. The palm trees on the riverbank and the blindingly white-painted Negro houses flashed nicely between the

old oaks and cedars. On arriving at the landing place I was very curious to see the famous wharf, but to my amazement it consisted of nothing else but several piled-up [307] timbers. I was happy that we came over this perilous passage unscathed, because we arrived at land barely a few minutes when the entire wharf broke down and a Negro woman fell into the water. We still had to go a mile from the landing to where the Camp Meeting was taking place. Several Americans were nice enough to offer me a place on their Tilbury, but I preferred to go on foot with my husband.

We came by a small cotton plantation consisting of several fields with tree trunks between which small cotton plants were growing. My gaze lingered on grandiose nature, and I marveled at a venerable live oak tree with its long mourning moss that I had seen before in North Carolina, and the long-leaf yellow pine with needles 14 inches long, which are never longer than three or four inches, and the laurel, a specimen of the *Magnolia grandiflora*, which sent its pleasing aroma round about it. Several boys rejoiced over catching a snake, the first I had seen in the country. A number of strange objects attracted our attention along the way until we finally heard from the singing of the Methodists that we [308] had arrived at the Camp Meeting. This song was entirely without accompaniment, since the Methodists in their practices are so simple that they have no instruments in their churches, and do not even put towers on them. On the field of the Camp Meeting were many rows of nailed-together benches, above which a great shingle-roof arose to keep away the glowing heat of sun-rays and to hold off the rain, and several lamps hang from the ceiling. In the middle of the large room was a makeshift chancel of boards for the minister; before him the whites and behind his back the Negroes had their seats.

There could have been four to five thousand Methodists gathered for this religious festival, for not only was the room alloted for this festival entirely filled with people, but a much larger part stood under the sky and listened to the minister's address. Very much tired by our little promenade, I missed a great deal of the edifying sermon, of which I only understood that the minister demonstrated with eloquence to the assembled public that man is distinguished from beast only through intelligence. On this occasion I would have liked to have discovered what the poorer blacks made of it.

Four preachngs take place every day, two in the morning around 8 and 10 o'clock, the two others in the afternoon [309] around 3 and 6 o'clock, presented by a sequence of ten to twelve ministers, and other than these four preachings special prayer-meetings take place in all the families' tents. Since the festivities take place over several days, almost all the families have erected their tents here, in which they place beds, household articles and provisions adequate for the whole duration of the meeting. The tents of the richer families are all very prettily and comfortably furnished, and I was no little amazed the trouble their owners took to bring so many household items. An American made us acquainted with one of the families here, who invited us most nicely into their tent for the midday meal. The meal consisted of several cold meat dishes, vegetables, cooked rice and wine; a black waitress performed her duties with great zeal. While we were still at table, a large lizard ran up the wall of the tent to the great shock of some ladies. These animals are no rarity here. Next to the tent where we were eating stood a second one for the family, and at some distance a third for the black servant. After eating we took leave of our

hospitable Americans, we made an effort to visit all the tents of white and black people nearby. A part of the latter were still engaged with the midday meal, [310] which consisted of good, strong food, whose traces were still to be seen on their cheerful faces. In front of many tents the Negro women sat with their small tobacco pipes, from which they blew smoke widely about them. Almost all Negroes love singing; in one tent we found several gathered who sounded a spiritual song in full voice, prompted by another Negro who carefully dictated the text from a book. Each wanted to drown out the others, and for several the tears flowed from their eyes; whether this arose from emotion or the great effort was beyond my determination.

We remained here for a time, and we slowly walked back to the bank of the Wando River. On the way we encountered many Negroes rushing the other way, laughing happily in their beautiful outfits. On the bank of the river, or rather on the fine landing place, we found several hundred people, all waiting for the steamboat. During this time we took our seat on the porch of a farmhouse and looked at the Negroes, who were enjoying themselves on the grass when suddenly a three-feet-long snake entered into their midst. But instead of becoming frightened and running away, they broke into loud laughter, and one of the [311] Negroes beat the snake to death. The steamboat we had awaited so long finally arrived; but the rush of people was so great that we could only approach it at peril of death. We soon left our seats to hear the Negroes singing; they sang songs that were accompanied by the most comic sounds and articulations, and which ceased only when we climbed onto land in Charleston. After our arrival in Charleston, they were very concerned because the steamboat that we had left with in the morning, and which had some of our acquaintances on board, was very late and only arrived at night. In the morning the wharf where it landed collapsed, and in the evening it remained stuck in the mud until at last the tide came and floated it.

Among the many persons we came to know during our visit was the former Senator and Governor of South Carolina, General Hayne,[60] at that time the president of the great Louisville, Cincinnati & Charleston Railroad,[61] also Colonel Blanding,[62] president of the bank associated with this railroad, as noted and in many ways as accomplished a man. Unfortunately, we learned of his death that very year. We were shown many favors by messrs. Lowden and D. Fordyce, to [312] which gentlemen we spoke, and the latter of which we had already met on the *Great Western*. Mr. Fordyce had a stroke a few days after our arrival in Charleston while on a ride and died instantly. Mr. Lowden, who is not married, brought Mrs. King to me, the wife of an outstanding lawyer in Charleston, in whose house I had many pleasant hours. Before our departure, we went to the theater again, where "The Jewess" was rather well presented. And then we visited a Lucas rice mill, but of whose operation I have nothing to report.

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[60] Robert Young Hayne (1791-1839), Attorney General of South Carolina, 1818-22, US Senator 1823-32, Governor, 1832-34, Mayor of Charleston, SC, 1836-37, President of the Cincinnati & Charleston Railroad, 1836-39, a Democrat.

[61] *Early American Railroads*, pp. 715-18.

[62] Trautmann, ibid., p. 231 has Abram Blanding as "a civil engineer who built canals" and the Columbia waterworks, was "state supervisor of public works after 1825, became president of the Southwestern Railroad Bank in 1838."

On 25 April we departed the city of Charleston and went by railroad to Augusta, the capital of the state of Georgia. This railroad is one of the oldest in the United States, in that the construction began in 1828 and was completed in 1835; its length is 136 miles, and since at the beginning it was only possible to raise a small amount of capital, no right-of-way was built in low-lying areas and the railroad was constructed on a wooden framework. No one could travel on it without a shudder if he shifts his gaze from the high structure to the deep abyss below and thinks of the great peril in which he sways every moment. For if a locomotive leaves the tracks, the fall into the depths and [313] certain death of the passengers would be the immediate result. No European would travel on such a railroad. For that reason, the Charleston & Hamburg Railroad[63] was operated in this way for several years, and it enjoyed very regular, not insignificant punctuality. Only later, as the wooden timbers began to rot, they found themselves compelled to fill it in with dirt, and as we traveled on the railroad, this had been almost completed. Also they had replaced the old, very weak rails with stronger ones. The cost of the railroad, which was originally only $850,000, rose through 1839 to $2,400,000.

The railroad travels entirely through forests, and the journey through them for what is usually nine hours, becomes very boring. We left Charleston in the company of the president of the Georgia Railroad, Mr. Dearing and his family, at 7:30 o'clock in the morning. Our refreshment was a large supply of oranges, for the heat of the day became ever more pressing. In Midway, a lonely little place 72 miles from Charleston, we halted to have a midday meal. In the afternoon at 4:30 o'clock we halted in Hamburg on the Savannah River; from here an omnibus took the travelers to the hotels in the city of Augusta. The price for a seat on the railroad from Charleston to here is $10.

[314] In Augusta we lodged at the Planters Hotel, where we were very dissatisfied with the room and food; the large hotel, built entirely of wood, was entirely undermined by many rats who made such a racket at night that we could not close an eye. In front of our hotel I saw for the first time a Pride of India (or China Tree), a splendid type of tree with large purple flowers, looking similar to our *Holunder*, spreading such an aroma that I always returned home from promenades with a headache.

The city of Augusta is a pretty, large, regularly laid-out city on the Savannah River with 10,000 inhabitants. It is especially important as the gathering place for cotton, which is sold here in significant quantities. This cotton is either sent downstream by steamboat to Savannah or by railroad to Charleston, and from there shipped to Boston, New York, or directly to Europe.

[63] Chevalier, *Histoire et description*, vol. 2, pp. 137-145; *Early American Railroads*, 710-15.

[315]

XII

After a brief visit in this town, we continued our Southern journey. The line from Augusta to Milledgeville passes through Warrenton, to which a railroad goes; this is part of what is called the Georgia Railroad, beginning in Augusta and continuing to Madison, and from there to the border of Alabama; including its branches it has a length of 302 English miles. This great undertaking, whose completion calls for a capital of about five million dollars, is the property of a private company to which the state has extended a banking privilege, so that the profit to be expected from the bank will cause those persons who have no proper faith in the profitability of the railroad itself to be moved to [316] subscribe to shares. The state further promised to endorse the investment of a quarter of the share capital in several of the projected branch lines.[64] So they sought to promote through liberal support the grandest projects even in neighboring states that would never have seen the light of day without this, particularly because the legal rate of return in Georgia and other Southern states was 8%.

As we traveled the line in the company of the chief engineer, Mr. Edgar Thompson, 88 miles were already open and 124 being built. We only traveled 47 miles on the main line, then 3 $^1/_2$ miles on a branch to Warrenton; on the latter line the wagons were drawn by horses. We arrived in Warrenton at 10:30, and we had traveled the distance of 50 miles in 4 $^1/_2$ hours. The price of a seat was $2.50; but as on almost all the lines over which we traveled, we did not have to pay.

The railroad company owned 46 Negroes, which cost together $38,875, or an average of $846; of these six had been sold because of poor performance, and four had died. So only 36 were left. The company also had rented several more Negroes and had paid per piece, as the Americans say:

Rental	$150
for Clothing	21
for Food	60
	$231

annually, or an average of $20 per month. The traffic on the railroad consisted primarily in travelers and the transportation of cotton.

On arrival in Warrenton the stagecoaches stood ready, and we traveled with the same company to Macon, traveling the 75 miles in 16 hours, paying $8 for a place. In Milledgeville, the seat of the legislature for Georgia, with a Capitol built in Gothic style, we had supper; nothing particularly interesting was seen on the way; we passed mostly through thick woodlands over very poor roads. Some enormous birds that were utterly new to me flew past our wagon several times. I learned from my travel companions that they were what was called turkey-buzzards, which were shot and have a very good flesh, which is suited to the taste of tame Indians. At night

[64] *Early American Railroads*, 721-25, "Georgia Railroad & Banking Company."

I was pleased by the myriads of glow worms appearing with their brilliant green lights as far as the eye could see. In Macon we took a room in the Central Hotel.

The city of Macon is very romantically located, only [318] established fifteen years ago, and already has 10,000 inhabitants. Its position in the center of Georgia and in the richest cotton district gives it an extraordinary importance for trade and makes it a powerful rival of Augusta. In 1837 more than 100,000 bales of cotton were brought to Macon and forwarded. Although there is a water connection between Macon and Savannah by means of the Ochmulgie and Altamaha rivers, on which steamships travel, they had undertaken the construction of what is called the Central Railroad,[65] which is said to be approaching completion. Another railroad goes from Macon to Forsyth, 34 miles away, and will join together with the other lines in Georgia.

On 4 May at 2:30 in the morning we departed friendly Macon in order to continue our journey to New Orleans, for the heat was already becoming very much a burden, and so we had no time to lose. The journey started well, and I was glad in the warm rain to see only three other travelers in the wagon. When the day dawned, I was curious to know who our companions were until I discovered from the conversation of one of them that he was a court officer, and the dress and the conduct of the person across from him appeared at first glance to be a farmer from [319] the area; the situation of the third traveler of this trilogy I could not discover: he came from Charleston.

The various groupings of these three travelers reminded me very strongly of the travel description of Mrs. Trollope,[66] for it was most amusing to observe. These men, utterly unknown to one another moments before, supported one another in their comforts. The rather smaller court official fell asleep on the shoulder of his neighbor from Charleston, while the latter, also sunk in dreams, allowed his head to rest on the head of the court official. As this pair rested for a while in this position, they left the empty bench opposite them to the old peasant, who used a cloak of these gentlemen as a pillow, and now stretched out at full length on this bed, so that he let both his feet hang out of the window. My dear husband and I on the front seats watched this with great amazement; this with our foreign speech must have been obvious to the Americans, since other than the old farmer they suddenly changed their position for a time. The power of custom still derived a victory, since a few moments later they fell back into their previous position.

[320] The region through which we traveled was mostly forest, there were no visible communities, and only small wood houses were to be seen scattered about; instead I was interested in the many splendid flowers in the woods and some darling birds, among the latter of which I was most pleased with the rice bird, because of its fine play of colors. The journey went well until a few stations short of Columbus; only here we were almost overturned through the negligence of the coachman, who had harnessed a wild horse. Without the coachmen noticing, the animal ran into a

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[65] *Early American Railroads*, 727-29, Central Railroad (Georgia).

[66] Frances ["Fanny"] Milton Trollope, 1779-1863, went to America in 1827 to join a Utopian community, then lived in Cincinnati until returning to England in the early 1830s. Her travel account, *Domestic Manners of the Americans* (1832), painted a generally critical picture of the people and country. Her son Anthony Trollope would be a major novelist.

ditch, taking the wagon with it, but since the ditch was too narrow and the stage too heavy, the wheels on one side of the wagon were solidly stuck in the ground, and the vehicle sank on one side against a fence. Americans react to such a small accident with decision, and they lent a helping hand to make the damage good. We arrived in Columbus on the Chattahoochie about midnight, from which we continued our journey after the exchange of horses and coach.[67]

With Columbus we departed the state of Georgia and came into that of Alabama; here the last Indians had left the land the previous year, and the total number of the Indians led away in the last three years [321] amounted to 30,000 individuals. The federal government grants them money for their land and other real property, and has them transported by agents beyond the Arkansas, where they are provided with other land. The love with which the Indians hang on their ancestral land is indescribable, and they have only left it with the greatest pain. In the last transportations the greater part of the Indians were the victims of profiteering and heartlessness of the contractors, who had taken over the movement as well as the good care of the Indians on the entire journey, in agreement with government agents, and given the poor people not only the poorest food, but sent them on by the hundreds on small ships. On the journey not only did many sicken and die, and also those who were so fortunate to arrive at their new homeland did not live long, because they could not tolerate the drinking water there.

Some time after the carrying out of the last original residents, they found an old Indian deep in the forest in a miserable hut. When he was interrogated as to why he remained so hidden here, he responded with an outburst of the deepest pain that he also wanted to die here on the soil in which the bones of his forefathers rested. He asked them not to drive him from [322] this place, since his last hour was approaching, since two others of his brethren who had remained with him, had left this world shortly before!

On the second morning all passengers jumped to the wagon window out of shared curiosity; the coachman stopped suddenly, and all of us fell out of the wagon in the same instant. A rattle-snake had come very close to the wagon, and after we had all had a look, one of the passengers beat it to death. When we had gone a bit further, we encountered many planters in their Sunday best, mostly mounted on horses and mules, coming from church and making visits to their neighbors in the area. The women mostly had a small child on their saddle, and somewhat behind was the caretaker for the children, also riding. In the forest through which we were riding we spied great flocks of wild doves, which were somewhat smaller than our own and with an ugly gray color.

It was our good fortune to be on our way from Macon to Montgomery, which we had been afraid to approach during the better part of the year. In the winter travel on this "natural road" was possible only with great difficulty, and the railroad that was [323] being built now will fulfill a great need for travelers to the South. Some miles before the city of Montgomery, where the roads improve, we saw the splendid fields in a great expanse, planted with both cotton and Indian corn, and the latter

[67] An edited translation of [320] to [342] was published by Frederick Trautmann as "Alabama through a German's Eyes: The Travels of Clara von Gerstner, 1839," *The Alabama Review*, vol. 36 (1983), 129-42.

stood rather high for the early season. All fields were, here as most in America, provided with wooden fences that were rather high, to prevent the cattle from jumping over them, since they circulate through almost the entire year in the open on the meadow without a watcher. This fencing consists of long, split pieces of wood laid on one another in a zig-zag pattern.

We finally arrived in Montgomery at 7:30 in the evening, after having gone a distance of 183 English miles on the stagecoach in 40 $^1/_2$ hours. Montgomery, with a population of 3,000 souls, is one of the many young, rapidly growing towns of America, due to its particularly fortunate position on the navigable Alabama River for trade and travel. Trade is rising continually, the inhabitants sell annually $475,000 in food alone, primarily poultry, to the Southern planters, because the latter are totally committed to raising cotton and sugar. Twice a week, Tuesdays [324] and Fridays early, at ten o'clock, a steamship goes from Montgomery to Mobile, and then back; the voyage down lasts 36 hours, but upriver three days. If you compare earlier travel by ship, when a sailing ship needed six weeks to go from Montgomery to Mobile, the difference in time appears all the more important.

Here we made the acquaintance of one of the most outstanding, talented men of the state of Alabama, Judge Bibb.[68] He had earlier been a farmer, but along the way, together with agriculture, he had made himself so acquainted with the laws of the land that he was asked by many Americans his opinion in significant legal disputes, and since these opinions always betrayed great knowledge of the facts and understanding, he was regarded not only by the people but also by the state by being named a judge. His brother had done as great a service to the state of Alabama as Judge Bibb, who has held the office of Governor for years.[69] After the Revolution America consisted only of thirteen states and several territories; such a territory could only be taken into the Union as a state when the population had reached 50,000 souls. The President has the right to name a person as Governor for each territory, while only a state could elect a Governor by a majority vote of the people. [325] So Mr. Bibb was named as Governor by President Jackson when Alabama was still a territory, and since he knew how to win with his ability and zeal the love of the people, when Alabama joined the other states in the Union, this election was renewed by the inhabitants.

During our presence in Montgomery, we observed a slave auction that a planter held due to debts. In one of the liveliest streets in town, in front of City Hall, there was a table on which the auctioneer stood, who presents several individuals to the public one by one, with great fluidity, and offered them for sale. In doing so he always gave the precise age, health, and talent of the slave, while the slave had to present himself to the people on all sides. So in our presence an old Negro and a Negro woman were auctioned off for a rather high price. For a young Negro of 18, a coachman, $1,120 was paid. After the auction of persons was finished, many used

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[68] Frederick Trautmann, *The Alabama Review*, vol. 36 (1983) p. 133, describes Benajah Smith Bibb (1796-1884) as a planter who was elected judge of county court in 1825, served later as state senator and judge.

[69] William Wyatt Bibb (1780-1820) was educated as a physician, served in Congress in both houses for Georgia, but moved to Alabama and was governor of the territory 1817-19, and then governor of the state 1819-20, succeeded by his son Thomas Bibb, who served until 1821.

household goods appeared, which the auctioneer knew how to present with the same eloquence to the bargain-hunters present. I was astounded at the indifference of the Americans, as well as of the slaves, and if I had just arrived from the Continent, my feelings would have been deeply offended. But I had been in the slaveholding states for a while, and my views on slavery in the United States, of which so much has been spoken and to which many writers have done so much to contribute to a false opinion, had changed essentially in the meantime.

Even if it is true on the one hand that slavery is a mark of shame clinging to Union, and that it has no has no place in the Constitution of this free land, with the moral and spiritual progress of its inhabitants, on the other hand everyone who is acquainted with the relationships of the Southern states must also confess that this is an inherited, necessary evil whose elimination would bring about the total ruin of precisely these states. I have already mentioned that the climate and the temperature in the South does not allow the working of the soil by whites in the hot summer months, precisely when the cultivation of cotton — this greatest staple crop of North America — takes place, so that whites must flee to the North, precisely when the Negroes can pursue their labors in full health. Some might object that the same work could be done as well by free Negroes, so that slavery is not a [327] necessary condition for the existence or flourishing of the Southern states. The response to this is first, that slaves are an inherited property and comprise the greater part of the wealth of its owners. The total number of slaves in the United States might currently amount to 2.800,000; if you figure an average of $500 per head, their total value is $1,400,000,000. Who could compensate the inhabitants of the South for the loss of this enormous sum? — Second, the Negroes stand far below the level of human development that could be expected of them to function as a free people to which they are now held through the strictest discipline and moral force of their owners. With the inborn hostility of the blacks against the whites it is to be feared that particularly there, where the former are the majority of the population, the latter are in continual peril of losing their property, even their lives, in which the horror scenes of St. Domingo could be repeated far too often.

So far as the slaves themselves go, the concepts that we have of their situation and their relationship to the owners is completely wrong. There could be perhaps, as is the case everywhere, some examples of spreading false rumors, but these are in general very rare. I [328] have had some occasion to convince myself on plantations the good position the slave has to his owner. His necessities of life are properly cared for, he has his pay, his food, and his clothing, and many of our peasants are in far greater need, are abandoned to greater poverty, than is the case with slaves. So far as that correctly-praised good of freedom goes, which offers itself as a substitute for everything, in order to evaluate this requires intellectual force and moral education that is totally missed with Negroes, and the latter of which they are not able to achieve with instruction applied with all possible effort, since they are a human race that remains behind the whites in intellectual terms. In all of nature, in the realms of minerals, plants, and animals, we find a certain gradation, and this is found as well with people. I recall that when I went out alone for the first time in Petersburg, I was utterly shocked by the apelike physiognomies that I encountered here on the street. Most Negroes are held in a regulated life and to work in discipline

and order by the moral force of their master. If they become free, they fall into their previous situation of rawness, or they are very unhappy. In Kentucky a Negro who had become free returned to his master [329] and demanded that he take him back into his service, remarking that he had never been so happy in his life than during the period of service of his master. Such cases are not at all rare here.

The fact that slavery will eventually be eliminated in Virginia and Maryland is because the population is rising and the cultivation of tobacco can be done very well by whites. Slavery will be abolished similarly in other states except in those whose climate makes it impossible for whites to work in the open air, and these states would separate from the Union rather than give up their rights to own slaves.

On 7 May, blessed by splendid weather, we made a little excursion to Wetumpka, thirteen miles away from Montgomery. This little town lies very romantically on both sides of the Coosa River, hence falling into East and West Wetumpka, with both parts joined by a high lattice bridge.[70] When the town was planned six years ago, many Indians still lived in the area, and the first walled houses were only built after their removal. Since important rapids start at Wetumpka that extend over fifty miles to Fort Williams and shipping is quite impossible, [330] they are involved in building a railroad so as to have a link to the land. Even with a flatboat it is very dangerous to pass the rapids, and it is utterly impossible upstream.

As we strolled on the bank of the Coosa River, it caused me much pleasure to see a peculiar variety of fishing. Specifically, a small dam had been built in the Coosa River, on top of which wooden lattices were laid at one- or two-inch distance next to each other; the fish who swam in the river and came to the dam sought to pass through with all their might, which naturally was impossible. Fisher boys, who appeared engrossed in reading on the bank, had nothing to do than to put their hands in the water and grab and take the fish out. In this manner a large number of fish were caught in a few hours. The fact that a fisher could apply himself so zealously to reading had awakened my complete attention, and as I approached the young man I was quite amazed to find in his hands the *Life and Political Opinions of Mr. Van Buren*.[71] We enjoyed some time there before returning to Montgomery, as we long thought of the politicizing fisher.

[331] We wanted to leave Montgomery on 8 May in order to continue our travel with the steamboat *Farmer* to Mobile, but we had to wait for an extra day against our will, because the captain delayed his departure because he did not have enough passengers. In the greatest heat of the sun, accompanied by a Negro who carried our baggage, we had gone to the steamboat at the prescribed hour of 4 o'clock in the afternoon, where we had to endure another delay of departure until evening, because travelers from the later-arriving post coach were expected. The monotonous bank of the Alabama River offer the eye little variation, but despite that it has no less charm, for the flowers and bushes have grown so close to the edge of the water that there is hardly any footpath, and it gives the river, which makes its way with many twists through the forest, a very romantic appearance. We have never traveled any river with so many sandbanks as the Alabama; this was also the reason

[70] Chevalier, *Histoire et description*, vol. 2, pp. 576-79.
[71] Trautmann, p. 136, says that this book was by William M. Holland and was published in Hartford in 1835.

why we had to delay our departure until the start of the day, so that instead of reaching Selma at 8 o'clock we arrived at 1 o'clock in the afternoon.

Selma is a small, unimportant town of only 800 inhabitants, where we decided to remain [332] for a day because my dear husband wanted to see a railroad under construction here that would join the Tennessee River with Selma on the Alabama River. Since the construction of this railroad had to be suspended because of a lack of capital, and only an unimportant stretch had been completed, my husband's business was unfinished, and we wanted to continue our journey to Mobile the next evening, but we had to extend our stay by another day beause no steamboat came from Montgomery.

We had our room in a small wooden house that, as so often in the South, was built without a foundation, on four wooden posts, and the hotel was located next to it, also built only of wood. I have already mentioned that many families in Southern areas had a slave standing by the table who would chase away the flies with a bundle of feathers, creating some cooling. But here I saw an operation to moderate the pressing heat that betrays some inventive spirit. Specifically, in the guest room on the ceiling there were several small wooden frames in which cloth or paper was stretched. In each of these frames was a small opening through which a string ran whose end was held by the hand of a little Negro, who with great ability pulled the string back and forth, causing the continual movement of these frames. It cannot be described how great [333] the influence of such a machine is in this pressing heat, for through this the entire room was brought to a cooler temperature. I have heard that this operation is found in many Southern houses.

What compensated for the lack of comfort in our hotel was the good nature of the Negroes, for whom our arrival was a great event in that few foreigners lingered in Selma; they stared at us with their big eyes and obeyed the gentlest wink. A small slave who saw how much we desired the imminent arrival of a steamboat assured me that he would report quickly and in advance of its arrival, because his nose would indicate the approach of a steamboat from a good distance away. I was astounded by this well-meaning message, and in fact you would not believe what fine smelling-nerves with which blacks are endowed, as great as the flexibility of their arms and legs. In Charleston, when I looked out the window into the courtyard at dusk, a little slave who held the big fly-brush in his hand at table could climb over a rather high door that led from our porch to a stairway. Also the musical talent is marvelously great with many, for with their correct sense of the beat of their high [334] voices they sing and whistle the most various melodies.

After we waited a full day on 11 May for the steamboat, it finally landed on the second morning immediately after we had taken breakfast. A mass of Negroes suddenly stormed into the room to bring us this happy message and to go with us on board, and each taking a piece of baggage, we proceeded at the head of a column of Negroes, to the steamboat *Factor*. This boat is one of the smaller ones in America, but larger and better equipped than that which brought us from Montgomery to Selma; it currently carried a cotton cargo of 128 bales, which was only loaded on the voyage, as well as an important quantity of Indian corn.

According to information of the engineer, Mr. H. Hadlock, the ship was built in New Albany and cost with beds and all equipment $16,550, including the steam

engine made in Cincinnati for $6,000. The length of the ship is 140 feet, the width 21 $^{1}/_{2}$ feet, and the depth from the bottom to the deck 6 feet, whose hollow space is for the cargo. Without a cargo the *Factor* lies 3 feet deep in the water, and although its tonnage is only 186, they often [335] load it with 1,100 bales of cotton, with the bales at 450 pounds each, or 250 tons. The speed of the ship is 6 to 7 miles an hour going upriver, and 8 to 9 going downriver. It needs 14 cords of wood in 24 hours, which is loaded from time to time, and a cord contains 128 cubic feet. On the whole, besides the 48 berths for passengers, there were also the beds and a room for the captain and the servants. As usual, the ladies had the front part of the ship; on both sides of their parlor were the state-rooms. One entry-door leads into the dining room, in which the state-rooms for the men were, and the other leads to a gallery of the ship, over which a tent was spread, where we sat very pleasantly in the warm weather.

The banks of the Alabama River from Selma to Mobile remained the same as from Montgomery; they were generally thickly overgrown with trees and bushes, and only occasionally the eye caught a cotton-field through them. The power of the water over time had scoured the earth from underneath the trees standing on the bank, tipping them into the river, forming what are called snags, which can be so dangerous to shippers. As we went further down the river, we saw the steamboat *Pittsburg*, which wrecked here a while ago, [336] and the Americans had not even had taken the time or effort to retrieve the steam engine, from which they could easily have used some parts for other machines. One of the gentlemen brought us some splendid mulberries that grew here wild on the river in the middle of May. In the same way, I enjoyed the fine magnolias that bloom wonderfully, three to four inches across. Without particular events our voyage from Selma to Mobile went forward, in which city we successfully arrived on 14 May. From Montgomery to Mobile, other than the delay of our departure from the first city and our stop in Selma, we made a journey of 450 English miles in 48 hours.

Mobile is the most important city of Alabama, lying at the mouth of the Alabama River on the Gulf of Mexico. The primary business of this city is trade in cotton, which is planted largely in the surrounding area and sent from here far and wide. In the same degree as the population increased, the culture of cotton has expanded. In 1818 the number of inhabitants was only 3,000 souls, and export amounted to 7,500 bales of cotton at 25¢ to 30¢ a pound. [337] After the short period of twenty years, in 1838, the population was 15,000 souls and the export of cotton 284,000 bales; a further 80,000 bales came from the northern part of Alabama down the Mississippi to New Orleans. The total annual export of cotton from the state of Alabama was hence 364,000 bales, averaging 450 pounds in weight; the price was 16¢ to 18¢ a pound, so that the total export was about $28,000,000.

Since we did not have much to see in the city of Mobile and the heat had become continually more oppressive, we decided to spend only one day there and depart immediately after for New Orleans. I only wanted to see the suburbs, whose beauty had been very much praised to me, and if possible to visit in one of them, Summerville, the Convent of the Sisters of Visitation, to which a nun of the same order in Baltimore had given me a letter to her own sister. On 14 May was an utterly splendid spring evening, and since my husband had gone on the Mobile &

Cedarpoint Railroad,[72] I went in the company of Mrs. Fowler, a very lovable lady whose acquaintance I had made in New York, through the pleasant garden area, past many nice summer homes, to the convent. The road on which we [338] traveled there was one of the best in America, and the reason for this was that in the state of Alabama, every resident over 16 and under 60 had to work on the roads for a few days, annually a maximum of ten days.

Arriving in the convent, the nuns received us as usual in the parlor, in which we were separated from them by bars. One of the younger ones, to whom the letter was addressed, appeared particularly pleased to receive news from her sister, and she pressed us to apply with the priest living nearby to send a little note, and that he would surely give it with pleasure, so that we could enter the convent and be able to see their locality and the garden. Earlier the nuns had a specific day in which everyone had access to them, but the Americans had made use of this permission with too great a freedom, so this permission was no longer tolerated. Every person who desired to visit the convent had to have a note from the bishop, or in his absence a few lines the priest acting on his behalf. It was more the wish to spend a little time in the open air than to see the convent that moved us to go to the chaplain, whom we saw from afar, working with a large spade. [339] We encountered his housekeeper in his house, and she had us go to a lower room, but then passed through the room on her toes and entirely quietly took down a cloak from a nail on the door, and carried it into the garden with broad steps. At last the short, fat priest appeared, and after receiving the desired note we rushed to the convent, whose gates and locks were opened instantaneously as we appeared.

Eleven nuns were in the institution, all dedicated to the education of youth; they presently had 19 girls, all living in the convent, receiving their food there, and being educated in all the sciences and the beautiful arts. Every Sunday evening, in the winter from 3 to 5 o'clock, and in the summer from 3:30 to 5:30 o'clock, their parents and friends may visit the girls in the institution. All other visits are banned outside these hours, and only the parents of students who live some distance from Mobile and Summerville are exempted. On the first Wednesday of every month the girls in the company of parents may receive visits from acquaintances, but may, without special permission from the Mother Superior, be outside the institution until 5 and in the summer until 5:30. Every year there are two examinations, after [340] which in each case the girls receive a vacation for a time. The price of residence, food, and instruction, English and French language, as well as the use of geographic maps, portfolios, etc., amounts annually to

	$200
Further for vocal and instrumental music	100
For use of instruments	12
Painting, drawing	48
Laundry	48
Total	$408

[72] Mobile & Cedar Point Railroad, see *Early American Railroads*, 735-36.

Books, and in the case of illness the physician's bill, are to be paid separately. All costs are to be paid twice a year in advance, and each girl must bring, along with a complete bed, six tablecloths, silver utensils, as well as a silver beaker, with her into the institution.

After we had seen the chapel and all the localities belonging to the convent, the sisters led us to the garden, that is so large that two gardeners are occupied maintaining it, and which appears to provide the sisters with much pleasure. The nuns owned many pets, and since we showed such enjoyment in their garden, we had to visit the henhouse. On my entrance I had trouble not laughing when I saw the lightness with which the black-clothed [341] nuns moved around collecting all the hens. A young brood for which the sisters have a special affection was called the "George Washington chickens," because they had seen the light of day on the birthday of this celebrated American. We promenaded long in the lovely garden, until the dimming of the light warned us to make our return. The sisters accompanied us to the portal, and I had to promise that if my way ever led me back to Mobile, that I would not forget the Sisters of Visitation. We now returned to Mobile, and I got down at Mrs. Fowler's house, where my good husband had also come, and we passed the evening in the company of this family.

The next morning, on 15 May, 12 o'clock midday, we departed our hotel, Mansion House, and went aboard the imposing steamboat *Merchant*, to travel with it to New Orleans. The press of people on this steamship was very great, because many families that were traveling to New York to avoid epidemic diseases would travel several miles to the place where the great packet ship *Floridian*, which they were to take, lay at anchor in the bay. I stood long on the deck and watched the travelers, [342] who with children and servants, a large supply of food, even with some rocking chairs, mounted the great packet ship, and I made my own thoughts of how much troublesome travel so many Southern families had to undertake every year, so as not to be taken away by the Yellow Fever. The American women do take it much more lightly than the Germans, since they simply travel more around the country without finding it a problem.

The equipment and the way of life on the *Merchant* was exactly like that on all larger steamships, and I avoid making a detailed description of it. After a voyage of 22 hours across a part of the Gulf of Mexico, in which we made 200 miles, we landed on the second morning on Lake Pontchartrain, from which we traveled the remaining 4 $^1/_2$ miles to New Orleans on the Pontchartrain Railroad.[73] This is one of the oldest in the United States in that it is open since 1831, but also, despite its insignificant length, one of the most remarkable. It extends across a swamp that had been previously held to be impenetrable, and when the chief founder of the enterprise, Mr. Hoffmann with some other gentlemen, before construction, wished to survey the area from the Lake to New Orleans, they could only go half [343] a mile when a mass of snakes arose and wound themselves around the legs of the uninvited guests. Despite all difficulties, the enterprise was accomplished, and its results exceeded all expectations. Through early 1839 more than 1 $^1/_2$ million travelers have taken the railroad, and the income climbs with every year. The building costs of the line itself with a double track and buildings ran to $380,000, and besides for the

[73] *Early American Railroads*, 747-50.

building of a harbor on Lake Pontchartrain $230,000 was raised. It has been told to us that on 24 May 1839, during our time in New Orleans, that a five-foot-long alligator ran across the railroad track at the moment when a train came. Some Negroes beat the animal dead; the engineer stopped the train, but it was already at full speed and advanced forward until it was halted by the hard body of the animal.

XIII

The state of Louisiana, of which New Orleans is the chief city, is a part of the expansive land of the same name that was sold by France in 1803 to the United States for the amount of $15,000,000. The city of New Orleans is cannot be called beautiful, but in comparison with other American cities it has an entirely unique character. Most of the streets are narrow, and the widest, Canal Street, divides the city into French and American portions. On both sides of the streets there are sidewalks of brick, and the central passage is not paved, which in rainy weather causes great filth. The population consists of 25,000 Frenchmen, who mostly live in families, since they were the earlier settlers in the land, 20,000 Americans, of which a great part are bachelors who have come there due to [345] business, then 30,000 slaves, making a total of 75,000 inhabitants who constitute the *continual* population. In the winter 10 to 15,000 outsiders, mostly from the Western states, come here for business. In summer and autumn, in contrast, at least as many inhabitants who belong to the continual population go to the land. The position of the city, due to the exhalations of the Mississippi and the many swamps surrounding it, very unhealthy, and the Europeans and residents of Northern states are particularly subject to the Yellow Fever, which breaks out annually in the hot summer months.

The first house in New Orleans was built in 1717; the plan of the city was only made in 1729. During the 46 years in which the French were in possession of Louisiana, the population rose to a little more than 3,000 souls; but it doubled in the 37 years in which it belonged to the Spanish. When the United States purchased Louisiana in 1803, the population was between 8 and 10,000 souls. If the population has now increased almost ten-fold in a period of 36 years, its trade has increased a hundred-fold, and New Orleans is now the second trading city of the New World.

We took our room in the French District [346] in the French Exchange or the St. Louis Hotel, a very elegant building in which the French *bourse* is also located. In this entire long journey I have never found such luxury in any hotel as what rules here. The casino, the dancing hall, the ladies' visiting room, the 300 guest rooms, all of these apartments were created with as much taste and expense as you would find with the richest private person. Unfortunately this splendid establishment, whose construction cost $920,000, was, as I later learned, destroyed by flames on 18 February 1839. Only in the last years have several very good hotels arisen in New Orleans. Many visitors who earlier passed the winter in this city often took board and lodging on the steamboats, because hotels then were in such a poor state; from there they would attend the balls, theater, etc., and then returned to the steamship.

At the midday table in the Exchange Hotel I saw America Vespucci for the first time, whose appearance has attracted so much attention in the United States and provides so much material for entertainment. This lady, coming from France,

demanded that the Congress bestow on her, out of consideration of her descent, a [347] piece of land where she could live undisturbed in a free country, since they have persecuted her in Europe because of her feeling for freedom. The Constitution of the United States does not permit Congress to approve Madame Vespucci's request, so members of Congress created a subscription so that she could buy some land from the sum received and settle on it as she wished. But later Madame Vespucci declined the amount collected from the subscriptions, and during my visit to Philadelphia I read in the newspaper a letter written by her in which she thanked and bade farewell to the Americans for their interest on her behalf and announced her imminent departure for Europe.

As I already mentioned, the French and Americans live separated into two parts of the city, and a Frenchman cannot be arrested in the American part, nor an American in the French part. Many of the French families lead a speculative life all their own. They rent at the most an apartment with a courtyard and buy some black people; these must provide them with their necessary services, and the female slaves also must earn money by laundering, of which they pay a specific part to their owner every month. The male slaves, in contrast, go into [348] the stores and perform their services there, where they usually earn $25 to $30 a month, from which sum they pass about $15 to their owners.

We made an excursion in the company of Mr. Hoffmann, his sister Mrs. Bear, and their two daughters, on the New Orleans & Nashville Railroad on 21 May.[74] This railroad, running to the Tennessee River through four states, Louisiana, Alabama, Mississippi, and Tennessee, will have a length of 434 miles and has as its main purpose to allow the residents of New Orleans to flee north into healthier regions on the outbreak of fever. The railroad reaches such a region as close as 65 miles from New Orleans, and they conceived the plan to establish a city there in the fir woodland with the name of "Uncle Sam." The construction of the railroad began in 1836, and at the time of our visit to New Orleans twenty miles had been completed and were in operation. This portion we traveled passes over a swamp that near to New Orleans is entirely bottomless; the entire line swims on the same level with it, and when the railroad passes over it, the surface sinks significantly. We came to a prairie that is 16 miles long and three miles wide. On our approach we surprised a mass of prairie hens, [349] which flew in all directions, and we saw a small alligator not far from the railroad. At its end we found a huge wagon 42 feet long, 8 feet wide, and as many feet high, in which there was room for sixty men. As the construction advanced, the wagon is pushed ever further by the locomotive, by which means the construction very slowly moves ahead, which of course is in harmony with the monetary means of the company. This wagon provides housing for the Negroes building the railroad, and food as well as building material is brought to them by the locomotive. When we returned to New Orleans, six miles before the city we traveled on a branch to Lake Pontchartrain, where the baths are found that are heavily used by the residents of the city. We passed the evening with Mr. Hoffmann's family, and we only returned very late to our hotel, where the night somewhat quickened us after the fearful heat.

[74] *Early American Railroads*, 750-53.

On a splendid evening we went with Mr. Hewes, president of the Commercial Bank, and his family to the waterworks. These were not built in the grandiose style of those at Fairmount in Philadelphia, or the Croton Aqueduct in New York, but for that reason no less interesting. In the lower part of the city there is a large [350] reservoir in which the water is raised 25 feet above the Mississippi and from there through pipes into the city. The construction of the waterworks was made the obligation of the Commercial Bank in the privilege of the company. Mr. Friedrich Gräff in Philadelphia made the plan of the waterworks, and Mr. Albert Stein carried it out. But since the construction was not solid, the company launched a suit against the builder, and the case was decided against the latter. The works were begun $4^1/_2$ years ago, but it has only been in operation for $2^1/_2$ years; together with laying 23 miles of pipes it cost $900,000, and so far only a fourth of the city is supplied with water. In the middle of the great reservoir there is a small pavillion in which you can cross over small bridges on all four sides. Here you sway balanced in a fairy temple in the air above the water, and from there you have a very beautiful view of the city and the mighty Mississippi stream. The comfortable, rather moderated temperature on the water is very stimulating there, for on 24 May, when we visited the waterworks, the temperature in the shade was 98° Fahrenheit = $29\ ^1/_3$° Réaumur. You may gain from this an idea of how we must have suffered from the heat. There was no evening when we did not resort to ice and [351] soda-water just to be able to sleep.

A particularly dreadful plague in New Orleans is the mosquitoes (a variety of gnat) that are intolerable in the morning and the evening. As a result you find around all beds mosquito-bars or curtains of muslin, hanging down enclosing the whole bed and rolled down at night. Woe to him who sleeps on an open bed! In the morning he finds his face covered with bites and swollen so that he can hardly be recognized. Many travelers in the South even take such mosquito-bars with them; they are also found on all steamboats as well as in all hotels in the South.

The heat, becoming more pressing with every passing day, causes many families to take their customary visits to the springs of Virginia or the Northern states, to avoid the diseases common in New Orleans as well as the intense burning of the sun. The unusually hot sun's effect on our arms and legs is no less palpable, and since on 26 May the steamship *Sultana*, portrayed as very fine and secure, was going up the Mississippi and the Ohio to Louisville, we decided to make the voyage all the way to that city. [352] During the entire time of our visit to America we had heard so much of the explosion of steamships on the Mississippi or read in public newspapers, that we were reluctant to consider a journey of 1,460 miles. About 800 steamships travel the Mississippi and the Ohio, and when one wishes to overtake another, the captains of these boats often commit themselves to a great race, in the course of which the steam-power is pressed to the maximum, so that it is not rare for the boiler to explode, the entire machine flying into the air, and the most dreadful results arising from this unforgivable frivolity. For this reason, many travelers who are not under pressure in terms of time, wait for the departure of a boat in which no risks are taken, and the *Sultana* was such a boat.

We went immediately to breakfast and discovered that both in terms of splendor and size it far exceeded all steamboats we had seen in the United States.

This majestic ship, property of the captain and several merchants in Louisville, was built in Cincinnati in 1836, and with two engines and the entire equipment cost $60,000. The length of the ship was 280 and the width 37 feet; the power of the [353] steam engine was estimated at 280 horses. Its tonnage was 450 and loaded it lay seven feet deep. Since this depth was only available between Louisville and the mouth of the Ohio for only seven months, and in the five summer months there are no travelers and goods to transport, the steamboat only operates seven, at the most eight, months of the year. The rest of the time it lies in Portland near Louisville, where the engines are repaired.

Around the very large dining hall, which is on the second deck above the engine, there runs the gentlemen's staterooms; there are large mirrors on all the doors, contributing considerably to the beauty of this saloon. Close by this saloon is located the ladies' parlor, around which are the staterooms of the married couples; the doors there are also provided with mirrors. Opposite the doors of the staterooms leading into the dining hall or the parlor, was a second exit to the broad gallery running around the entire ship, where you may comfortably sit. The most splendid Brussels carpeting is spread in both the saloons, and all the furniture is in mahogany; in the ladies' parlor there also stands a piano. In our stateroom we had two beds, a mirror, a small table and two small chairs. All the mentioned places are reached by a stairway [354] high above the first deck., since the lower ship space is for cargo, the deck for the machines, the wood locker, the kitchen, the servants, rather than for the deck passengers.

Since we only pushed off from land around 11o'clock, I had long desired to view the Father of All Waters, the mighty Mississippi. All the land this raging stream scours from its banks has deposited itself in the Gulf of Mexico, forming a little peninsula that already stretches a hundred miles into the Gulf, and according to official reports has expanded by 2 $^{1}/_{2}$ miles in the last years alone. The speculative Americans have already figured that the American continent has increased in the last nineteen years by 250 square miles. Before our departure General E. P. Gaines, commander of the Western Military District of the United States, came on board the *Sultana* with his young wife to meet my husband. General Gaines is occupying himself extensively with a plan for a railroad system for militarily defending the United States.

When we were hardly a few miles from New Orleans, we encountered a large number of Kentuckians who were bringing a mass of foodstuffs to the Southern emporium on their large flatboats. In the Southern states, [355] and particularly in Louisiana, foodstuffs are very expensive, because the inhabitants occupy themselves first and totally with the planting of cotton and sugar; they receive food primarily from the Western states, particularly from Kentucky, Ohio, and Indiana, about 200 miles up the Mississippi. The Kentuckians have a special boat built to transport these victuals, four-cornered, very large and only lightly nailed together of boards, on which they carry grain, beef, poultry, ham, butter, eggs, etc. Arrived in New Orleans, after the sale of all the foodstuffs the ships, which cannot be brought back upstream, are dismantled and the Kentuckians take the steamboats back to their homes. On the steamboats is a part of the lower shipping space given to them for the cheap price of seven dollars, but with the condition that they feed themselves and lend a helping

hand when wood is loaded, which takes place twice a day. We ourselves had about 60 or 80 of such Kentuckians aboard, who with their size and their powerful physicality stood out from all of the ship's crew.

In the area between New Orleans and Natchez we saw many large sugar plantations, which along with the great number of the houses of the [356] slaves looked very pretty. Most of these sugar plantations were about 500 acres in size. An acre produces on average 1 *orhoft* [=hogshead] of sugar, weighing 1,100 pounds, and the price of a pound is usually 5¢ to 6¢; so the gross value of an acre is $60 a year.

On the evening of 27 May we landed in Natchez, the most important town of the state of Mississippi, of which you can only see a portion from the river, since it is built on an elevation some distance away. On seeing this town I thought of General Hayne, who told us in Charleston that here was to be found the "highest aristocracy," in that several of the richest families were entirely withdrawn into themselves, keeping within their community and only marrying within their number, so for that reason he advised us to stay a while in Natchez. I must admit that at the time I found this story from the mouth of such an outstanding man to be amazing. We had a mass of letters of recommendation to Natchez, but we feared changing our steamship, so we decided to travel further. Also the heat was so great that we rushed as best we could to get out of this Southern region. This last concern also prevented us from going to the island of Cuba, which we had so much wished to visit from New Orleans.

[357] On the next morning, 28 May, we reached the romantically-situated Vicksburg, on the banks of the Mississippi on a severe cliff. This town only lies 2 $^1/_2$° north of New Orleans, and yet a somewhat cooler temperature was already obvious; the thermometer fell to 19° Réaumur, which we regarded as great good fortune. Here the frosty nature of Americans entertained me more than a little: they all appeared with large shawls in the parlor, where the doors and windows were all carefully shut, and in the hearth they had such a great fire built that you were entirely deafened and lost all breath. The Southern ladies, almost all coming from New Orleans, were to be pardoned somewhat in this situation, but the difference in temperature was not so significant to make such measures necessary, and the very ladies who now complained of the cold were in similar discomfort due to the great heat a day before. It lies in the character of the Americans to fall always into extremes. In most of their actions and opinions a spirit of passion speaks, and rarely do they know a middle way.

The riverbank offered no variety from Vicksburg northwards; on both sides of the stream the eye saw only woodland, and close to the banks occasionally [358] the log houses of the woodcutters. Several times when wood was being loaded I stepped onto land with my husband to take a walk in the primeval forest. I also wanted to see the interior of these log houses, of which the description of Mrs. Trollope had made such a terrifying picture. I could not discover that great misery, and rather I found some of these wood-cutters in better situations than I would have believed. Their huts were certainly only thrown together of logs, but in several cases I saw little areas of fruit trees and some fields. I must also add that Mrs. Trollope took her journey on the Mississippi ten years earlier, that the difference with

America of those days is very significant, and the travel of the many steamboats on the Mississippi might have changed the situation of these woodcutters greatly.

One evening we had barely climbed to the bank when we saw several travelers gathered in one place who were cheering while looking at one object. On more closely approaching we saw a young bear who had just been caught in the woods. The animal, which would gladly have recovered its freedom, was held by an American on a rope, and it made such comic roars and jumps that it gave many a reason to laugh.

The Mississippi is a broad, majestic, well-watered stream, in comparison to which the Danube and the Rhine entirely vanish; it is just too bad that its water is so turbid and non-transparent, of which the sole cause is the opening above St. Louis that contributes all the mud. So far as the grandiose scenery on the Mississippi goes, of which I had read so much in the travel narratives, I could not find it at all, for the banks are mostly flat and covered with forest, seldom rising to a significant height. What perhaps had given a certain magic to the mood of travelers was the deep, uninterrupted silence of the terrifying wilderness through which the enormous mass of water moved, where you only caught a momentary glimpse of a half-savage woodcutter, an alligator, etc. This charm of the wilderness has, however, already largely vanished in recent years through the many steamboats competing, particularly on the stretch from New Orleans to Louisville, and of which we encountered hundreds on our journey.

Shipping on the Mississippi is not only dangerous because of explosions of steam engines, but also because of "sawyers" and "planters." [360] The former are trees torn from the banks through the power of water, falling into the river, with their tip always following the course of the water. The shipmen must watch out not to run onto these "sawyers," since they can easily split the ship or cause leakage. The "planters," of which there are not as many as earlier, since the Mississippi has been cleared of many of them by steamboats with their own machinery, are trees that have fastened themselves to the bottom and stand upright in it; they threatened disaster to many ships because their top was covered with water and thus invisible to the shipman.

On 30 May the monotony of our journey was interrupted by an extremely sad event when we saw on the bank a steamboat in ruins, of which half a night earlier (29 May, 11:30) there was an explosion. This was the steamboat *Buckeye* of 200 tons, which had been built in Cincinnati in 1837, had left New Orleans precisely a day before our departure, that is on 25 May. The cause of its explosion, which cost so many lives, lay in negligence, since it had only one machinist on board. He had [361] become unwell and had left the control of the steam engine to one of the passengers, who did not rightly know how to control the engine, and at the time of taking on wood he had allowed the water in the boiler to fall too low, which led to that dreadful misfortune.[75] Besides the crew, there were twelve passengers on board the *Buckeye*; five men were said to have died, specifically the engineer, the fireman, the mate, and two passengers. The first of these had his head torn off by the explosion, and one of the last could not be found at all. Of the remaining individuals,

[75] In Franz Anton Ritter von Gerstner's *Berichte*, pp. 45-46, there is an explanation of how a hot boiler that is emptied of its steam often explodes.

seven were wounded; of these a pilot died on 31 May, and on the following day the death of another was expected. The captain of the *Buckeye*, Mr. Thompson, was lucky to escape with his life; he was thrown forty feet into the air, but he retained enough consciousness to swim to land.

On 31 May we finally came to the mouth of the Ohio in the Mississippi. The Mississippi does not appear to increase in power as a result of uniting with the Ohio, and it retains its earlier width. Although the two rivers unite in one bed, you may distinguish them one from the other for a considerable distance. The Mississippi, the Father of Waters, remains muddy and dark, while the Ohio, *la belle rivière*, as the [362] French call it, runs on clear and friendly. At the joining of the two streams the Americans plan to establish a town, called Cairo, for which shares were sold in Europe. Although the location for the establishment of a mighty trading city isincomparably good, the carrying out of this undertaking is a very difficult matter due to the swampy nature of the land and the frequent flooding it is subject to every year. In anticipation of the future city a railroad of 460 miles has already been planned from here to Galena.

The Ohio River forms the border between what is called the free states and slave states. On the one side of the river there is the slave state of Kentucky, on the other the free states of Illinois, Indiana, and Ohio. Without knowing in advance which were free and which slave states, the traveler can distinguish them at first glance, in that the latter of those stand far behind that of the free states. We passed the mouth of the Wabash River, which is the border between Illinois and Indiana. In Evansville, on the right bank of the Ohio River in the state of Indiana, many emigrants landed who have gone up the Wabash. We stopped here to take on wood, and we saw three steamships lying at anchor, of which speculative [363] Americans took two that were probably in too poor a shape to make further voyages, turned them into hotels in which you could get "board and lodging." In one of them there was a large shoe shop. It is surprising how much steamship travel has contributed to the culture of the land on the Mississippi and Ohio, since twelve years ago, other than the larger cities, there was no village, hardly any cultivation, while now, particularly on the Ohio, many villages and small towns arise, and everywhere plowed land can be seen. Our journey went somewhat faster on the Ohio. The time lost on the Mississippi by taking on wood was saved here in that a flat boat laden with wood would lash up alongside and the wood be unloaded underway, after which the boat was released to proceed back upstream.

We finally reached Portland, our landing place, on 2 June in the evening. It was very entertaining to observe the activities of our American fellow travelers as the time of arrival approached. Soon after the midday meal an unusual liveliness reigned on the ship. Both ladies and gentlemen were involved with packing and dressing, and as we stopped in Portland, they all [364] pressed with such intensity that we had to remain for a long time in our cabin until we dared to depart the boat. The rapids of the Ohio begin about 2 $^{1}/_{2}$ miles below Louisville, making ship traffic to the city entirely impossible. At length they placed a canal of two English miles between Portland and Louisville on which you may travel to Louisville. Since this canal was not large enough for the larger steamships, these must land in Portland, and the travelers go into the city with rented coaches. In three or four years this

inconvenience will be lifted for travelers in the larger steamships as well, since the canal has been very profitable and its expansion is planned. At the end of the canal in Portland is a dry-dock in which the ships can be repaired out of the water, which is of great importance for the many steamboats that go in and out of Louisville.

When we were comforably quartered in the Exchange Hotel at Louisville, we were very pleased to have survived the journey on the Mississippi so well. In a period of seven days and seven hours we had traveled the 1,450 English miles distance from New Orleans to Louisville, and if the explosion of the [365] steamship *Buckeye* had not compelled a stop, we would have arrived in the main city of Kentucky a day earlier.

The place for the establishment of the city of Louisville was chosen here because, as a result of the falls, all communication on the Ohio came to a stop, and the goods that were being transported on the river had to be unloaded here and taken further by land. Further, the terrain of the layout of a city, with the necessary flowing together of many hard-working, skilled people could not have been more advantageously chosen, is palpable. Further, the position of Louisville on the left or south side of the Ohio was particularly good for trade with the Western states and New Orleans, toward which many foodstuffs were being sent, as already remarked. Opposite the city of Louisville, on the right bank of the Ohio in the state of Indiana lies New Albany; this is a very prosperous town with a significant steam engine factory, and also here, as in Cincinnati in the state of Ohio, most of the steamboats for the Ohio and the Mississippi are built, fifty or sixty a year.

Like all of the places along the Ohio, the city of Louisville was often subject to flooding, and since it lies on a small, uneven surface, so there were many standing waters and swamps, [366] whose miasma made the region very unhealthy. This was felt very quickly, and since the city was otherwise so advantageously located, they applied all available means to prevent this sickness, in that all the swamps were carefully filled in and the streets paved. In 1822 the unhealthy climate had completely vanished, and the beneficial effects of this soon became obvious in the rise of trade. It extended itself primarily toward New Orleans, the northeastern states, Europe, the West Indies, and South America. Toward all of these various places cotton, tobacco, flour, feathers, iron, salt, and foodstuffs of all sorts were exported, and in exchange a mass of foreign articles imported. So far as public institutions were concerned, a great deal was done for this. Besides three banks and two savings institutions, also five insurance societies, there is here the Gas-Light Bank, with a significant capital for the gasworks and waterworks, of which the latter was finished in early 1839. Also of public buildings, many have arisen in a short time: the Courthouse, the City Hall, the Medical College, the Marine Hospital, several schoolhouses, four market buildings, sixteen churches.

Manufactures are not yet so expansive, although a good start has been made by citizens in this direction as well, including some machine shops [367] and several steam-mills and sawmills; between fifty and sixty steam engines are at work in factories. According to a printed report the number of inhabitants in the city of Louisville is:

In 1788	30 souls

1800	800
1810	1,357
1820	4,012
1830	10,357
1835	19,967
1838	27,000

currently certainly already 32,000. The wealth of the city, specifically in houses with their furnishings, has been evaluated at $20,000,000, of which 50¢ of $100 in value is paid annually to the state of Kentucky. This amounts to $100,000, and besides payments from hotels, bars, as well as other incomes to $72,000. These sums together make $172,000, or on average each inhabitant pays $6 a year.

For all the steamboats coming from the Northern as well as the Southern states, Louisville is the central point, and often fifty to sixty steamboats lay at anchor. In 1817, when the first steamboat came in 32 days from New Orleans to Louisville, its captain was carried around the city in triumph, and in his honor a great dinner [368] was given because he was the first to make this enormous journey in such a short time in a steamboat. Currently this journey of 1,450 English miles (313 German miles), including stops, is completed in seven to eight days. Before the introduction of steamboat transportation, boats on the Mississippi and the Ohio were dragged by sixty to 80 men, requiring three to four months for the journey.

People in no state in the Union are of such powerful build as in the state of Kentucky, but it is not due to this characteristic alone, but rather their inclination to quarrel and fight that Kentuckians are generally known, which is where their muscular power comes to good use. In no city in the entire state of Kentucky is it as unsafe to go out at night as in Louisville. The inhabitants of the city itself are, as one of them told me, almost always supplied with a knife, which they carry in their coat arm at night. I want to tell just one of the many acts of violence, which are nothing unusual here, which attracted the special attention of all the residents.

Toward Christmas of 1838 Judge Wilkinson came from the state of Mississippi accompanied by two friends to a tailor in Louisville to try out a wedding suit that he had earlier [369] ordered and for which he had given the tailor $100 as a down-payment. Both the judge and his two companions found that the suit was not good, and they accosted the tailor and asked for the $100 back. The latter asserted the opposite, and so arose a conflict in which the judge threw the tailor to the ground, after which he departed with his friends and went to Galt House, where they had taken their residence. The offended tailor immediately enlisted twelve capable Kentuckians, each of them armed with the usual weapon, a knife, and so armed went to the bar room of Galt House. The bar keeper, however, who noted their plan, sent to the judge, who was with his friends above in his room, and advised him not to come down, but the judge, not respecting the courteous warning, armed himself with a loaded pistols and knives and came to the bar room, where not only the tailor and his twelve helpers but many other gentlemen had gathered. The tailor rushed at once to the judge and accosted him in a very rude voice for his conduct, but the judge, even more incensed than his opponent, drew his knife and sliced the tailor right

through his belly, upon which the tailor fell to the ground dead. The riot now became general, and the judge [370] and his friends killed two of the tailor's helpers, and the others fled.

When the people of Louisville learned of the episode, they immediately gathered in front of Galt House and demanded the delivery of Judge Wilkinson to try him at once themselves according to lynch-law. Then came a respected man, an official who was loved by the people, and assured the assembled that the matter would be investigated and the guilty punished, after which the people were satisfied and dispersed. The tailor's relatives then brought a charge for murder against Judge Wilkinson, after which the latter made bail, assuring that he would submit to the court. These events made so little impact on the judge's bride, who married him without delay. The matter came before the court, and because they feared an uprising in Louisville, they held the sessions in another town. The verdict of the judge was that Wilkinson and his two friends were not guilty. This was the verdict concerning the murder, but since the complaint dealt with nothing further, Wilkinson was entirely free and returned to Mississippi.

On 7 June we went on a splendid morning in the company of the engineer Mr. Lutz from Braunschweig to a horse race being held close [371] to the city. There is no situation in which the temperament of the Americans is shown more excited and livelier than when it is about a bet, about an effort of one person to exceed another. For that reason, betting races of all kinds stand out in every way. The explosions of joy are expressed through the most varied articulations and positions. I greatly marveled that order was kept with so many vehicles and horses, since other than the members of the committee, who wore a sash to show their function, no single individual was needed for oversight. The day had been marked for enjoyment, so in the evening we also attended the theater, where two brief pieces were presented, and Celeste, so celebrated in America, presented two dances. The rather modest house was filled with many people, who were thrown into hilarity by a rat that ran occasionally along the railing of the loges. After the end of one act there was some disturbance among the public, and the start of the second was delayed; it pleased us that the curtain went back up and the piece was completed. On the next day we learned that one actor had stabbed another from sheer carelessness during the act, of which situation they spoke calmly, as if it were [372] an everyday event. So little is a human life respected in that land!

Kentucky is one of the states of the Union that has beautiful scenery everywhere. The soil is particularly fruitful and the region particularly hilly, which gives it a romantic touch. During the fine weather with which we were blessed during our visit to Louisville, I was pleased to respond positively to the invitation of Dr. Croghan to spend a day on his charming farm. The latter agrees with its beautiful location, very comfortably equipped, and I saw a fine collection of many pieces of clothing, tools, and weapons of the Indians, along with a great assembly of minerals. In the doctor's house I met his sister, the wife of General Jessup, who spends her summers with her brother because her husband is involved in war with the Indians in Florida. The acquaintance with this lovable, spirited lady was very interesting to me. When we, together with her family, some relatives and friends had dined at midday, I visited all the slaves' homes in the company of the General's wife. At no great

distance from the farm on a slope were all the small huts, built quite symmetrically in a row, each occupied by a family and shadowed by [373] a fruit tree, whose fruit the skaves may make use. Some of these Negroes, who had served the parents of the General's wife, were too old to be able to work, and here they received their food in charity and quietly closed their days. In order not to irritate Negro families, we went into each hut, and their love for and dependence on Mrs. Jesup moved me considerably. How entirely different the picture of life and treatment of the slaves that I saw here from that which my imagination had created in earlier years! After we had seen the entire farm with its pleasant surroundings, dusk descended and warned us to say farewell to the friendly residents. Our return was very pleasant, the evening was heavenly fine; the Queen of Day slowly lowered her proud head behind the mountains and celebrated with her crown of rays the sorrowing earth in departure. An enlivening evening breeze waved over the fields, and millions of fireflies swarmed near the Ohio and enlivened the darkness of the night. Deep in contemplating beautiful nature, we quickly found ourselves brought quickly back to our hotel by our spirited horses, against all expectation.

On the evening of the following day we were asked to another farm near Louisville, to Dr. Hamilton Smith, who took us there himself [374] in his carriage. This property is much smaller than the previous description, and only recently laid out by its present owner. Despite that it is extremely charming and romantic, and lies sideways along the high road behind tall old trees. On the way to this farm we passed a pork house in which 1,000 pigs are killed in a day during the slaughtering time. The area through which we passed reminded us at once of Germany, for I saw at first glance at the fields that they were created by German hands.

XIV

On the morning of 12 June we departed Louisville and traveled with the stage to the little town of Frankfurt, the seat of the government of the state of Kentucky. Although it was rather hot and the wagon was filled with travelers, we had a generally pleasant journey because the region between the two cities is very romantic and the continual change between mountain and valley offered the eye many a beautiful picture.

We reached Frankfurt, only 52 English miles from Louisville, as evening approached; it is a small town of only 2,000 inhabitants, but precisely because it is so small, lying so deep in the mountains, visible from every street, it is altogether attractive. The state prison of Kentucky is also here: it is an unhealthy, ugly building surrounded by a thick wall, in whose cells little air and daylight may enter; the workshops therein are not very large and cannot be compared to those in Auburn or Boston. The state intends to build a new building, and we saw here the prisoners occupied with cutting the stone for it. To me the thought [376] was very sad that these people had to prepare the building materials for their own prison, in which they perhaps would spend the rest of their lives, and I was amazed to hear that many of the prisoners felt entirely satisfied with their way of life in the state prison, and that one of them, who had left the institution briefly, actually declared that he had experienced the best time in his life there. The agent of this establishment is

supposed to have a special talent of speaking with the prisoners, and the conditions that the state of Kentucky provided him with suffices here because, according to him, he only provides the state a third of his gross income, and with the remainder he is able to sustain the entire management of the institution. We only remained a day in Frankfurt, and I made the acquaintance of the lovely daughter of the Governor, Miss Clark, and of Senator Crittenden, who visited me in Weissiger's Inn.

On 14 June we departed romantic Frankfurt and traveled on the railroad to Lexington. This line is only a part of the Lexington & Ohio Railroad,[76] which will extend from the latter town to Louisville and Portland, and is supposed to have a length of 94 $^{1}/_{2}$ miles. The distance from Frankfurt to Lexington by railroad [377] is 28 miles, and for the entire distance you pay $1.25. Since this railroad is one of the oldest in the country (it was begun in 1831), it stands considerably behind the others for its equipment; it is a rather light construction because it is pulled only by horses, and because a good road exists between the two towns, on which the stages charge $1.50 to travel and bring you from hotel to hotel, the stages are preferred by many passengers, and the company cannot expect any profit from its $545,000 until the extension to Louisville is completed. Near Frankfurt the railroad has a steep section 4,000 feet in length with a fall of 240 feet. We made the entire distance from Frankfurt to Lexington on the railroad in 3 hours, 20 minutes, including a stop of 23 minutes. Without knowing it, they commented that the customers on this line must be very few, since the wagons were very old and uncomfortable, and besides us there were only six persons in them.

The city of Lexington is one of the most important in the state of Kentucky. But since it presents no special interest and because my husband's business required so little time, we decided to travel on at once. But it was impossible for me to leave the town before going a few miles from here [378] to visit the Shaker Settlement, since it had been impossible during our visit in Albany for us to see this sect, of which so much has been told. On 16 June we took a rental coach and, provided with a letter to the agent of the Shakers, went to their settlement called Pleasant Hill. — The way led us through friendly Nicholasville, where we had breakfast; from here the surroundings became ever more pleasant, and we went downhill until we reached the Kentucky River, which flows at the foot of a mountain. We crossed the river on a ferry, and on reaching the opposite bank, we saw before us an almost vertical high wall of stone that we had to climb, for it would be too hard for the poor animal. We often stopped and looked back on this wild and romantic area, which was among the most beautiful that I ever saw in the United States. On the highest peak of this stone wall the large, friendly buildings of the Shakers came ever more visible, until finally our wagon stopped at one of them. After our coachman rang several times at the pretty door, a Shaker finally appeared with his broad-rimmed hat, and when my husband asked after Mr. Bryant, the agent of the society, he responded that [379] he was that person. My husband gave him a letter with the remark that we would like to see the settlement; he responded in rather cold words that the Divine Service was already over; on Sunday there was no one with whom to speak, and visits were only received on weekdays. Despite all arguments that we were from Europe and had

[76] *Early American Railroads*, 770-72.

come from Lexington exclusively to see the institution, the Shaker insisted on his statement, and we left with the remark that we would return the next morning.

Where should we go? There was no hotel here; to return to Nicholasville did not appeal, and so we then decided to go to the beautifully-located springs at Harrodsburg and to see the area, which was described to us as very beautiful. We went to the bathhouse, where the host appeared astounded to have guests outside the bathing period, for other than his family and several boarders, there was no one here. We came at the right time for the midday meal, which left nothing to be desired. Close to the bathhouse was the spring, over which a simple roof had been built; here sat some Negroes in their Sunday best, amusing themselves with considerable noise. In the evening we made a long promenade through the splendid forest adjoining, in which we marveled at the lovely trees, up which wild wine grapes wound to their tops.

The next morning as the day barely grayed, we found ourselves already on the way to Pleasant Hill, where this time we were received in a friendlier manner. Mr. Bryant immediately led us from his room to an adjoining chamber and presented me some female Shakers. I cannot describe the impression that these figures made on me, and I had trouble keeping a straight face. The Shaker men as well as the women were all clothed precisely the same; the men wore a frock coat of a cinnamon-brown color, dark trousers, white tie, a very wide-brimmed hat, white stockings and shoes with buckles; the women wore tightly-closing gray dresses, a white coif of a peculiar cut, a white cloth across the breast folded crosswise, and a skirt. I found the men all to appear strong and well-fed, but the women all appeared rather pale and haggard; later I learned that they hold a strong physique to be improper. Since the Shaker women learned that we had not eaten breakfast, they quickly supplied us, which made a lot of fun for me, for everything was done so formally that you could have believed [381] that it was measured with a compass. For breakfast consisted of coffee, cakes, soft-boiled eggs, and then an apple tart. The exaggerated precision surprised me everywhere; the tablecloth was spread on the table so as to have not a fold visible, the silver stood entirely according to the rules of symmetry, and the eggs and cakes were cut symmetrically.

Before I continue with my narrative, I only want to add something about the origin of this sect as well as of their way of life. Currently there are fifteen such settlements in the United States containing about 5,400 souls. Their founder was Anne Lee, who came to America in 1770, winning many followers there through her prophetic spirit and eloquence. Although she was the wife of a blacksmith, she preached the unavoidable necessity of an entirely unmarried status. She also empasized the community of goods and withdrawal from all earthly pleasures. Since the young and the attractive were little drawn by these principles of life, she collected a mass of virgins and bachelors around herself, for whom her doctrine had the most appeal. God honored the Shakers through dancing. In their church the women stand in rows on one side, and on the other in [382] the same order are the men, turning their faces away; then they dance toward one another and in circles, singing the most varied songs and wit their hands stretched in front while continually shaking them, so that they have received the name of “Shakers.” In the Shaker villages there are several large home buildings in which the men and women live

separately; yet their mealtimes are taken together; on one side of the long dining table the women and the men sit opposite.

These Shaker Communities are all very prosperous, they possess very nice lands that they cultivate with the greatest care. They sell their agricultural products as well as some other items that they fabricate themselves and bring to market, and they all make an entirely nice appearance all their own. After taking breakfast they wished us to see their lands, which particularly interested my husband. The Shakers took my husband into their midst, and I followed on the arm of a gentle Shaker woman. The profit that the Shakers receive every year from their lands must be very significant, for how Mr. Bryant described it, they receive in profit on average from an

Acre of wheat	22 to 25 bushels
of rye	22 to 25
Acre of oats	40 bushels
of maize	50 to 60 bushels

I must note here that a bushel = $^{6}/_{10}$ of a Lower-Austrian *Metze*.

Indian corn (maize) is planted four feet apart so that you may plow it in two directions, and this plowing must take place five times during the summer.

The Shakers in Pleasant Hill also have particularly fine cattle that they brought from England to New Orleans. This is Durham Breed or Short Horned Cattle, of which a cow, when first imported to the United States, was bought with $2,000 to $3,000. Such a cow gives five to six gallons of milk a day, many often eight gallons; they weigh 1,600 pounds and provide at least 800 pounds of meat at the age of four, along with tallow, hide, etc. The price of a four-year-old cow is currently $100 to $125; the price of a stier is $600 to $1,200. The Shakers also have pigs from Berkshire and Lancaster in England; a boar costs $200, and we saw here three sows who had thirty piglets; they are fed with Indian corn, buttermilk and oil cake.

On the way home we saw several additional buildings and the hall where the Divine Service is held. Generally they showed the same high grade of [384] cleanliness, in which the Shakers excel. The Shaker woman who accompanied me and to whom I told my pleasure over the entire establishment, had trust in me and told me then that they (the Shakers) found it so bad that so many who visited them laughed at their ecclesiastical celebrations, and that for that reason they had decided not to allow any stranger access to their Divine Service. What this Shaker woman said agreed entirely with what the host in the Bathhouse said, which I had already seen as the cause of our first cold reception. Some weeks before our visit the Shakers had had a revival which received many onlookers from the area. In this revival, the Shakers in their religious enthusiasm believed that the Devil was nearby, and to be freed of him, in their imagination they chased him down into the river, to which with this intention they ran down the very steep mountain with spades, brooms, rakes, and all possible tools. The Americans present are supposed to have broken out into scornful laughter at this sight, so that the Shakers were very offended, and so they had made the decision not to tolerate any strangers at their Divine Services.

Returned to the village, my husband bought some small handworks that the Shakers were selling for a rather [385] high price; so, for example, I gave a half-dollar for a small needle pillow that was simply sewn together. But because these works were made by the female Shakers, I took some of them for conversation, as well as some rather colorful sewing silk that they themselves produced from their cocoons, but which left something to be desired. Mr. Bryant invited us to the midday meal, but we had satisfied our curiosity, and since we were to be back in Lexington in the evening, we bade him our farewell. As a souvenir he gave us a small brochure and a thick book bound in pig's leather, both treatments of Shakerism. I had trouble being convinced of its advantages, for I found in the entire nature of the Shakers so little naturalism and so much egoism that I was heartily glad when we sat again in the wagon and had the Settlement behind us. We ate the midday meal in Nicholasville; here the entire little town was in an uproar because the court was holding session, and in the evening we found ourselves after our excursion, well settled in Brennan's Hotel in Lexington.

The following morning I had the pleasure of seeing Mr. [Henry] Clay, the celebrated Senator from Kentucky, as a guest. My husband had already passed an evening with him before our excursion to Pleasant Hill, [386] and he invited us in a very friendly manner to visit him that afternoon on his farm. We followed the invitation, and I made the acquaintance of Mrs. Clay, who is a very simple, pleasant lady; she has, as she told me, some married sons and several grandchildren. She had lost all her daughters, and she still felt their loss seriously. Mr. Clay's farm is very fine, and the building very fashionable and comfortably furnished. Mrs. Clay has a special preference for the farm, and she oversees its management entirely alone with much technical knowledge. We passed the evening very pleasantly, the conversation dealt with several interesting subjects, but it only seemed to me that Mr. Clay avoided speaking of the politics of his country as much as possible.

We left Lexington on 19 June in the evening and traveled by stage coach to Maysville, in order to reach Cincinnati by a shorter route than we could through Louisville. After our comfortable journey on the Mississippi the travel on the stage was again very uncomfortable, all the more because our host in Lexington told us that only a few weeks ago there had been a great accident on this very road, in which a coachman went too fast around a sharp turn in the road so that the entire wagon overturned, and a passenger was seriously wounded. In the wagon [387] there were only six persons, and since the journey was going well, the entire company fell softly asleep. Suddenly I was awakened by the wagon stopping. It had gone into a ditch due to the lack of care of the coachman, and it was only the exertion of the Negro lying on the top of the wagon that caused it to return to the road. In Paris, of which town I could see nothing in the darkness, two young ladies and a gentleman entered the wagon, and the journey continued without further incident until after a period of eleven hours we entered Maysville the next morning.

Maysville lies on a small level between two high hills climbing closely behind the place; it is a small town of only 250 houses and 2,000 inhabitants. Here we took a very homeopathic breakfast and then traveled on the small steamboat *Hunter* down the river to Cincinnati. The banks of the Ohio are beautiful everywhere, almost always hilly and decorated with many flourishing towns. In the

evening at 5:30 the Queen of the West spread along the right bank of the Ohio, with its opposing communities of Newport and Covington in our sight. In 7 $^{1}/_{2}$ hours we had traveled 65 miles for the cheap price of $2, [388] in which price the midday meal was included.

The city of Cincinnati extends itself from an elevation on the Ohio River and is surrounded by romantic hills. The beauty of its location and the cleanliness of the streets make it one of the most beautiful cities in the Union. On 26 December 1838 the city celebrated its fifty-year jubilee. Specifically, the land for laying out the entire city was bought for $49 on 26 December 1788. The increase of the population is visible in what follows; the number of inhabitants was

In 1800	750 souls
1810	2,320
1819	10,283
1829	24,148
1835	30,000
1839	45,000 souls

In 1826 manufactured goods brought $1,800,000 in a population of 16,230 souls, and in that year 15 steam engines were operating in the city. In 1835, in contrast, there were already 50 steam engines in operation, and there were four or five additionally in Newport and Covington, two places across from Cincinnati in Kentucky, which are to be seen as suburbs of Cincinnati. In the same year more than 100 steam engines and 22 steamships were built. Generally [380] the city of Cincinnati owes its wealth largely to its manufacture of steam engines, for after Pittsburgh these are the most important in the Union, and annually they produce steam engines for 30 to 40 steamships on the Mississippi and Ohio alone.

In 1826 the exports of the city produced $1,000,000, in 1832 $4,000,000 and in 1838 $7,000,000. The Miami Canal, extending from the northern parts of the state into the interior, contributes a great deal to the prosperity of the city. Cincinnati is the center of an important passenger traffic; during most of 1838 84 stages and 64 postal carriages arrived; the number of arriving steamboats during the entire year was 1,276. Cincinnati pursues the most important trade in exporting salt pork. In winter of 1837-1838 132,000 pigs were packed in Cincinnati. Near the city is a small place where they slaughter them, and there are found what are called pork houses, where they are packed. In winter 1838-1839, 191,125 pigs were packed, including 8,000 also packed on the opposite bank of the Ohio in Covington and Newport.

In Cincinnati may be found an office for the [390] measuring of public lands in the Western states of Ohio, Indiana, Michigan, and Wisconsin; that for the states of Illinois, Missouri, and Arkansas is found in St. Louis. Since it would not be without interest to the reader to learn how the measurement and sale of public lands is done in the United States, I will try, as well as I can, to provide a short description of it:

In all new states and territories the lands that belong to the federal government are measured and sold according to a particular system, for which purpose through an act of Congress several offices, each under a Surveyor General,

were established. Under the Surveyor General stand the Deputy Surveyors, or those measurers of the earth that actually do the measuring, and whose compensation is normally $3.00 to $4.00 for the square mile according to the number of measured miles. Each of them requires a technician, a flag-carrier, and a camp keeper. The life of a deputy surveyor is characterized by much concern and strenuous effort, since they often have to spend two to three continual months on the prairies or in the woods, with nothing but a simple portable tent as a roof.

As the foundation for the measurement of lands [391] in the various states certain main meridians are used, all running to the north and south from the mouth of a known river. The current number of these in the Western states is five. For each of these main meridians there is also a baseline accepted that runs from east to west, cutting the meridian at a right angle. Both the meridian and the baseline are extended simply using the magnetic needle. Once a meridian and baseline is established for a particular district, the surveyors' next obligation is to divide the entire land into areas of 6 miles square, called townships. This takes place when they first divide both the meridian and the basis into equal parts of six miles in length, and then extend all the division lines of the meridian parallel to the meridian. They call the series of townships extending from the meridian as ranges, and they are numbered from the main meridian, both to the east and to the west. The townships themselves are numbered for each range from the basis to the north and the south. If you wish to designate a particular piece of land, you say, for example, the piece of land is in township no. 4 north, in range no. 8 east from the third main meridian, and everyone can find it immediately on the map.

[392] The townships are again divided into 36 square miles, called sections; a section contains 640 acres. On measuring the corners of the sections are properly marked. If a section corner lands in a wood, the number of the section, township and range are marked on a tree; in a prairie, in contrast, a small heap of earth is created to mark the corner, and a piece of wood with the required numbers buried under the heap. The numbering of the sections or square miles begins in the northeastern corner of the township and extends west to the range line, from which the numbers continue to the east, and so back and forth, until it reached the number of the 36th section in the southeastern corner, for example:

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36[77]

[393] The sections are further divided into halves and quarters, and the last of these further divided into two halves, which are auctioned at the price of $1.25 and above per acre by the federal government. Now so often as a stretch

[77] The shift of the line from one direction to another is called *boustrophedon*, or "as the ox plows," a pattern used in writing archaic Greek, Etruscan, and Latin.

of land has been properly measured and divided, a proclamation by the President will state the day and place a public auction of these lands will take place; and then all lands will be sold for which $1.25 is bid. Those lands that have not been disposed of in the public auction can then be bought at any time at the minimum price of $1.25 both by natives as by foreigners. Whoever wishes to buy land in the Western states simply goes to the nearest land office and discovers what pieces of land have already been offered and are still available. If he has decided for a stretch that is no smaller than 80 acres, he pays the amount of $1.25 at once and receives a receipt giving him the title to the purchased land, until it is exchanged for a deed signed by the President of the United States. — According to public statements since the introduction of the present system:

[394]

Year	Quantity of Land for sale	Quantity of public land sold	Money paid for it	Average paid per acre
	acres	acres	$	$
1820	8,338.675	303,404	424,962	1.40
1821	10,919,480	781,213	1,169,224	1.50
1822	9,602,480	801,226	1,023,267	1.28
1823	11,414,598	653,319	850,136	1.30
1824	7,294,186	749,323	953,799	1.27
1825	3,419,604	893,461	1,205,068	1.35
1826	2,880,703	848,082	1,128,617	1.33
1827	3,314,816	926,727	1,318,105	1.42
1828	3,268,493	965,600	1,221,357	1.26
1829	6,148,962	1,244,860	1,572,863	1.26
1830	6,750,798	1,929,733	2,433,432	1.26
1831	11,005,561	2,777,856	3,557,023	1.28
1832	4,205,805	2,462,342	3,115,376	1.27
1833	6,614,596	3,856,227	4,972,284	1.29
1834	13,056,596	4,658,218	6,099,981	1.31
1835	13,767,268	12,564,478	15,999,804	1.27
1836	509,034	20,074,870	15,167,833	1.27
9/30/37		4,805,462	6,127,418	1.28
	122,512,375	61,296,401	78,340,549	1.27 4/5

Mr. Charles Whittlesey, residing in Cleveland, who keeps the Geological Survey of the state of Ohio and has lived for a long time in Wisconsin and [395] Iowa, made the following interesting statements:

In the state of Ohio there are still 4,000,000 acres to sell, of which a great deal is very fertile, and in another part stone-coal with iron ore appears. Most already-established farms have 160 acres of land, of which the half is cultivated and half still covered with forest. Such a farm in the interior of the land far from towns normally costs $15.00 per acre, hence $2,400 for all 160 acres including structures and the house. If you plant a quarter of the 80 cultivated acres, or 20 acres, with wheat, one acre produces at least 20 bushels of wheat at 60 pounds, whose price is between $1.00 and $1.50. The gross income from 20 acres is thus at least $400; if you figure half of this to be the costs of cultivation, $200 net remains, or 8% of the price of the entire farm. The profit from cultivation of the remaining 140 acres is thus pure profit.

So far as settlement on new lands in the West goes, there are many prairie lands in Wisconsin, Iowa, and Illinois, for whose clearance you need three pairs of oxen, since one pair cannot plow the heavy soil. In contrast, it costs $8 to $10 to clear an acre of woodland. It is therefore much cheaper to settle in prairie lands; only [396] you must see in selecting the lands that you also get a piece of forest. A piece of land of 80 acres entirely suffices for a family; at $1.25 an acre costs $100, and besides you have to buy a plow, a pair of oxen, a wagon, and other tools, although neighbors help one another out. Mr.

Whittlesey was of the opinion that it was best to settle early in the year, because you receive the first harvest; he believed that $50 is enough for any family living on pork, wheat, and corn to survive from spring to the first harvest. According to this, about $200 would be needed for settlement of a family in the West; there would also be addition the travel costs from Europe to be covered.

In settling you must be very careful to avoid swampy, low-lying lands, because fever and ague (cold fever) dominate there. You will be struck by this fever often two or three times a day, and many remain weak for several years and incapable of working. The farmer normally chooses the place for his house to be rather higher, in the immediate area of trees and a spring. His log house, which he builds with the help of his neighbors, is usually a square of 15 feet inside, with a chimney on the side that is also made of wood and clay. [397] This space is often the sole residence of a large family for several years (!). In the summer cooking is in the open, in winter is the hearth-room. Sometimes the living building consists of two such log houses, which are then bound together with boards, so that the space between is also used. The house is always enclosed in a special fence.

When I went out for the first time in Cincinnati, I became intrigued by a large building of an entirely peculiar style; at once I recalled the bazaar that Mrs. Trollope had built here a few years ago, and my suspicions were confirmed. Fortunately there was a fair going on there, and so we entered to see the interior of this remarkable building more closely. In the lower large hall, as in the chambers upstairs, there were many embroideries and a mass of artistic creations of the fair displayed for purchase, and in the upper rotunda there were many paintings, from which you saw that the Americans have still not gone far in the fine arts. As I heard later, there were occasionally festival balls in the great lower hall of the bazaar, but otherwise it was not used at all.

Image courtesy of the Rare Book Library, Cincinnati University Library.

In Broadway House where we lived once again we saw Madame Vespucci, who had come in the company of a [398] gentleman; she did not remain very long before taking residence in the house of Mr. Longworth, where a large circle always gathered around her, to which she preached on the persecution she suffered in Europe. With much liveliness, she is supposed to have portrayed how she had fought in a revolution that broke out in Italy with the patriots who were fighting for the freedom of her fatherland, until overwhelmed by the supreme power of the Austrians, she had to seek her salvation in flight. Baron Marschall, the Austrian minister in Washington, who was making a journey through the Union, came during our visit in Cincinnati. Madame Vespucci gave an accidental meeting with him an entirely different interpretation, in that she wanted the neutral inhabitants of Cincinnati to believe that she was being observed by the Austrian government, and that the journey of the representative had no other purpose except to persecute her. — In Broadway House we also found Mr. Clay quite unexpectedly, who was on a journey to the northern lakes. Many presumed a political purpose, namely the approaching presidential election.

What has greatly entertained me in our hotel was the special honor with which they handle married couples. Before the usual signal with the bell is given for dinner, a waiter knocks on all the [399] doors leading to the rooms of married people; after these had gone through a special door and had taken the first seats on the upper end of the table near the lady of the house, the bell was sounded and all the single gentlemen , who had long waited by the door, finally all came in. I had to note with a laugh the hard stand the Negro had who held the door; in one hand he held the bell, and with the other, and with his back, he protected the entry.

The Fourth of July, when it is known that the Declaration of Independence of the United States took place, is the greatest holiday of the Americans, and so I was glad to be in a large city particularly on this day. In the morning of the festival all the militia, in which many German regiments were represented, as well as all the guilds in parade, and in all the churches solemn Divine Services were held. In the company of Dr. Drake, we also attended church, not without mortal peril, where a long sermon was preached, and afterwards various celebrating feasts took place. In the afternoon, to the joy of the people, a hot-air balloon went up.

During our presence in Cincinnati there were mechanical presentations, showing the burning of Moscow, the [400] explosion of the steamship *Moselle*, etc. The latter event took place on 25 April 1838 in Cincinnati, and still lives in the sad memory of all inhabitants. The *Moselle* was a new, beautiful, grand steamboat that was built for the journey between Cincinnati and St. Louis, and had already made two or three voyages; since the speed of this boat was generally celebrated, it was the preference of almost all passengers.

On 25 April 1838, on a fine afternoon, the boat lay at anchor in Cincinnati, ready to depart at any minute. The number of travelers was very large; 85 passengers were in the cabins, but the number of deck passengers was much larger, including many German emigrants, consisting of several large families and entirely ignorant of the English language. The number of deck passengers was between 120 and 150 persons. The steamship passed down the river to loud applause to take on some more passengers and goods in Fulton, a suburb of Cincinnati. Just as the boat left the riverbank, there was a terrible explosion that sent the entire front part of the ship into the air. All four boilers blew at the same time, and since the deck was thrown into the air, so were [401] all of those unfortunates who were on it, lost without hope of rescue. They found the remnants of the boiler and several corpses on both banks of the Ohio, and several as far as a quarter-mile from the river. The body of Captain Perrin was found on the riverbank, utterly mutilated, and a man was thrown a hundred paces away on the roof of a house, so great was the force of steam. A few passengers who were on the aft portion of the ship, jumped overboard and 60 to 70 people were found in the river, of which at the most a dozen reached the riverbank. The residents of the city all rushed to bring the unfortunates as much help as possible, and the scenes there were extremely moving. One man found his son saved, but lost his wife and five children; another had on one side a wounded child and on the other a dead daughter. Some children screamed in terror for their parents, the latter for their children, and the scenes of misery had no end. The total of the

passengers on board ws about 280, of which 150 lost their lives. A public meeting was held at once in Cincinnati, and the result was that the total blame for this dreadful misfortune went to the captain, who had made a bet that he would pass another boat which had left the landing earlier, [402] and for that reason had raised the steam too high.

A similar sad event in its results took place on 18 January 1840 with the steamboat *Lexington* traveling from New York to Stonington while we were in Philadelphia. This steamship departed New York at 3 o'clock in the afternoon with about 150 passengers and a large load of cotton on the deck. About 7 o'clock in the evening the cotton near the smokestack began to burn, which soon spread so quickly that extinguishing it was impossible. The captain now attempted to steer the boat toward the shore, but in vain! The steering cable had burned through and the ship was adrift. Soon after this the engine stopped and all the travelers saw themselves as lost. The three boats on the ship, on which most of the passengers could have been saved, had been let down in panic while the ship was still moving rapidly, so that they immediately filled with water and sank.

Only three of the many travelers were saved in a miraculous way. Among them ws Captain Chester Hilliard of Norwick, from whom they learned the closer details of this sad catastrophe. He was fortunate enough to have saved himself with a stoker [403] on one of the cotton bales they had thrown overboard, which he steered with a piece of wood that he had cut. From the bale Captain Hilliard had the unfortunate steamboat continually in view until he saw it sink at three in the morning. At four in the morning a strong wave came and turned the bale over, losing the stick of wood he had used to direct it; the bale could no longer be guided, and soon the poor stoker, whose legs and arms were weakened so much that he could not hold onto the bale, found his death in the waves. Captain Hilliard remained on the bale until 11 o'clock, where he was found by the boat *Merchant*. This boat diligently sought to help those who were lost on the *Lexington*, but other than Captain Hilliard they only found alive Captain Manchester, the pilot of the *Lexington*, and another helper on this steamship.

The tenth of July, the day of our departure from Cincinnati, had finally come, and we traveled with the steamship *William Penn* from there to Pittsburgh. This steamboat was new, built in Wheeling, and had been making regular journeys between Louisville and Pittsburgh since early 1839. It was one of those boats that were currently much favored by the public, and as [404] nice as it was, in comparison with the splendid Mississippi boats it seemed very small and plain to me. The entire ship, including engine and all equipment cost only $17,000. It is 156 feet long and 24 feet wide at the paddles, the depth is 5 $^{1}/_{2}$ feet. There are 56 births on board, but up to a hundred cabin passengers can be taken. From Cincinnati to Pittsburgh, a distance of 450 miles, one person pays $12, but for the same journey downriver only $10. A deck passenger pays $4, but if he helps with loading wood, only $3. In the early year, when water is very high and both large and small steamships travel, the price between Cincinnati and Pittsburgh is often only $8.

In keeping with the captain's message, you travel the entire stretch from Louisville to Pittsburgh, 600 miles, in 4 $^{1}/_{2}$ days up and 3 $^{1}/_{2}$ days back, hence an average of four days up and back. They use 18 cords of wood in 24 hours, hence for

a journey of 1,200 miles 8 X 8 or 144 cords at $2.00 to $2.50 each. — The expenditures for a journey from Louisville to Pittsburgh and back, 1,200 miles, are $1,300 including food. On our journey [405] there were 56 passengers for the entire distance, each paying $12; about 40 passengers for shorter distances, then the deck passengers, as well as a significant load of goods from Louisville to Wheeling, and the gross income for the journey was $2,200, from which the expenditure of $1,300 must be deducted, leaving a clear profit of $900. Since the start of the year when it started to travel, had already paid itself off, with a profit of $17,000; the coming year would be pure profit.

The ship had to interrupt its travel for six to twelve weeks in the summer due to low water, and in the winter from six to eight weeks when the river is frozen; in this period the crew is released, including the captain and the clerk. The steamship runs empty a mere 24 inches deep. From Louisville to Wheeling, where it carried a large cargo of goods, it runs at 33 inches, from Wheeling to Pittsburgh not entirely 30 inches deep.

Blessed by the splendid weather, we had an entirely pleasant journey on the silver Ohio; our steamship passed many charming islands, and on the banks we passed many blooming locations: Petersburg, Aurora, Mechanicsburg, Belmont, Susannah, New Richmond, Columbia, Manchester, Aberdeen, Dover, Portsmouth, Marietta, and [406] many others. Marietta was one of the earliest settlements in Ohio, and it is very beautifully placed on the hilly bank of the river. This town was earlier seen as the most important and growing in the state of Ohio, but it no longer has an intense growth like other American towns, largely due to flooding that often overcomes the town to the top of the ground floor and floats away horses and other cattle.

We now pass Elizabethtown, 15 miles below Wheeling on the Ohio; here is found the most remarkably large Indian mound found in the United States. Its diameter is 500 to 600 feet and its height 75 feet. Although it is very steep, it is still covered with high, old trees. On its top is a level space about 60 feet in diameter, in whose center an oak rises. When the owner of the land sank a shaft from the top of the hill, he found two grottos above one another, in which each had simply a skeleton with muscleshells around the neck and other Indian decorations and coins. When a tunnel was driven, they found that the entire mound was alternatively great amounts of earth and a level of bones, and so over many [407] years it must have been used as a burial place. They also observed that there were no excavations of earth nearby, so that the entire amount of earth was brought in small amounts from the neighboring area. In the region of Elizabethtown there are forty, and near Marietta on the Ohio about 12 Indian mounts. In the Western states, particularly in Ohio and Kentucky, many other traces of Indian monuments are found, particularly many enclosed with earthworks that are seen as fortifications.

We left a significant load behind in Wheeling, and since our ship was to spend some time there, I went ashore with my husband to see the town. Wheeling is the chief town of Ohio County in the state of Virginia, has about 5,000 inhabitants, and carries on a very important trade. The great National Road, reaching from Baltimore to the Mississippi, crosses the Ohio at Wheeling. Here the Baltimore &

Ohio Railroad,[78] that vast undertaking on which there has been work for ten years, has its end. The town is surrounded by high mountains, rich in stone and coal. We quickly visited the interior of a coal works, in which we were surprised to meet German workers, who were very pleased when we told them that we [408] had just come from the Old World. Entirely blinded by the light of day, we came out of the coal works to our ship and completed the last 90 miles to Pittsburgh.

On 14 July we finally reached the Birmingham of America, the city of Pittsburgh. located on a peninsula at the joining of the Monongahela and Alleghany Rivers, which unite to form the Ohio. We had covered the distance of 600 miles in four days and two hours. In Pittsburgh we lodged in the Exchange Hotel, but we decided the next day to continue to Philadelphia on a canal boat. The city has 35,000 residents and is one of the most important manufacturing cities in the United States. There could not have been a more advantageous location for the founding of a city; it dominates a very beautiful vista on mountain and valley, with many charming villas in the village of Birmingham on the opposite bank of the Monongahela and the suburb of Manchester on that of the Alleghany River, which both of the latter places are joined with Pittsburgh through very beautiful bridges.

When the French were in possession of the Western waters, they erected a fortress here, called Fort Duquesne, which for a long time was a depot [409] of French wares for the Indians, an armament place for the Ohio and an important post to tie Canada with Louisiana. Once the English had taken control of this fortress, they named it Fort Pitt, in honor of the famous statesman the Earl of Chatham, and it is from him that the later city received its name. Since this point was seen as the key to the West, dominating the entire Ohio Valley and regulating all its traffic and trade, it became something of great value for those who found themselves in possession of it. The fortress was thus supplied with a significant garrison and was the rendezvous of Indian tribes, traders, soldiers, and adventurers, as well as the theater for many heroic deeds, skirmishes and battles. It was here, also, that General Washington earned his first laurels.

The city of Pittsburgh is also very well located for trade and manufacturing; it is, so to speak, on the frontier of steamship travel in that the Alleghany and the Monongahela may be traveled by steamships only at high water. It is the market for the western part of New York and Virginia and the whole western part of Pennsylvania, because the Ohio opens to them the whole Mississippi Valley. What, however, gives Pittsburg a great advantage for establishing manufactures over [410] every other city of the West are the rich coal-fields and the fine iron mines in its vicinity, which are in great number in western Pennsylvania as well as on the banks of the Ohio. Here are found the greatest iron works where the machinery for most of the steamboats, etc., are built. A continuous cloud of smoke hangs over the city, and the houses all look black-gray and dirty.

Eighteen miles below Pittsburgh is found the settlement of Mr. Rapp, Economy. His first settlement was on the Wabash River in Harmony, which encompassed 4 to 5,000 acres, and where the entire population was used exclusively for agriculture. He sold this to Owen for $200,000 or $300,000. The last-mentioned, after losing much, returned to England, and the entire settlement was partly sold off;

[78] *Early American Railroads*, 640-67.

Owen's son, however, remained in America and is now a member of the legislature in Indiana.

Captain Swagar, who traveled with us up the river, transported the Rapp family in 1824 from Harmony to Economy; in those days only a hundred men and 25 women went with him, in order to make ready the new settlement. All the others followed a year later, in 1825. In Economy there was only 2,000 acres of land, but at the same time [411] several manufactures, since Mr. Rapp thought that the unification of the latter with agriculture was more efficient than the agriculture alone. Old Rapp, now 85 years old, still leads matters, and preaches every Sunday to the entire congregation; his adopted son Frederic died before the year 1836 from drinking too many alcoholic drinks. Mr. Becker, to whom Mr. Rapp gave his full trust, will surely follow him in the whole enterprise. Rapp has published many German books in his own printing operation, and he keeps his colonists so ignorant that they still cannot understand English. To be sure there is a hotel in Economy where you may stay for the night, but every stranger is carefully watched.

In the extensive litigation of Mr. Rapp against his colonists you can see that for him his own advantage was dominant; he wanted to give his colony its own constitution, which was overturned by the state of Ohio. When Mr. Rapp traveled on the steamship to Economy, he had his colonists eat first and let them be satisfied with beer, while he with his niece, Mr. Becker and his adopted son Frederic followed, and on this occasion drank so much wine that he became entirely red. Several colonists soon left him.

In 1834 Count Leo came from [412] Frankfurt am Main to Economy after corresponding with Rapp, praising Rapp's establishment, and he was taken by Rapp as a member and soon as a member of the directing board; later he formed his own party, there were disputes into which the civil authorities intervened, and finally Count Leo departed with 150 men after they had to pay him $150,000 as compensation. The money was scattered, Count Leo vanished, and some people were received back by Rapp, while others scattered across the Union.

XV

On 15 July at 9 o'clock in the evening we finally began our great return to the East, to Philadelphia. For some time the two most important cities of Pennsylvania, at opposite ends of the land, have been bound together by a chain of canals and railroads which is one of the most extensive and most grandiose plans in the world, a worthy companion of the great Erie Canal in the state of New York. I want to provide a short note on this in what follows.

A canal begins in Pittsburg that stretches to the foot of the Alleghany Mountains. It is 40 feet wide at the water's surface, 4 feet deep, and has 66 locks so that a height of 471 feet is climbed. In Johnstown, where this canal ends, begins the Portage Railroad, which is is 36 miles long, and crosses the Alleghany Mountains. From Johnstown it climbs 1,172 feet and falls on the other side to Hollidaysburg 1,399 feet. These enormous heights are achieved by ten inclined planes, of which five are on the eastern side and five on the western part of the mountain. On these steep surfaces the wagons are moved by [414] fixed steam engines, of which two are

on each summit, pulling and letting down. At Hollidaysburg a second canal is joined to railroad, going to Columbia, 172 miles long. The entire fall in this stretch is 670 feet, and the number of locks is 108. Finally, a railroad of 82 miles in length goes to Philadelphia, on which there are also two inclined planes, one at Columbia and the other at Philadelphia. The entire line hence consists in the following four divisions:

From Pittsburgh to Johnstown	104 miles
Johnstown to Hollidaysburg	56
Hollidaysburg to Columbia	172
Columbia to Philadelphia	82
	394 miles

Travelers ordinarily prefer to leave the canal at Harrisburg, 26 miles before Columbia and take the railroad from there to Lancaster, 36 miles away, where the railroad reaches from Columbia to Philadelphia. From Lancaster there are still 70 miles to the latter city, and so on the whole you make 250 miles by canal and 142 miles by railroad, altogether 392 miles.

The lines described above, as well as many other canals besides, stretching in various directions [415] across the land with 432 miles in length, were built at the cost of the state; building this has already cost more than $25,000,000, covered by loans. In 1838 the tolls from all the state canals and railroads was $991,252. In 1839 this was as high as $1,142,633. But at the same time the annual costs of maintaining the canals and railroads was so great that a deficit appeared, which had to be covered by loans.

An omnibus brought us to the canal boats, of which I was very curious, since they have often sketched an entirely terrifying picture of them. We chose the new canal boat line that was recommended to us as the best. Along with us from the Exchange Hotel came Mr. Peers, a cleric from New York; he came from Louisville with his wife and family and had already shared the journey on the *William Penn*. On arriving at the basin, we climbed aboard the canal boat, 80 feet long, 12 feet wide, pulled by three horses. The control over this was held by a conductor, who was never referred to as anything but a captain. The boat had a large apartment that can be divided by a large, heavy curtain into two halves. In the larger [416] division was where eating took place and at night the curtain of the men was fixed. In the smaller was the place for women, but it was taken away in daytime since otherwise there was no place for passengers. Our travel group was fortunately very small; it consisted of an old Quaker with his family, a gentleman and a lady, two individual gentlemen, and ourselves.

We had hardly come on board when they fastened the hanging curtains, so that it became difficult at once, when I glanced at the uncomfortably narrow areas for sleeping. Since I had been the first lady listed in the passenger book, I had precedence and could choose a bed myself, then came the others. On the following morning everything was chaos; very early we were all awakened from sleep, because before breakfast all the beds had to be taken down. Although we had a chambermaid on board, the accommodations left very much to be desired. So as soon as possible I

rushed up to the deck, where staying was certainly not comfortable, but certainly the most pleasing, in that the area through which the canal was passing was extremely charming. Since there were no seats on the deck, I helped myself to our chest that lay there, as well as the umbrella to protect me from the sun. What gave us [417] much to laugh about, but later gave us cause to complain, were the many bridges under which we passed almost every quarter hour. These are so low that we continually had to bow in order not to be suddenly swept into the water by accident. Breakfast was at 7 o'clock in the morning, and as I rushed to go up, on leaving the cabin I caught sight of a normal soup spoon and a large tin washing basin; right next to it hanging on long, thick binding twine was a gigantic comb; all of these were intended for the common use of the men. Between 12 and 1 we ate, and about 6 o'clock we had tea.

As uncomfortable as travel on a canal-boat is, you forget this entirely as a result of the continual change of the most beautiful scenery. The valley of the Kiskiminites is like a splendidly blooming park; we saw some salt works and coal mines, were continually enclosed by a row of hills crowned with trees, and often we traveled for a while through the river. We then traveled over a very beautiful aqueduct setting us across the Conemaugh River and then through a tunnel. In the evening, when we had to pass locks, we often stepped ashore and went a bit ahead of the boat, as we enjoyed nature.

On 17 July in the morning at 7 o'clock we reached [418] Johnstown and left the boat in order to travel on the Portage Railroad across the Alleghany Mountains.[79] Of all the railroads I have ridden in the United States, this seemed to me the most grandiose and clever and claimed my attention the most. I stood with my husband with one of the engineers and several gentlemen in the front of the wagon on a platform, looking with astonishment at the unending height over which we were to be drawn to the peak of the Alleghany Mountains on the five steep inclines, one after another, and thought with a shudder the many human lives that were entrusted to a breakable cable. As they said to me, during the night no traveling on the line was done, and every morning the cables are first precisely examined. We had breakfast at the summit of the Alleghany Mountains, for which I had lost my appetite when I thought of the journey to Hollidaysburg, to which we would be lowered into an even greater depth than our elevation than we had just completed. Soon the bold trip through the air was over, and at 12 o'clock we were at the foot of the Alleghany mountains in Hollidaysburg, and we directly got into a canal-boat to go on with it to Harrisburg. On 19 July at 6 o'clock we reached this city.

Because the railroad traffic would only depart in an hour, we made a short promenade in the town, which had a friendly appearance and has about 5,000 inhabitants. Harrisburg is the seat of the legislature for the state of Pennsylvania. The State House or Capitol is located quite nicely on a height, with a very charming view

[79] *Early American Railroads*, 578-585, "Allegheny Portage Railroad (from Hollidaysburg to Johnstown)"; p. 585: "It would be very desirable to have more exact accounts concerned [sic] the Portage Railroad's operations than have been compiled up to now, since no other railroad would be able to furnish better data about the results of using inclined planes." Michel Chevalier was very interested in the operation of inclined planes, since he argued that they be used on otherwise isolated French communities.

of the Susquehannah and surroundings. From the view I was reminded of the scene that took place here in December, 1838, which attracted so much attention. Specifically, because of conflicts that had taken place during the elections in Philadelphia County, the representatives of both political parties appeared for the sessions of the [legislative] chambers. Two different Speakers were elected, the excitement was very great, and it went so far that the mob took control of the Senate Chamber and drove out the Senators. Trouble continued for several days, and the militia was being called from Philadelphia to Harrisburg by the Governor when the matter was settled quietly.

Scenes of this variety, which often take place in the halls of state legislatures, appear less surprising when you consider the class of people who are elected as representatives of the people. According to official information the House of Representatives in 1840 consisted of:

[420]

Masons	2
Merchants	9
Farmers	44
Lawyers	20
Printers	2
Physicians	8
Milliners	3
Gentlemen	2
Saddlemakers	1
Cabinetmakers	2
Innkeepers	2
Smiths	1
Tanners	1
Coachmakers	1
Carpenters	1
Total	100

It would often be much more amusing to attend the sessions of the councils of some of the smaller, more distant little towns, as is reflected in the following newspaper article which appeared in a northern newspaper, and came to me with the title, "A Scene for Mrs. Trollope," and attracted my attention.

> In Augusta, the seat of the state of Maine, the members of the House of Representatives gathered on the afternoon of 11 March between 3 and 4 o'clock, when the session adjourned in order to eat a cheese that the Governor had received as a gift from Mrs. Thomas Langley. The cheese was cut into quarter-pound pieces and [421] lay for distribution in the Governor's antechamber, to which the representatives, one member after another, called on him and received the aforementioned piece. Mr. Otis (of Hollowell) now sent the assembly a barrel of apple wine, which was brought into the rotunda

of Capitol, where it was immediately tapped into bowls and mugs and distributed among the membership. Several of the gentlemen demanded black bread to go with it, which was brought at once; and all consumed this little snack with much appetite, which put them into a very cheerful mood, in that they also drank to the health of General Harrison. Such a scene is supposed never to have taken place in the halls of the Capitol.

From Harrisburg we continued on the railroad to Lancaster, a very friendly town of 900 residents, mostly of German origins. Here these have also, as I hear, their own German newspaper and schools, and among the churches there are two in which the Divine Service is done in the German language. Since the area between Lancaster and Philadelphia is very hilly and extremely beautiful, we had a very pleasant journey to Philadelphia. We arrived there in the afternoon around 5 o'clock and lodged in Washington House in Chestnut Street, because we did not expect to be there long.

[422] For a long time my husband had decided to visit the sea-baths of Cape May in New Jersey, since he had already used this variety of bath on the advice of physicians in Europe, and it had also been suggested here. In order to waste the best time of year as little as possible, we left Philadelphia again in July and traveled by steamboat to Cape May, a place that is 105 miles from Philadelphia. The colossal boat was filled with a mass of travelers who all were rushing to the bathing place. In the evening at 6 o'clock we reached the landing place, where there already were many wagons standing ready to take the travelers through the burning sands to the hotel. On the Cape, other than huts for pilots, there were only two hotels that always closed immediately at the end of bathing season. In both of these hotels, named Mansion House and Congress Hall, all the travelers were quartered; the hotels were built entirely of wood and provided with large porches to provide some protection against the burning solar rays.

Although one of our acquaintances had informed our host of our arrival, and further we were armed with a letter of recommendation to him, yet we could not find any lodging in his building, which had about 300 rooms, or rather I would say cells, could not find any more accommodation, [423] and he accompanied us to a pilot's hut, in which he had reserved a place for us that we still had to see as a special act of grace. The many discomforts and deprivations that we had suffered cannot be described. The beds, a tiny table and two chairs used up the entire space of the room, and if we sat down to write, we first had to open the door to set half of the other chair on the stairs. Early in the morning we rushed every time to the Mansion House and took breakfast in the company of some hundred persons. After this we returned to our closet and occupied ourselves with reading or writing until I accompanied my husband to the strictly-set bathing hour on the Atlantic Ocean.

Here I often thought how rough the whole arrangement was and how nothing was done for the bathing guests who visited the Cape in such great numbers. The men's dressing room on the edge of the ocean, whose waves reached an indescribable height, was only hammered together of boards, and as my husband told me, without a floor; the guests must stand in the sand. That of the ladies lay rather higher, but was probably also not much better. [424] On the entire Cape, with its

flood of so many people not a single appointed physician, but only a barber. During the bathing season it certainly did happen that among the guests there might be a physician, but outside that chance Mr. Marcy, the barber, had to serve as surgeon and physician. I myself very much felt the need for a physician, for during our time at the Cape alone, after all the other guests had left, as a result of the intense heat and strain, I was seized by a bilious fever and had to trust Mr. Marcy's talents. This fever is not to be compared with that found in Europe, for all the symptoms of this sickness were present in a much higher grade as with us.

Around 3 o'clock the midday meal was taken; the foods were well prepared, but with the great number of people you had to get to work quickly. During the meal a band of Negroes circulated in continual circles around the columns of the building and played not particularly harmonious music. In the evening I then normally made a promenade with my husband on the seashore, where most of the guests were assembled. Here in the sand I saw many turtles, little fish, a mass of animals unknown to me and many splendid muscles and stones that the sea had smoothed; the [425] last are often so beautiful that the bathing guests take them and have rings and tie-needles made of them. Occasionally we also went in the other direction, and my husband took a gun along to shoot at birds. The other bathing guests, in contrast, led an entirely different life than did we. After meals a row of rental carriages already stand ready in front of the hotel to take the whole company for walks. Usually the journey is to Cold Spring, an insignificant spring of sweet water over which a roof has been built, where you may sit down and have a sour lemonade, but along the ocean shore, where the journey was not very pleasant, because the wagon continually remains stuck in the sand. In the evening there was either a ball, a concert, fireworks or another entertainment which always lasts until midnight.

Every morning a notice was posted on which the entertainment for the evening was posted. On looking at this, one day we read that an American would be presenting Yankee sketches as best he could and asked for a large audience. We decided to get tickets and attend. When we expressed our intentions, it amused us a great deal to observe the Americans, who sought in every possible way to persuade us [426] not to take any part in this evening's entertainment, to which no one would come because a great firework was to be exploded at the Congress Hall. Despite this we appeared at the proper time in the hall, where other than us and a few other men there was not a single hotel guest, and Mansion House as a whole was as if dead. I was very sorry for the poor artist, who not only had a very small income, but even a significant loss. It is bewildering that the Americans, who otherwise are such an enlightened nation, cannot tolerate having their peculiarities presented, which naturally may be found in every people. The English simply deal with it differently, and in similar situations, in a presentation of *Fra Diabolo*, for example, can have a good laugh. One entertainment succeeds another, and on all the fearful drives of the Americans you can clearly see that they had all come here for enjoyment, and I am amazed that they could not find a place that would offer more comfort.

After the course of ten days we finally were released from our prison and received a little attic room in the Mansion House, from which we eventually were able to flee more and more. Not just the [427] Europeans, but also the Americans allow themselves to be dominated by fashion, and even to a more extreme degree. So

in 15 August all the bathing guest departed Cape May in the loveliest storm, because it was no longer fashionable to stay any longer, and even the steamboat left the Cape for the last time, because of the lack of travelers the cost of a visit could no longer be covered. My husband, who wanted to continue to use the sea baths, could not decide to depart Cape May so soon, and so we remained entirely alone with the host, who had to linger for a while to clean his building. The deep silence that followed after the departure of all the guests cannot be described. We could hear nothing but the rushing of the sea in our room, and despite the waving mass which ceaselessly echoed from the bluffs, you only saw a pilot here and there. Toward the end of August the visit had become utterly uncomfortable; the sea became ever more violent, and an entire packet ship ran aground during our visit.

We finally left the sad Cape on 31 August by taking a weak little wagon with the host's horses — the only opportunity we could find — along the stony, wandering, public road [428] to Woodbury, from where we took the Camden & Woodbury Railroad[80] the last six miles to Philadelphia, arriving there the next day at 5 o'clock in the evening. Here we again took lodging in Mrs. Allibone's boarding house; alone in this house where earlier there had been so much life and cheer, everything was still and sad; the good old Quaker had died in July and her entire family were still deeply mourning this loss.

No visitor who is in Philadelphia for a time should not neglect visiting the Fairmount Water Works, which is certainly among the loveliest and most grandiose place of this sort. These hydraulic works are on the eastern riverbank of the Schuylkill River two miles from the center of the town and occupy an area of 30 acres, of which the oval-shaped Mount takes up the greater part. On the summit of this mountain, a hundred feet above the river and 56 feet above the highest ground in the city, is found the reservoir, in which the water from the Schuylkill River is pumped up through waterwheels driven by pressure works and from here directed through iron pipes through all the streets of the city. Of the four reservoirs, 12 $^{1}/_{4}$ feet deep, one is divided into three sections for filtering the water; together they contain about 22 million gallons.

[429] Very beautiful, wide foot paths pass around all the reservoirs that are spread around the entire mountain, and from which you may have the finest view of the entire city and the romantic region along the Schuylkill. You may walk up one side on a staircase and on the other on inclined surfaces placed in gentle gradations. On the plateau running from the foot of the mountain to the river, which can only be mastered by difficult springs from one stone to another, stands the machine building, open to everyone, as well as the residence of the overseer, then the pass carved in the rocks from which the water falls both to drive the wheels and for the reservoir. To maintain the drop necessary for the first purpose, an enormous dam of 1,600 feet was built on the Schuylkill that floods the water in the river for several miles. All remaining spaces of this grand operation have been turned into a pleasure garden laid with much taste and decorated with statues, flower beds, spraying fountains, etc. In the grand pavilion you may receive frozen treats and refreshments of every sort, and the Fairmount Waterworks are the favorite walking place of Philadelphia, to which

[80] *Early American Railroads*, 535.

thousands stream on Sunday, for which purpose railroads run there from all parts of the city.

[430] Six enormous pumps are set in motion by the same number of waterwheels and drive the water through iron pipes into the reservoirs. All six pumps can deliver 6,000,000 gallons of water in 24 hours, though 4,000,000 are adequate for the current needs of the city. On average the daily needs of water for the city and suburbs in 1839 is

In January, February and March	2,981,550 gallons
In April, May and June	4,363,191
In July, August and September	4,573,465
In October, November, December	3,995,211
Average through the entire year	3,978,357 gallons

The distribution of water through the entire city takes place through cast iron pipes with a total length of 110 miles (!).

The building of the waterworks began in 1812 and was completed to such a degree that a portion of the population of the city could be supplied with water. The sum that was paid out until 1818 for the building ran to $320,669.84, when it was decided to use water power rather than steam machinery, and at once an additional $350,000 was paid to raise a dam and some other buildings. The entire cost through 1839 amounted to $1,844,000, but until the present the income of the waterworks has already produced $1,500,000.

In the city, a family into whose house water is installed pays $5, and in the suburbs a family pays $7.50 for the same service. Hotels and manufacturers, etc., pay instead an amount that is related to the size of need, and it varies from $10 to $600 per year. The County Prison pays $500, every gas manufacturer $200, the United States Mint $86. Holders of stables pay $1 annually for each horse. For hydrants to wash paving, $2 is paid and for the back buildings $2.50 a year. The annual income of the city for water rents amounts to $220,000, while the daily current plans produce only $7.

About two miles north of Philadelphia is Girard College, whose grand building is a great monument of the city and is a legacy of Stephen Girard. This person was so poor when he came to America that (as it is told) he carried cigars from house to house in a handkerchief for sale; through knowledge and good speculations, and later in banking, which he pursued from 1812 to his death in 1831, he earned enormous wealth, bequeathing the city of Philadelphia alone [432] $6,500,000. Of this, $500,000 was to be used to beautify the city and $2,000,000 for the building and support of a college to educate 300 male orphans. Should this sum not suffice, according to the will of Mr. Girard the necessary amount can be used from the remaining $4,000,000. With such enormous means you certainly could also achieve something grandiose, and Girard College thus became one of the most beautiful architectural works in the United States.

The central building is surrounded by 34 Corinthian columns; these rest on a postament eight feet high that contains many marble steps that run around the

building. Each column has 8 feet in diameter and 55 feet in height. There is an entrance on each end of the building, 16 feet wide and 32 feet high, which leads to a grand entry hall, of which the roof rests on Ionic columns. The stairs are found at each corner of the building and received their light from above; these, as well as the floors are of marble in the entire building, and wood is never used except for the doors. The entire building is warmed by heated air. Of the four neighboring buildings, which stand parallel to the main building, each is 126 feet long, 52 feet wide and [433] three stories high. The one standing to the east is only for the use of the professors and divided into four separate apartments with all the comforts of a private house. The other three buildings are for the rooms of the pupils and their overseers.

Professor Dr. A. D. Bache, who was elected president of Girard College, traveled to Europe to visit all similar institutions, also to buy all necessary instruments, apparatus, and books, and to apply the collected experiences to Girard College; he was supposed to have returned from this journey by October, 1838, because they were hoping to open then at once. In this, however, they had utterly erred, for since the buildings were so grandiose and too expensive, to this point there with a lack of desire of the public still no possibility to open the college. I read in many newspapers the great displeasure being declared that the will of the deceased to establish a useful institution was an utter failure, in that the colonnade alone cost half a million dollars, for which money alone you could build a usable building, and that this grandiose building alone bears the guilt of the late opening of this charitable institution.[81]

[434] During my presence in Philadelphia, I did not neglect visiting the Penitentiary there, which interested me twofold, since I had seen those in Auburn and Boston, and since both the construction and discipline there differs entirely from both of the institutions earlier described. They had retained solitary confinement at the Penitentiary in Philadelphia in which the prisoner was kept alone in his cell. Earlier he was not even provided with work, but since experience showed that some of the criminals lost their minds because of the lack of activity, now they give everyone work to do. The building was built in 1822 by the architect John Haviland and first used in 1829. The costs ran to $772,600; it is built in the Gothic style of gray granite. A wall thirty feet high surrounds the building, which occupies an area of ten acres; at each corner arose a Gothic tower from which you can look down on the entire building. The main façade is 670 feet long, and the central building in the middle of it, which has a length of 200 feet, consists of two massive four-cornered Gothic towers feet high. The main entrance into the State Prison is 27 feet high and 16 feet wide; above this is an eight-cornered tower, also in [435] Gothic style, of eighty-foot height. The dwellings of the overseers and guards are in this central building.

In the center of the large courtyard is the prison, which is built in the form of a star, so that the guards in its center-point, in the rotunda, may see at once all the cells, located in seven corridors and all extending from there. The cells of the prisoners are placed on two levels on top of one another. There is a total of 844 cells,

[81] Despite Clara von Gerstner's doubts, Girard College survives today in keeping with its founding commission.

each 11 feet 9 inches long, 7 feet 6 inches wide, with an iron bedstead with a mattress, two woolen blankets, a table, a chair, lastly a tin drinking vessel so that the prisoner may supply himself with water, which is plumbed into every cell. In the winter the cells are heated by warmed air. Together with each cell, there is combined a small courtyard, 18 feet long and 8 feet wide, in which the prisoner is allowed to be at certain hours of the day. Each entry door in the cells is provided with a small opening through which the guard may observe the prisoner and provide him with food. For breakfast this consists of a breakfast of rye-coffee and bread; for the midday meal there is soup, $^{3}/_{4}$ pound of meat and buckwheat pudding, and finally for supper soup and molasses, of which they may have [436] all they want. As with most public institutions, all food is cooked with steam. In order to bring the food more easily to the various cells in the upper floor, they installed a railroad between the two galleries that faces the cell doors. Food is placed on a small wagon, and this is pushed on the railroad through the whole distance. When a convict comes to the State Prison, he is first clothed and then taken to his cell while blindfolded, where he is then provided with his work and his Bible and remains there for the entire length of his sentence.

According to a printed report, there were 385 convicts in the institution on 7 January 1837; in the course of the year 161 men were newly received and 159 released. Then on 1 January 1838 the number of convicts was 367. Of these they were

224 whites	male sex
5 whites	female sex
144 blacks	male sex
14 blacks	female sex
387	

On 1 July 1829, the day the institution began, until 1 January 1838, the number of the received convicts was 858. Of these 381 passed their entire time in the prison, 39 were pardoned and 51 died. During the entire time of 7 $^{1}/_{2}$ years 41 of the released were [437] condemned for a second time. In relation to the population, the number of black prisoners was much greater than those of the whites. The same applied to mortality, in that of 51 deaths, 34 were Negroes.

Of the 161 individuals condemned in 1837,

could read and write	78
could only read	35
could neither read nor write	53
were unmarried	110
were married	45
were widowers	6
Under 20 years	13

From 20 to 30 years	96
From 30 to 40 years	32
From 40 to 50 years	15
From 50 to 60 years	4
From 70 to 80 years	1

On 1 January 1839 the number of convicts was 417.

The overseer led me to some empty cells, some intended for male, others for female prisoners, and after I had seen the entire institution, when I left him I climbed the tower above the entrance and enjoyed here an entirely beautiful view on the city of Philadelphia and its charming setting. There are two such penitentiaries in the state of Pennsylvania, the one in Philadelphia and the other at [438] Pittsburgh. The former is called the eastern, the latter the western penitentiary. On 1 January 1838 there were 104 convicts in the penitentiary in Pittsburgh, all male, and the profit of the workshops ran to $6, 654.

Of the many beautiful public buildings of the city that attract the attention and approval of many foreigners is the Mint of the United States. This building, located on Chesnut Street was built as a Greek Temple of Ilysses near Athens in the years from 1829 and 1830. The façade is entirely of marble and decorated with six Ionic columns. Several steam engines, built in a high grade of perfection, put all the machinery of the establishment into motion, and the manipulation of the workers is hence very simple. I have yet to see such splendid machinery in such a marvelous building as in the Philadelphia Mint. The director of the Mint, Dr. R. M. Patterson, was so good to guide me around the entire building, show and explain everything to me, to which he also devoted an hour in which his institution was closed to all other visitors. The types of coins that are minted here are eagles (for [439] $10) and half-eagles (for $5), dollars, half-dollars, quarter dollars, 10¢ and 5¢ pieces; finally copper cent-pieces.

In 1839 the following coins were minted:

Gold coins	183,412 pieces for	$1,040,747
Silver coins	5,948,272	$1,949,136
Copper coins	3,128,661	$31,287
Total	9,260,345 pieces for	$3,021,170

Since 1793, when operations of the Mint began in Philadelphia, until the close of 1839, a total of 295,499,086 pieces were minted at a value of $79,881,835. Outside the main Mint in Philadelphia, there were branch institutions at New Orleans, Charlotte in North Carolina and Dahlonega in Georgia; but the last-named has only produced little.

In the night of 4 October, to the great terror of all the residents of the city of Philadelphia, a great fire broke out that spread with great rage and destroyed 52 buildings. They estimate the damages at $150,000 and the value of the mercantile goods destroyed at $350,000. On the following day, when we tried to visit the site of

the fire, it was impossible to get through the press of people assembled here by the thousands from all the parts of the city, from the surroundings, even from as far away as Harrisburg, to see the ruins. On this [440] occasion the firemen once more showed themselves very brave in that they wagered their own lives more than was really necessary. The result of that was that three were killed and five seriously wounded. The firefighting institutions are excellent in Philadelphia; the firemen are all volunteers, indeed young men from the best, most respected families, who organize themselves in companies and elect from among themselves an engineer, etc. All of these companies compete continually with one another; each wants to the be first at the scene and to accomplish more than the others; I have never see such fine fire-extinguishing machines as in Philadelphia, which are entirely different from ours, very light and tastefully built. The trouble of bringing water from wells or rivers by filling buckets and bringing them to the fire has been completely overcome because there are fire-plugs in all city streets at particular intervals, to which leather hoses only need to be attached. A fire in Philadelphia is, incidentally, something so ordinary that almost no day passes without hearing a fire alarm one or more times, but there is seldom much damage.

On 9 December the banks in Philadelphia stopped their payments in specie, which caused a great sensation at first, since the public, although recognizing the steadily increasing problems with money, was not prepared at the moment for such an event. [441] The banks in Philadelphia quickly followed the suspension of the greater part of those in the South and West; only the banks in the state of New York and the eastern states remained solid and made their payments in gold and silver as before.

To justify its procedure to the public the banks in Philadelphia issued a circular shortly after the suspension, in which they stated the reasons that had moved them to their steps; for it was only 14 months since they had suspended payments (in August 1838) after the five-quarters-long suspension that followed the trade crisis of 1837 had begun again. The main reason given was that the poor harvest in England and the resulting necessity of grain purchases on the Continent, which mostly had to take place with cash, had stimulated the export of gold and silver (specie) from the United States to England in such amounts that the banks were no longer in the position to meet demand. The relations between the United States and England are of such that the latter ordinarily figures as a creditor. As long as England is not in difficulty, it buys more and gives more credit, takes as payment for its products the products of the United States or its own funds, and only rarely demands only gold and silver. [442] It is different when England itself needs cash; American staple products then lose their value; state paper and shares are rejected, and the export of specie remains the only way to make payments. — Under these conditions there is nothing left than either to demand payment of all debts from the public in gold and silver, or temporarily to suspend bank payments in cash.

In 1839 there were 950 banks, including branches, in operation, of which 340 ceased payments entirely and 60 in part. The number of banks excluding branches was 850; the banknotes put in circulation ran to $112 million, while their supply of specie was only $33 million. They estimate the entire amount of cash money (gold and silver) in the United States at $90,000,000.

An immediate result of the bank suspension in Philadelphia had to be the reduction of the value of banknotes and a relative rise in the value of gold and silver. The further result of this was, however, the general disappearance of these metals from circulation, in that money changers sell all specie with a significant premium. The premiums on gold and silver, as well as banknotes from the state of New York, climbed quickly to 10 to 12%, [443] and an equal discount applies to the notes of Philadelphia or Boston. Since in the state of Pennsylvania the circulation of banknotes below $5 is prohibited, naturally in daily traffic the greatest discomfort and disorder has arisen, particularly in households nothing is left but to purchase silver money with a 10 to 12% premium in order to be able to make smaller payments.

In the month of November my husband made another journey to Albany, while I remained in Philadelphia with my little daughter, which I had baptized Philadelphia in honor of this place of residence. I felt myself very much at home here, for the daughters of the house, very well-trained good maids, gave their best to make my residence as comfortable as possible. Here I had made the acquainted of Miss Jones, an extremely lovable girl, with whom I passed the greater part of my time.

Tired of life in hotels and boarding houses, my husband and I decided to start our own household for the time of our further residence in Philadelphia, where we can live much more comfortably and peacefully. In the meantime I had made several preparations for this, [444] and when my husband returned from his journey, a few days before Christmas we took a small nice house in Chesnut Street.

In Philadelphia as in all American cities, each family occupies a whole house, whether rented or its own property. The buildings are, for that reason, all built for only one family, but so that the many small houses cause no problems on the street, several owners normally cooperate and build their houses entirely on a single plan, with a common façade, so that you do not see any division, and two house doors are always next to one another. On the ground level there is usually a large room with two windows on the street, and next to it is joined another of the same size toward the courtyard; these two rooms are joined together by a very large doors, and when these are opened they form a grand salon. This serves the American family as a parlor, where visitors are received, while the rooms above the stairs are only for the family. Over the parlor, on the first floor, there are two apartments as large, and in the second three small rooms. In the attic, which is very roomy, the servants live, and on the first stairway a small door opens into a side structure, where a fine bathroom is found. A stairway to the kitchen, which is half underground, [445] extends upward to the dining room. The very neat courtyard is paved with brick, had a hydrant and a small grassy area. The entire arrangement of the American house pleased me very much, because it corresponds totally to the purpose of a pleasant family life.

The sole problem with leading a household in the United States is caused by the servants, who think themselves the equal or often even better than their superior, guided by the principle of equality. For this reason they take a very improper tone that must particularly displease the European. The servants in Philadelphia are almost always either Irishmen or Negroes. The former often possess the failing of

immoderation, and the longer they are in the country they normally become indolent and arrogant. Negroes, in contrast, show more obedience and dedication as a natural result of their low position in America's population, so that they are often preferred to whites as servants. The pay for servants, which is $3.00 a week for a servant, for a cook $1.50 to $2.00 and for a chambermaid or child's maid $1.50, is paid every week, and you may release them with a notice of a week.

What often was very irritating was the frequent [446] absence of servants. Each of them goes to church immediately after the meal on Sunday, and then spends the evening with friends, coming home only at 10 o'clock. This going out on Sunday was still not enough, but every individual had an additional evening in the week, "to spend an evening and take a cup of tea," where they also only return at 10 o'clock. You have no idea of the elegant clothing of servants in America; the cook, children- and chambermaid all wear hats that often are provided with veils, and the prettiest clothing after the latest fashion; even Negro women will not go without a hat on the street, and the male domestics dress themselves no less elegantly. In my house the wetnurse also appeared in hat and coat. Yet not only in external appearance but also in intelligence, American servants are in advance of ours. I often see the best works from the reading library in the kitchen. So once I found the *Biography of distinguished Americans*, a book the cook said the Negro read "to improve his mind." We also always receive the newspapers at breakfast only after they have been read by all the help.

In Philadelphia it is the custom that the [447] gentlemen perform all the market purchases; I often encountered one or another of the leading persons accompanying a Negro carrying a large basket on his arm in which all the victuals purchased by his chief lay. As praiseworthy as I found this, on the other side I could not bring it into harmony with a man's serious occupations.

In what we can call my new position the wife of Professor Bache, mentioned earlier, advised me in a friendly manner. She lived very close to us, and since she had just returned from a grand tour through Europe with her husband, she had much material for our thoughts to exchange.

I had hardly begun my first household, for which I had longed so much, and having the unspeakable joy of untroubled family life at the side of my beloved spouse, when with it was destroyed suddenly, and with it my loveliest hopes. My good husband suddenly took ill as a result of excessive intellectual stresses, and neither the greatest concern and care, nor the recognized ability of famous physicians could restore to my husband his health, whose sole effort consisted of being useful to the common operation of civil society. He died a victim of his own excessively pursued energy and overmuch activity, in the bloom of his years, for the world and his extensive circle of influence, much too soon.

I will be silent about my own pain, which no pen can describe and no words express. Whoever has been in a similar place — when her most beloved, her all, from whom she thought she would never be separated, is suddenly torn away — will understand me. — The sad duty that I had to fulfill as a wife were still a painful consolation, because it has kept me in connection with the best friends of my beloved; as these obligations were fulfilled, the entire magnitude of my loss was even more alive before my soul, and with a shattered heart I departed a country

which I had entered so happy and full of the most wonderful hopes for life, and whose soil now encloses in itself my most precious jewel on this world!

SUMMARY OF MY TRAVEL

In the United States of North America,

including both sea voyages

Travel Clara von Gerstner pp. 449-456

date	from	to	mode	distance	time	single fare
10/27/38	Bristol	New York	Steamship	3,176 mi.	458 hrs.	$200
11/23/38	NY	Albany	Steamship	145 mi.	14 hrs.	3.00
11/28/38	Albany	Schenectady	RR	16 mi.	1h. 14 min.	0.14
11/30/38	Schen.	Utica	RR	78 mi.	4h 28 min	3.00
12/1/38	Utica	Rome rt	PC	24 mi	4h	5.00
12/3/38	Utica	Syracuse	Stage	50 mi	10h	3.00
12/5/38	Syracuse	Auburn	RR	25.75 mi	3h 30 min	1.00
12/6/38	Auburn	Rochester	Stage	59 mi	10h	3.00
12/7/38	Rochester	Genesee Falls rt.	PC	4 mi.	1h	.62.5
12/8/38	Rochester	Batavia	RR	32 mi	2h 12 min	1.50
12/8/38	Batavia	Buffalo	Stage	40 mi	7h	2.00
12/11/38	Buffalo	Niagara F.	RR	22 mi	2h 18 min	87.5
12/13/38	Niagara F.	Lockport	RR	24 mi	2h 26 min	0.75
12/14/38	Lockport	Rochester	Stage	63 mi	11h	3.00
12/15/38	Rochester	Auburn	Stage	59 mi	9h 30 min	3.50
12/17/38	Auburn	Syracuse	RR	25.75 mi	2h 45 min	1.00
12/17/38	Syracuse	Utica	Stage	50 mi	9h 45 min	3.00
12/18/38	Utica	Schenectady	RR	78 mi	4h 30min	3.00
12/18/38	Schen.	Albany	RR	16 mi	1h 15 min	.75
12/20/38	Albany	Schen.	RR	16 mi	1h 15 min	.75
12/21/38	Schen.	Saratoga	RR	21.5 mi	2h 4 min	1.25
12/22/38	Saratoga	Troy	RR	32 mi	3h 10 min	1.50
12/22/38	Troy	Albany	Stage	6 mi	1h 15 min	.25
12/24/38	Albany	Worcester	Stage	120 mi	28h	7.00
12/26/38	Worcester	Boston	RR	44 mi	2h 50 min	2.00
1/3/39	Boston	Lowell	RR	26 mi	1h 20 min	1.00
1/3/39	Lowell	Boston	RR	26 mi	1h 20 min	1.00
1/5.39	Boston	Cambridge rt	PC	6 mi	1h	
1/14/39	Boston	Providence	RR	42 mi	2h 30 min	2.00
1/14/39	Providence	Stonington	RR	47.5 mi	2h 30 min	2.00
1/14/39	Stonington	NY	steamship	130 mi	10h 30 min	5.00
2/6/39	NY	Philadelphia	RR	88.5 mi	7h 6 min	4.00
2/20/39	Philad.	Bordentown	RR	26 mi	1h 30 min	.75
2/20/39	Bordentown	Philad.	RR	26 mi	1h 30 min	.75
2/23/39	Philad.	Baltimore	RR	98 mi	7h	4.00
2/23/39	Baltimore	Wash.	RR	39 mi	2h 30 min	2.50
3/7/39	Wash.	Baltimore	RR	39 mi	2h 30 min	2.50
3/12/39	Baltimore	York	RR	58 mi	4h 30 min	1.75
3/13/39	York	Baltimore	RR	58 mi	4h 30 min	1.75
3/19/39	Baltimore	Wash	RR	39 mi	2h 30 min	2.50
3/20/39	Wash	Fredericksb.	steamship/	60 mi		

		stage	9 mi	5h 30 min	4.00
3/21/39	Fredericksb. Richmond	RR	61.5 mi	5h	4.00
3/26/39	Richmond Petersburg	RR	22.5 mi	1h 30 min	1.50
3/30/39	Petersburg Blakely	RR	60 mi	5h	3.75
3/31/39	Blakely Portsmouth	RR	76 mi	6h	4.50
4/2/39	Portsmouth Weldon	RR	78 mi	6h	5.00
4/2/39	Weldon Wilmington	RR	103 mi		
		Stage	72 mi	22h	12.00
4/7/39	Wilmington				
	Charleston	Steamboat	160 mi	14h	8.00
4/21/39	Charleston				
	Camp mtg. rt	Steamboat	32 mi	3h	1.00
4/25/39	Charleston Augusta	RR	136 mi	9h	10.00
4/30/39	Augusta Warrenton	RR	50.5 mi	4h 30 min	2.50
4/30/39	Warrenton Macon	Stage	75 mi	16h	8.00
5/4/39	Macon Montgomery	Stage	183 mi	40h 30 min	22.00
5/7/39	Montgomery				
	Wetumpke	Stage	13 mi	2h 30 min	1.50
5/7/39	Wetumpke				
	Montgomery	Stage	13 mi	2h 30 min	1.50
5/9/39	Montgomery Selma	Steamboat	300 mi	61h	
5/12/39	Selma Mobile	Steamboat	150 mi	48h	15.00
5/15/39	Mobile L. Pontchartraine	Steamboat	200 mi	22h	10.00
5/16/39	L. Pontchartraine				
	New Orleans	RR	4.5 mi	20 min	.37.5
5/21/39	New Orleans Nashville				
	train and rt	RR	40 mi	2h	1.00
5/26/39	New Orleans Louisville	Steamboat	1450 mi	175h	50.00
6/12/39	Louisville Francfort	Stage	52 mi	11h	3.50
6/14/39	Francfort Lexington	RR	28 mi	3h 20 min	1.25
6/16/39	Lexington Harrodsburg	PC	32 mi	6h	5.00
6/17/39	Harrodsburg Lexington	PC	32 mi	6h	5.00
6/19/39	Lexington Maysville	Stage	64 mi	11h	4.00
6/20/39	Maysville Cincinnati	Steamboat	65 mi	7h 30 min	2.00
7/10/39	Cincinnati Pittsburg	Steamboat	450 mi	98h	12.00
7/15/39	Pittsburg Johnstown	Canal boat	104 mi	29h	
7/17/39	Johnstown Hollidaysb.	RR	36 mi	5h	
7/17/39	Hollidaysb. Harrisb.	Canal boat	146 mi	38h	
7/19/39	Harrisb. Lancaster	RR	36 mi	3h	
7/19/39	Lancaster Philadelph.	RR	70 m	4h 45 mins	20.25
7/28/39	Philadelphia Cape May	Steamboat	105 mi	9h	3.00
8/31/39	Cape May Woodbury	PC	70 mi	14h	15.00
9/1/39	Woodbury Philadelph.	RR	6 mi	30 min	.25
5/20/40	Philadelph. Liverpool	Packet Ship	3200 mi	640h	100.00
			12,821 mi	1992h 38 min	$620.87.5

Recapitulation

	English Miles	Cost $ ¢
Travel by steamboat	6,423	312.50
by sailing ship	3,200	100.00
railroad	1,852	90.75
stages	928	71.75
canal boat	250	14.25
private coach	168	31.62.5
Total	12,821 mi	$620.87.5

So a mile of travel by steamboat cost $4\ ^{5}/_{6}$ ¢

by sailing ship $3\ ^{1}/_{6}$ ¢

by rail $4\ ^{1}/_{9}$ ¢

by stagecoach $7\ ^{3}/_{4}$ ¢

by canal boat $5\ ^{7}/_{10}$ ¢

by private coach $18\ ^{4}/_{5}$ ¢

It is to be recalled that meals are included in the fares for travel by water.