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## Revolutionary France and the Transformation of the Rhine

*Robert Mark Spaulding*

As one of the world's busiest rivers the Rhine carries about 300 million tons of freight annually, upriver and down, between Switzerland and the Dutch ports on the North Sea. Heavy shipping traffic on the Rhine, including ocean vessels reaching Mannheim and barges reaching Basel, has been an integral part of the Rhine valley landscape for the past 150 years. But a bounty of commercial shipping on the Rhine has not always been part of the river's history. Despite the Rhineland's growing population and increasingly productive economy at the end of the early modern period, long-distance shipping activity along the river gradually declined during the seventeenth and eighteenth centuries. River commerce revived and expanded only in the early nineteenth century, stimulated in part by new developments in transportation technology, business organization, industrial development, and an unprecedented civil engineering assault on the river's natural contours. These material components of the nineteenth century transportation revolution as it unfolded along the Rhine are generally well known.<sup>1</sup>

Ironically, one unique element of the Rhine's modern commercial growth preceded and was more important than any of these others, yet remains almost unrecognized: the creation of a single, unified commercial regime to regulate the river and its commerce as they flowed through several independent sovereign states. Throughout its history, the fragmentation of state authority along the river sharply distinguished the Rhine from other important inland waterways, and the international nature of the Rhine continues to set it apart from the world's two other great commercial rivers, the Yangtze and the Mississippi. The unique problems of fragmented authority along the Rhine were already evident in the

Portions of this material were presented at the German Studies Association Conference in San Diego in October 2007 and at the Workshop on Early Modern German History at the German Historical Institute in London in October 2008. I am grateful for the many helpful comments I received on those occasions. I am also indebted to two readers at *Central European History* for their rigorous reviews.

<sup>1</sup>The two monumental and still indispensable descriptive histories of these events are Christian Eckert, *Rheinschiffahrt im XIX. Jahrhundert* (Leipzig: Dunker & Humblot, 1900); and Eberhard Gothein, *Geschichtliche Entwicklung der Rheinschiffahrt im XIX. Jahrhundert* (Leipzig: Dunker & Humblot, 1903).

seventeenth and eighteenth centuries when lack of coordinated regulation on the river led to chaotic conditions and noticeable underuse of the Rhine as the great conduit that it could have been.

In the nineteenth century, an appropriately unified regulatory and administrative framework for a river that touched several states was the absolute precondition for removing ancient trade barriers and deploying new technologies to reduce transportation costs and increase shipping volumes. Therefore, the ultimate roots of the problems that plagued the river under the Old Regime and the solutions that were first devised during the French occupation of 1795–1813 were primarily political in nature. The inclusion of necessary political and administrative reforms made modernization of Rhine commerce a more complex process than took place on waterways elsewhere, where new political frameworks were not required for the transportation revolution to unfold.

The question of how to regulate conflicting commercial claims along the river arose as far back as 1355 when Emperor Charles IV confirmed the monopolistic commercial privileges proclaimed by Archbishop Konrad von Hochstaden for the city of Cologne in 1259. During the 450 years following Charles's reign, commercial practices on the Rhine remained entangled in a thorny thicket of disputed rights and claims advanced by merchants, shippers, boatmen's guilds, Rhine cities, territorial lords, fishermen, and millers. Without some form of governing structure for the river, these conflicts remained unresolved and the river did not fulfill its potential as a great natural transportation link connecting the North Sea to the Alps. An enduring resolution of these issues began only in the 1790s when revolutionary French ideas and the power to insist on a systemic overhaul of river governance arrived at the banks of the Rhine. The process was completed in 1868 with the abolition of the last remaining tolls on the river.

This article briefly analyzes the evolution of the commercial regime of the Rhine from the eighteenth century through the middle of the nineteenth century. The focus is on the years from 1795 to 1813 when French hegemony inspired the states bordering the river to establish overarching rules and institutions governing Rhine commerce, innovatively transforming the river from a state of anarchy to cooperation. Beginning in 1814 a new series of international decisions preserved the essential content of the French reforms, thereby establishing the basis for the river's commercial growth in the following two centuries.

The commercial regime of the Rhine has been the subject of several very thorough legal studies that explore these issues from the perspectives of international water rights and river law.<sup>2</sup> These studies set the river's history in a

<sup>2</sup>See, for example, J. P. Chamberlain, *The Regime of the International Rivers: Danube and Rhine*, Studies in History, Economics, and Public Law, vol. CV, no. 1 (New York: Columbia University Press, 1923); Roland Hoederath, *Grossbritannien und das internationale Rheinregime*, Schriften zum Völkerrecht, Bd. 69 (Berlin: Duncker & Humblot, 1981).

long but very narrow juridical context stretching back to Roman law. These highly specialized works have generally not been cast in a manner that invites wider readership, even among historians of political economy.

Commerce along shorter portions of the river and in important cities such as Cologne and Mainz has been the subject of many good local studies. The fragmented political arrangements that characterized the Rhine basin throughout its history and the highly differentiated nature of shipping in the navigationally distinct stretches of the lower, middle, and upper portions of the river encouraged local and regional examinations of commerce rather than treatments of the entire river.<sup>3</sup> Because of its dominant position in the river's trade from the thirteenth to the nineteenth centuries and because of a large body of existent historical documentation, Cologne's role in the Rhine trade has received particular attention.<sup>4</sup> But the concerns of any one locality do not reveal the larger issues surrounding common use of the river, and the interests and practices of the river's two great metropolises at Cologne and Mainz certainly were not typical of, or even compatible with, the interests of many other users of the river. By their nature, local studies do not illuminate the evolution of the political decisions and administrative reforms that transformed the Rhine in its entirety, nor do they connect economic developments along parts of the river to broader political and economic trends in German history.<sup>5</sup>

Historians of German and European economic development in the nineteenth century have given at least passing recognition to later developments in the evolution of the Rhine's commercial regime, particularly the Rhine Shipping Agreement (*Rheinschiffahrtsakte*) of 1831, also referred to as the "Treaty of Mainz" or "*Mainzer Akte*" from the seat of the Central Commission for Navigation of the Rhine (*Zentralkommission für die Rheinschiffahrt* or *Commission centrale pour la Navigation du Rhin*). Unfortunately key provisions of that agreement have often been flat-out wrongly presented in the literature, perhaps because of misunderstandings of what contemporary governments meant when they

<sup>3</sup>The only work of which I am aware explicitly dedicated to French reforms on the Rhine is Hans Mosler's fifty-page local study limited to the German portion of the lower Rhine and covering only a five-year period, *Die Einführung der Rheinschiffahrtsoktroi-Konvention am deutschen Niederrhein, 1803–1807* (Düsseldorf: Lintz, 1908).

<sup>4</sup>Mathieu Schwann's *Geschichte der Kölner Handelskammer* (Cologne: P. Neuber, 1906) has served as an indispensable base for much of this work. Jeffrey Diefendorf's *Businessmen and Politics in the Rhineland, 1789–1834* (Princeton, NJ: Princeton University Press, 1980), which focuses almost exclusively on Cologne and the surrounding territory that comprised the Department of the Roer during French occupation, is a good, more recent example.

<sup>5</sup>Klaus Müller's recent essay closely re-narrates French reforms along the lower Rhine, but lacks connections to larger issues in German history; as in Mosler's essay a century earlier, the administrative regulation of the river's shipping remains a lower Rhine curiosity. Klaus Müller, "Politische und Rechtliche Veränderungen der Rheinschiffahrt zwischen der Französischen Revolution und dem ersten Pariser Frieden," in *Der Rhein als Verkehrsueg. Schriftenreihe der Niederrhein-Akademie*, vol. 7, ed. Clemens von Looz-Corswarem and Georg Mölich (Bottrop: Peter Pomp, 2007), 37–59.

endorsed “free navigation” on the Rhine. For example, even the distinguished historian Hermann Kellenbenz wrongly stated that the Rhine tolls were “abolished” (*beseitigt*) by the treaty of 1831, when in fact the treaty confirmed collection of tolls at twelve stations between the Dutch border and Strasbourg.<sup>6</sup> A decade later, Hans Jaeger made a similarly wrong statement that the treaty had voided “all fees” (*alle Abgaben*) on the river, but in fact both goods tolls and passage tolls continued.<sup>7</sup> In the *Cambridge Economic History of Europe*, Louis Giraud misleadingly indicated that after the Congress of Vienna “freedom of navigation” prevailed on the Rhine and inaccurately added “though tolls remained frequent upstream from Mannheim”; in fact, tolls were collected above Mannheim only at Germersheim (Bavarian Palatinate), Strasbourg (France), and Breisach (Baden), but were collected below Mannheim at nine stations before the Dutch border.<sup>8</sup> Other examples abound. At present, misinformation is widespread about nineteenth-century Rhine navigation from the upper river to the Dutch border. For example, Ronald Findlay and Kevin O’Rourke recently cited Giraud in misleadingly stating that “along the river Rhine, the Congress of Vienna recognized the freedom of navigation that had been established under Napoleon” and Michael Loriaux recently relied on Kellenbenz in wrongly reasserting that “the Rhine Shipping Act of 1831 eliminated tolls along the river.”<sup>9</sup>

This discussion of the transformation of the Rhine, its commerce, and its administration seeks to move beyond the narrow focus of legal studies and the limited perspective of local investigations. By supplementing material from these earlier studies with additional, new material from a number of print and archival sources and examining longer stretches of the river, including the middle and upper Rhine, I hope to challenge, modify, and correct a number of assumptions regarding the modern administration of the river. Because the central issues in the evolution of the commercial regime along the Rhine were enduring ones, this inquiry compares river management in three distinct political eras: the era of the late Empire from 1648 to its demise, the era of French hegemony from 1795 to 1813, and the era of the German Confederation after 1815. Analyzing the significance of French-era reforms in the longer history of the

<sup>6</sup>Hermann Kellenbenz, “Wirtschafts- und Sozialgeschichte der nordlichen Rheinländer seit 1815,” in *Rheinische Geschichte in drei Bänden. Band 3, Wirtschaft und Kultur im 19. und 20. Jahrhundert*, ed. Franz Petri and Georg Droege (Düsseldorf: Schwann, 1979), 12.

<sup>7</sup>Hans Jaeger, *Geschichte der Wirtschaftsordnung in Deutschland* (Frankfurt am Main: Suhrkamp, 1988), 52.

<sup>8</sup>Louis Giraud, “Transport,” in *Cambridge Economic History of Europe, vol. VI, The Industrial Revolution and After: Incomes, Population, and Technical Change*, ed. H. J. Habbakuk and M. M. Postan (Cambridge: Cambridge University Press, 1966), 224.

<sup>9</sup>Ronald Findlay and Kevin O’Rourke, *Power and Plenty: Trade, War, and the World Economy in the Second Millennium* (Princeton, NJ: Princeton University Press, 2007), 379; Michael Loriaux, *European Union and the Deconstruction of the Rhineland Frontier* (Cambridge: Cambridge University Press, 2008), 215.

Rhine's commercial traffic provides an opportunity to discuss larger issues central to German history in each of these periods.

An analysis of the river's problems under the Old Regime will necessarily stimulate some conclusions about the ability of the Holy Roman Empire to act in its own interests and about the extent and vitality of Imperial and individual state reforms underway in the final decades of the Empire's existence. The material presented here does not support the "revisionist historiography" mentioned by John Breuilly that links the reforms of the Napoleonic era to the "traditions of princely reform in the eighteenth century."<sup>10</sup> Nor does it support the claim that "Napoleonic intervention thus merely accelerated trends that had been at work for some time" as Andreas Fahrmeir stated, but it will confirm his insight that French reforms "managed to harness existing pressures."<sup>11</sup> Similarly this study does not support Michael Rowe's claim that eighteenth-century reforms in the German states "prefigured those of the Napoleonic era," although this article does support his counterclaim that the "Empire greatly restricted the scope of reforms" that were possible.<sup>12</sup>

An analysis of French reforms along the river in the period from 1795 to 1813 allows some specific, material, and concrete observations about the economic impact of French revolutionary occupation. The success of innovative French ideas and administration, particularly the "Octroi" regime that regulated the Rhine after 1805, indicates an important and positive role played by French commercial reforms in stimulating Rhenish economic development. Growth and changes in patterns of Rhine commerce demonstrate that at least this element of revolutionary French policies was greatly beneficial to the large portion of Germany attached to the Rhine basin, an insight that is often obscured by emphases on the destructive nature of the French occupation and the extractive demands made on the German territories. This article also identifies the beginnings of substantive reform on the river in 1795 and the origins of the new Octroi regime in 1798, i.e., deep in the middle of a decade that is widely perceived as having been a destructive setback for the Rhenish economy.<sup>13</sup>

<sup>10</sup>John Breuilly, "Napoleonic Germany and State Formation," in *Collaboration and Resistance in Napoleonic Europe: State Formation in an Age of Upheaval, c. 1800–1815*, ed. Michael Rowe (New York: Palgrave, 2003), 125.

<sup>11</sup>Andreas Fahrmeir, "Centralization versus Particularism in the 'Third Germany,'" in *Collaboration and Resistance in Napoleonic Europe*, ed. Rowe, 116.

<sup>12</sup>Michael Rowe, "Napoleon and State Formation in Central Europe," in *Napoleon and Europe*, ed. Philip Dwyer (London: Longman, 2001), 204.

<sup>13</sup>See, for example, Timothy Blanning's characterization of 1792–1801 as a "terrible decade" of "economic collapse," in Timothy Blanning, *The French Revolution in Germany: Occupation and Resistance in the Rhineland 1792–1802* (Oxford: Oxford University Press, 1983), 165; Marieluise Schultheis-Freibe's similar conclusions in *Die französische Wirtschaftspolitik im Roer-Departement 1792–1814* (Ph.D. diss., University of Bonn, 1969), 278.

Space does not permit inclusion here of a full-blown discussion assessing the place of the revolutionary and Napoleonic experiences in the longer sweep of German history—a vastly complex topic that has produced an impressive body of new work over the past few decades.<sup>14</sup> But this study does directly compare French solutions for the problems of organizing Rhine commerce with earlier trends from the eighteenth century and subsequent developments from the nineteenth century. Rhine river management suggests that comprehensive evaluations of earlier efforts and later achievements are possible only by placing those developments in a comparative context with the crucially important administrative innovations of the French interlude.

Finally, even a brief history of political change, administrative reform, and commercial revival along the Rhine must confront fundamental questions on the role of the state in promoting economic growth during this period—an issue debated by contemporary theorists and economic historians for almost two centuries.<sup>15</sup> By explicating the role of state action in reducing river tolls, erasing barriers, fostering the revolution in transportation technology, and improving the river physically, this article can speak directly to these questions. The active role of the Central Commission in preserving French reforms while it regulated the river in the period after 1815 is particularly illustrative. The experience of the Rhine confirms the importance of state intervention in promoting economic growth in nineteenth-century Germany, but would indicate that the prevailing focus of study in this area could be brought forward from the period after 1850 to include important developments in the very first decades of the century.<sup>16</sup> In a larger context, developments along the Rhine do not conform to a perceived general pattern in which nineteenth-century globalization was “overwhelmingly technological in origin,” whereas twentieth-century globalization “was much more political in origin” with “artificial barriers” being “dismantled.”<sup>17</sup> This article would contest the view that “political” actions were not important in revolutionizing transportation in the early nineteenth century. On the contrary, political agreements that established governing

<sup>14</sup>On the larger issues of integrating the Napoleonic period into modern German history, begin with Philip Dwyer, “New Avenues for Research in Napoleonic Europe,” *European History Quarterly* 33 (2003): 1, 101–124; and Katherine Aaslestad and Karen Hagemann, “1806 and Its Aftermath: Revisiting the Period of the Napoleonic Wars in German Central European Historiography,” *Central European History* 39, no. 4 (2006): 547–579.

<sup>15</sup>In a recent discussion of the state of transportation history, Hans-Liudger Diemel suggests that assessing the relative importance of “government influence” in transportation developments compared to “other factors” such as “consumer preferences, entrepreneurial decisions, and technological progress” remains the central concern of the field. Hans-Liudger Diemel, “Vekehrsgeschichte auf neuen Wegen,” *Jahrbuch für Wirtschaftsgeschichte* 1 (2007): 19–37.

<sup>16</sup>See the historiographic review in Toni Pierenkemper and Richard Tilly, *The German Economy during the Nineteenth Century* (New York: Berghahn, 2004), 135–144.

<sup>17</sup>Findlay and O'Rourke, *Power and Plenty*, 502.

structures and dismantled artificial barriers on the Rhine were the absolute prerequisite for applying the technological developments of the period to the river.

### The Decline of Rhine Commerce under the Old Regime

By 1789 the anarchic state of the Rhine had long been a major source of discontent for inhabitants of the Rhine basin. Dilapidated infrastructure, physical impediments, tolls, city monopolies, and the privileges of the boatmen's corporations combined to make river commerce unpredictable and expensive, eroding a good deal of the advantage that water transportation generally had at this time. Extensive canal building programs in England and France at this same time and their contributions to the formation of those national economies serve as rough indicators of what the German states "lost" by their inability to activate the Rhine's potential.<sup>18</sup> Obvious to even the most casual observers was the physical neglect of the river bed. The operable shipping channel was narrow and frequently silted, severely restricting the size of ships that could pass even the middle Rhine. The towpaths were grossly neglected, offering difficult passage for horses pulling loads upstream; paths often abruptly ended, requiring that tow animals be ferried across the river in the hope that the path might resume there. Obstructions by fishermen—nets and fish traps of various sorts—in the already narrow shipping channel and similar hindrances by millers seeking to harness the river's obvious water power provided yet another level of difficulty for commercial traffic on the river.<sup>19</sup>

Equally damaging to the river's commercial life was the arbitrary and rapacious collection of tolls. Numerous contemporary observers commented that the river was underused for transport because of ruinous tolls.<sup>20</sup> Prior to 1789 no effective regulation existed for the number, amount, or location of Rhine tolls. Although a popular song along the river claimed "*Mehr Zölle sind am Rhein als Meilen*" ("The Rhine can count more tolls than miles"), most sources agree that on the eve of the revolution, thirty-two toll stations collected revenue between Strasbourg and the Dutch border.<sup>21</sup> In addition, some local potentates imposed loading and

<sup>18</sup>Hence Hermann Kellenbenz's somewhat curiously formulated statement that eighteenth-century Germans "underestimated" the potential of Rhine commerce. Hermann Kellenbenz, "Der deutsche Aussenhandel gegen Ausgang des 18. Jahrhunderts," in *Die wirtschaftliche Situation in Deutschland und Österreich um die Wende vom 18. zum 19. Jahrhundert*, ed. Friedrich Lütge (Stuttgart: Gustav Fischer Verlag, 1964), 16.

<sup>19</sup>Kellenbenz has described how land routes ran from the Netherlands through Aachen to Cologne and from there headed south "parallel to the river" [!] to "avoid" trafficking the Rhine, in Kellenbenz, "Der deutsche Aussenhandel," 16.

<sup>20</sup>Jeffrey Diefendorf has also pointed out that "rising river tolls in the eighteenth century forced traders to seek other north-south routes" in Diefendorf, *Businessmen and Politics*, 29.

<sup>21</sup>A subsequent Prussian report stated that when the Peace of Lunéville was signed on February 9, 1801, twenty-nine stations were collecting river tolls on the Rhine above the Dutch border; sixteen on the right bank and thirteen on the left. Graf Solms-Laubach to Staatsminister Baron Karl von Stein,

unloading fees on merchants. Arbitrary administration and the secret nature of toll rates compounded the damage inflicted on travelers. American economist Edwin Clapp estimated that “In the eighteenth century, one-third the value of a cargo was levied by the toll stations on the forty miles between Bingen and Coblenz.”<sup>22</sup> Toll rates were not published; most rulers actively sought to keep the level of their tolls secret. In most cases the tolls actually paid resulted from on-the-spot negotiations between captains and toll collectors. Not surprisingly, regulations regarding toll increases were entirely lacking. The unpredictable and capricious nature of the Rhine tolls was a central feature of the anarchy of the regime.<sup>23</sup>

The medieval privileges retained and exercised by the cities of Cologne and Mainz also impeded commercial use of the river by others. The first of these, the “right of staple” (*ius stapulae*, *Stapelrecht*, *droit d'étape*), enforced since the thirteenth century, required all merchandise passing the city to be unloaded and offered for sale there and this to be done using local agents exclusively. The second, the “right of compulsory transfer” (*Umschlagsrecht* or *droit de relâche forcée*) required all long-distance merchandise to be transferred into boats of the local boatmen’s association for the next leg of the river voyage. In the eighteenth-century, merchants usually could pay a fee to the city to escape the unloading demanded by the *Stapelrecht*, but compulsory transfer to local boats remained in force, provoking great hostility from producers, merchants, and neighboring towns.

By the eighteenth century, water transport on the Rhine had lost a good deal of its commercial competitiveness in most categories except those heavy bulk commodities that were, by their nature, impossible to reload at Mainz and Cologne, such as large millstones.<sup>24</sup> Kellenbenz mentions “stone, clay, and slate” as the few bulk items moving down the Rhine to the Netherlands. Another bulk item, timber, moving from upper Rhine forests to the Netherlands in large rafts, was undoubtedly the most significant commodity by volume in the entire downstream traffic and perhaps the second most important by value as well.<sup>25</sup>

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February 28, 1814, Geheimes Staatsarchiv Preussischer Kulturbesitz, Berlin (hereafter GStAP) III.HA I Nr. 1367. Gothein cites the generally reported figure of thirty-two toll stations between Strasbourg and the Dutch border, but without giving a specific date: Gothein, *Geschichtliche Entwicklung der Rheinschiffahrt*, 3. Wolfgang Zorn mentions thirty tolls for that same stretch of the river, in “Binnenwirtschaftliche Verflechtungen um 1800,” in *Die wirtschaftliche Situation in Deutschland*, ed. Lütge, 101. These discrepancies highlight the uncertain and changing nature of toll collection along the river.

<sup>22</sup>Edwin J. Clapp, *The Navigable Rhine* (Boston: Houghton Mifflin, 1911), 6.

<sup>23</sup>Even Timothy Blanning, generally eager to describe the “general upturn in the Rhenish economy in the course of the eighteenth century,” admits that Rhine tolls “may have reduced traffic by up to fifty percent,” in Blanning, *The French Revolution in Germany*, 30.

<sup>24</sup>Gothein, *Geschichtliche Entwicklung der Rheinschiffahrt*, 7.

<sup>25</sup>My conclusion drawn from data on volumes and values that are presented in Martin Kutz, *Deutschlands Aussenhandel von der Französischen Revolution bis zur Gründung des Zollvereins. Eine statistische*

Nassovian iron ore going to the lower Rhine manufacturing centers in the Berg-Mark territories moved down the Rhine, but probably not finished products of that industry.<sup>26</sup>

The wine trade is a telling example. Timothy Blanning mentioned wine exports from Mainz downriver to the Netherlands of 300,000 gulden in 1789, but the fact is that “export of Rhine and Mosel wines to England via the Hansa cites was substantially larger than downstream shipments on the Rhine.”<sup>27</sup> For the middle Rhine, trade often ran from Frankfurt overland to Kassel and then down the Weser to export facilities in Bremen. For territories on both banks of the upper Rhine, trade via Strasbourg and the toll-free French canal system all the way to Le Havre served as an alternative to the Rhine.<sup>28</sup> In the course of the eighteenth century, shipments of Alsatian wine disappeared entirely from the middle and lower Rhine.

The existence of deep pockets of wealth in the restricted merchant communities of Mainz and Cologne and in the hands of some territorial lords on the lower and middle Rhine is often misread as an indicator of some larger flourishing of river commerce. It would be more accurate to view those small circles of great wealth as a confirmation of these cities’ abilities to extract exorbitant artificial rents from the remaining stream of river trade.<sup>29</sup> In Cologne, the import trade was dominated by just three commodities coming upriver from the Netherlands—coffee, sugar, and tobacco. Because “all other commodities were insignificant compared to these three,” they were undoubtedly the source of most of the profit from trade moving upriver. Further, the archival and published data compiled for this study confirm that “the Rhine trade was strongly negative for Germany” in balance of payments (which fits with a pattern of predominantly bulk goods moving downstream), so the profit from downstream traffic must have been substantially less than from the upstream trade.<sup>30</sup> All of this again highlights the ability of Cologne merchants to live well from their monopoly position as suppliers of just a few colonial products to the whole of the Rhine basin. Entrenched interests profited from uncertainty as well. In 1791 Cologne merchants and forwarding agents violently defeated shippers’ long-standing

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*Strukturuntersuchung zur vorindustrieller Zeit* (Wiesbaden: Franz Steiner, 1974), 158–160 and table 67 on 340.

<sup>26</sup>Kellenbenz, “Der deutsche Aussenhandel,” 9, 13; and Zorn, “Binnenwirtschaftliche Verflechtungen,” 104.

<sup>27</sup>Blanning, *The French Revolution in Germany*, 24; Kutz, *Deutschlands Aussenhandel*, 155.

<sup>28</sup>Clapp, *The Navigable Rhine*, 10.

<sup>29</sup>Jeffrey Diefendorf’s statement on Cologne that “the city treasury was supported by fees charged for the use of port facilities” indicates that the sums extracted by Cologne from passing merchandise must have been considerable. Diefendorf, *Businessmen and Politics*, 29. Similarly, Blanning describes Bonn, Koblenz, and Mainz as centers of conspicuous consumption supported by “the easy money which flowed in from river tolls and rural taxes.” Blanning, *The French Revolution in Germany*, 32.

<sup>30</sup>Kutz, *Deutschlands Aussenhandel*, 167, 168.

demand that an accurate public scale for weighing freight be erected at the harbor.<sup>31</sup> In short, the accumulation of significant merchant wealth in Cologne is not an indicator of any larger flowering of Rhine commerce; the same is true for Mainz and Koblenz. In each case we could explicate particular local techniques for extracting unfair rents from a river trade that had been reduced at the regional level to bulk exports of the lowest value and luxury imports of the highest.

Not surprisingly, the state of affairs described above—absolute decline of the river’s physical infrastructure and relative decline of river commerce compared to the general economic growth of the Rhine basin—correlates closely with a declining level of effective governmental administration of the river. In earlier times, beginning in the fourteenth century, a rudimentary level of cooperation existed between the four electors who owned, but often leased out, the vast majority of tolls along the Rhine: the archbishops of Cologne, Trier, and Mainz; and the Elector Palatine. Cooperation between the four Rhenish electors ceased toward the end of the seventeenth century, perhaps in response to a proliferation of new tolls imposed by the recently independent Netherlands.<sup>32</sup> Afterward, no other authority emerged to supply the necessary leadership.

After 1648, the most promising potential sources of order on the river were the successive international treaties that contained provisions affecting Rhine commerce, the treaties of Münster (1648), Ryswick (1697), and Rastatt (1714).<sup>33</sup> On the basis of the Rhine provision in article 6 of the Rastatt treaty, the Rhine electors sued the city of Cologne in the Imperial Chamber Court demanding an end to compulsory local monopolies; the suit was still in progress

<sup>31</sup>Historisches Archiv der Stadt Köln, Bestand 90 (Alter Bestand), files 707–713 (hereafter HASK 90/707–713). The incident is documented with other sources in Joseph Hansen’s essential collection, *Quellen zur Geschichte des Rheinlandes im Zeitalter der Französischen Revolution, 1780–1801*, vol. 1 (Bonn: P. Hahnstein, 1930), 866–871.

<sup>32</sup>The German–Dutch commercial relationship and its treatment by German historians are important parts of the river’s history and historiography, but are not themes that require extensive elaboration in this article. On Dutch obstructionism after 1815, see footnote 63 below.

<sup>33</sup>For example, article 89 of the Treaty of Münster: “Above all, the Navigation of the Rhine shall be free, and none of the partys shall be permitted to hinder Boats going up or coming down, detain, stop, or molest them under any pretence whatsoever, except the Inspection and Search which is usually done to Merchandizes: And it shall not be permitted to impose upon the Rhine new and unwonted Tolls, Customs, Taxes, Imposts, and other like Exactions; but the one and the other Party shall be contented with the Tributes, Dutys and Tolls that were paid before these Wars, under the Government of the Princes of Austria.” Similarly explicit language in article 6 of the Rastatt treaty: “Navigation and other uses of the River shall remain free and open to the subjects of the two parties [France and the Empire] and to all those wishing to pass by, sail, or transport merchandise . . . Nor, especially, can they demand new tolls or taxes or increase old ones, or oblige vessels to land on one bank rather than the other, to lay open their cargo or to receive any, but all shall be at the choice of each individual.” Both in Fred L. Israel, ed., *Major Peace Treaties of Modern History, 1648–1967*, vol. 1 (New York: Chelsea House, 1967–80), 35 (Treaty of Münster), 244 (Rastatt treaty).

ninety-two years later when the Empire passed away in 1806.<sup>34</sup> But the treaties lacked any effective enforcement; either for the ambitious claims that the river should be “free” for commerce or for the more modest goal of limiting tolls to those already in existence. In this period of the later Empire the river’s commercial regime descended into a dysfunctional mixture of chaos and extortion. The river’s carrying trade was effectively partitioned by the merchant communities of the Netherlands, Cologne, Mainz, and Strasbourg, and the numerous tolls were appropriated by a multiplicity of local authorities. In 1789 at least nine different authorities ranging from the King of Prussia to the Prince of Hessen-Rheinfels to the cathedral chapter of Cologne and all four Rhine electors levied tolls at twenty specific points on the lower half of the river between Mainz and the Dutch border.<sup>35</sup>

Contemporary criticism of the anarchic Rhine regime ranged from one end of the river to the other. On the upper Rhine, Palatine Elector Charles III Philip, himself a holder of several Rhine tolls, had rebuilt Mannheim as his new capital in 1720 with hopes that the city would emerge as a major inland port, but found his plans thwarted by the accumulation of restrictive practices along the river. In the German territories of the lower Rhine, merchants and shippers seethed at coercive navigational restrictions that funneled all long-distance commerce to the Dutch ports and Cologne. Critics cited Imperial ordinances, international treaties, Roman law, the *Sachsenspiegel*, Grotius, Puffendorf, natural law, free trade, efficiency, and common sense in demanding an end to compulsory transfer and the imposition of some order in the collection of tolls. The final decades of the empire saw a lively public debate in the form of printed pamphlets between critics and defenders of existing practices on the river.<sup>36</sup>

### French Reforms and Commercial Revival

Not surprisingly, the arrival of revolutionary French power into this thicket of particularist privileges initiated a fundamental transformation of the river’s commercial regime. As early as November 1792, the French had used a combination of natural law arguments and anti-feudal rhetoric to justify their forced reopening of the Scheldt, which had been closed by the Dutch since 1648 under the terms of the settlement at Westphalia. Continued military success as reflected in the treaties

<sup>34</sup>That case certainly makes one wonder why “in recent years the reputation of the imperial courts has improved considerably.” Fahrmeir, “Centralization versus Particularism in the ‘Third Germany,’” 113.

<sup>35</sup>HASK, Bestand 350 (Französische Verwaltung), 5265, part 1.

<sup>36</sup>For example, Johann Windscheid’s collection of legal and historical arguments against the privileges of Cologne, *Commentatio de Stapula* (Düsseldorf: Stahl, 1775), written in reply to a 1774 tract published in Cologne, defending the city’s traditional river privileges, *Stapula Urbio-Agrippiensis*. These and other contributions to the debate are in GStAP III.HA I Nr. 1368; a collection of such works is in HASK 350/5721 “Druckschriften über das Cölner Stapelrecht 1776–1795.”

of Basel (April 1795) and The Hague (May 1795) brought greater French attention to the Rhine. The Treaty of The Hague contained a declaration that neither France nor the Netherlands could prohibit friendly commerce on the Rhine, Meuse, and Scheldt (article 18).

A victory at Neuwied in April 1797 bought French attention to the major portion of the river. The commander of French forces, General Louis Hoche, declared the Rhine free, although he certainly was not in any position to enforce that claim beyond the territory he occupied.<sup>37</sup> In October 1797 the Treaty of Campo-Formio delivered a substantial portion of the left bank of the Rhine to France. In the second secret article attached to that treaty, the French and Emperor Francis II agreed to abolish traditional commercial restrictions at several key points on the river (e.g., at Koblenz), thus initiating the revolutionary process of exploding the old regime along the German portion of the river.<sup>38</sup>

At the lengthy Congress of Rastatt, which followed Campo-Formio, the French moved forward with demands for a thorough reform of commercial practices on the Rhine, beginning with a rationalization of tolls.<sup>39</sup> In July 1798, French authorities unilaterally declared Rhine commerce to be “*absolument libre*,” explicitly abolishing the Stapelrecht and traditional monopoly privileges of the boatmen’s guilds in Cologne and Mainz, now both under French control.<sup>40</sup> The French advanced a number of even more radical proposals for the river: the abolition of goods tolls; free navigation of the river subject only to a uniform passage toll; the abolition of all compulsory transfers; and French access to the interior rivers of Germany. When the remaining Imperial authorities, the German princes, and the Dutch all balked at these sweeping French proposals, the congress ended inconclusively on this point.<sup>41</sup>

The following years saw a progressive dissolution of the old commercial regime along the Rhine, but as yet without any new, comprehensive set of rules. So, for example, in the four new French departments on the left bank, occupation commissar Francisque Rudler initially ordered an untenable tripartite regime under which goods coming into the left bank were freed from all Rhine tolls, goods going elsewhere but carried by French-licensed shippers received a one-third reduction of tolls, and all other goods remained subjected to current and

<sup>37</sup>Sydney Biro, *The German Policy of Revolutionary France*, vol. 1 (Cambridge, MA: Harvard University Press, 1957), 695.

<sup>38</sup>Israel, ed., *Major Peace Treaties of Modern History*, vol. 1, 441. Biro notes that free navigation on the river had been part of the French-Austrian armistice in the winter of 1795–96. Biro, *German Policy*, 694.

<sup>39</sup>French note of May 3, 1798, summarized in Solms-Laubach’s report to Stein, February 28, 1814, GStAP III.HA I Nr. 1367.

<sup>40</sup>“Les droits d’Étape soient abolis, ainsi que les corporations de bateliers,” *ibid.*, GStAP III.HA I Nr. 1367.

<sup>41</sup>Original documentation in Heinrich Freiherr Munch von Bellinghausen, ed., *Protocoll der Reichs-Friedens-Deputation zu Rastatt*, 3 vols. (Rastatt: Sprinzing, 1800).

rapidly changing practices.<sup>42</sup> When the Treaty of Lunéville secured further French gains along the Rhine and established the river itself as the border between France and the Empire, the ground was set for a comprehensive overhaul of commercial practices as they had evolved on the Rhine over the previous several centuries.

A far-reaching new plan for the Rhine emerged from the negotiations that took place in the Imperial Reichstag after Lunéville and culminated in the *Reichs-Deputation-Hauptschluss* (RDHS) of February 1803. On two occasions in August and October 1802, the French reiterated their earlier demand from the Congress at Rastatt: abolition of all tolls on the Rhine. Only the desperate French need for additional revenues, some of which could help to compensate the German princes dispossessed by France's own annexation of the Rhine's left bank, convinced French negotiators that river commerce must remain subject to tolls of some sort. But having agreed in principle that both French and German authorities must extract some income from the Rhine, the French were determined that the collection regime should conform as closely as possible to their own fiscal, political, and ideological agendas. On February 11, 1803, the French presented a comprehensive plan, subsequently included in the final RDHS as lengthy article 39. That article laid out the basic principles of a new commercial regime for the river, the *Schiffahrts-Octroi*, which would be administered "jointly" (*gemeinschaftlich*) by France and the "German Empire," and would be elaborated further in an "additional agreement."<sup>43</sup>

The result was a landmark compromise agreement between France and the remaining German interests, represented by Imperial Arch-Chancellor Karl Theodor von Dalberg, Archbishop of Mainz. Signed in August 1804 and ratified in February 1805, the "*Octroivertrag*" dramatically reformed the previously anarchic Rhine tolls and established a truly innovative joint Franco-Imperial administration covering the river from Switzerland to the Dutch border.<sup>44</sup> Most fundamentally, the tolls on goods were rationalized. Fixed toll schedules for three classes of goods were established, and the number of toll stations was reduced to twelve, with six on each bank. First-class goods paid a toll of 2.00 francs/hundredweight (fifty kg.) for the upstream trip from the Dutch border to Strasbourg and 1.33 francs for the downstream trip. The agreement required both parties to use the toll revenues to police and administer the river, including subsequent toll collection, and to maintain the channel, towpaths, and shore

<sup>42</sup>This transitional phase between Campo-Formio and the new Octroi agreement in 1804 is well described in Gothein, *Geschichtliche Entwicklung der Rheinschiffahrt*, 18–29.

<sup>43</sup>Article 39 reprinted in Zentral-Kommission für die Rheinschiffahrt, *Rheinurkunden. Sammlung zwischenstaatlicher Vereinbarungen, landesrechtlicher Ausführungsverordnungen und sonstiger wichtiger Urkunden über die Rheinschiffahrt seit 1803*, vol. 1 (Munich: Duncker & Humblot, 1918), 1.

<sup>44</sup>*Ibid.*, 6–25.

facilities.<sup>45</sup> This streamlined arrangement was a vast improvement for merchants: published toll rates allowed costs to be calculated in advance, fewer toll stations reduced time lost in weighing cargoes and making payments, reduced toll rates saved money, and a designated investment in infrastructure promised physical improvements in the river for all travelers.

More significantly, the Octroi agreement created a small bureaucracy controlled jointly by the French government and the arch-chancellor that administered the river as a unitary whole. Both parties jointly appointed the chief executive officer, the director-general, who supervised toll collection, inspected the towpaths, and issued provisional new regulations. In addition, each side appointed two of the four “inspectors” for the river and one-half of the toll agents. In a judicial capacity, the director-general and the inspectors also served a bipartite court of appeals for penalties imposed by toll agents.<sup>46</sup>

Arriving from Paris to establish the new Octroi regime, one of France’s great organizers, Charles Coquebert-Montbret, moved energetically to establish the necessary bureaucratic infrastructure, to enforce the terms of the treaty, and to issue new regulations. He defined the duties of each level of the Octroi administration from the director-general to the clerical staff and boat hands. He also quickly established procedures for collecting fines, hearing appeals, and holding trials. More substantively, he created a system of numbered and recorded bills of lading for presentation at the toll stations that became a centerpiece of regulated commerce on the river. He also prescribed standard procedures for assessing cargo volumes and for loading and unloading ships at the busiest ports of Cologne and Mainz. Having created the necessary organizational structure and established the precedent of active regulation of commerce, Couquebert-Montbret named Johann Joseph Eichhoff as director-general and returned to Paris in September 1806.<sup>47</sup>

Eichhoff continued to modernize commercial practices on the river, for example, by supplanting the local boatmen’s guilds with a training and licensing system open to anyone on the river with certificates issued by the General Direction itself. Toll collection proceeded efficiently; Eichhoff claimed that administrative costs for all activities ran below ten percent of revenues, probably

<sup>45</sup>Revenues collected on the right bank in excess of these costs could be used to support Arch-Chancellor Dalberg and other disposed German princes as stipulated in several articles of the RDHS, but it is not correct to say, as Peter Wilson and many others have, that “France promised [Dalberg] half the revenue” from future Rhine tolls. Peter Wilson, “Bolstering the Prestige of the Habsburgs: The End of the Holy Roman Empire,” *The International History Review* 28 (Dec. 4, 2006): 718. Dalberg was never in favor of this arrangement and resigned his claims in 1810.

<sup>46</sup>As early as July 1797, Talleyrand told the Margrave of Baden that one important French motive for reforming Rhine commerce was to relieve French shippers of appearing before foreign (German) courts that were notoriously slow and expensive. Biro, *German Policy*, 965.

<sup>47</sup>Substantial original documentation on Couquebert-Montbret’s activities are in HASK350/5265/1 and 2, “Organization des Rheinschiffahrtsoctrois und die Rheinzölle,” 1804–1809.

below the rate for the collection of other indirect taxes. Most impressive perhaps was the work on the physical improvement of the river. Noticeable upgrades were made to shore facilities on the upper Rhine and to the towpath on the right bank. In 1804 these achievements inspired the Chamber of Commerce of Mainz to propose the formidable project of widening the river channel by blasting and clearing the rock-lined narrows between Bingen and Koblenz—something not accomplished until 1831. On the basis of the knowledge about the course and condition of the river accumulated by the Octroi administration, Johann Ockhardt produced the first thorough natural geographic description of the river in 1816.<sup>48</sup>

Under these new commercial arrangements, trade volumes increased dramatically along the entire length of the Rhine, as the data show clearly. Gothein calculated the volume of total Rhine trade moving through Cologne in 1789 at 1.5 million hundredweights (fifty kg.) “which can be considered a normal year.” In 1807, just the second year of the new Octroi regime, that volume was 5,239,972, an increase of 346 percent. Upriver in Mainz, the increase was similarly dramatic; prerevolutionary annual turnover had averaged 667,083 hundredweights, but moved to 2,721,354 in 1807, an increase of just over 400 percent.<sup>49</sup> After Napoleon restricted continental imports, traffic heading up the lower Rhine began to shrink, but the increased trade volumes on the upper portions of the river proved a bit more durable. Eichhoff’s data indicate that trade between Frankfurt, Mannheim, and Strasbourg increased through 1809.<sup>50</sup> Geoffrey Ellis mentions Strasbourg’s Rhine traffic as having “quadrupled in volume by comparison with annual average before 1806.”<sup>51</sup>

These large freight volumes produced substantial revenues, despite the overall reduction in toll rates that had been an explicit goal and condition of the Octroi. Toll revenues rose approximately five percent annually, reaching 2,563,000 francs in 1807, before falling off between 1808 and 1813 as the provisions of Napoleon’s Continental System dramatically reduced imports moving upstream.<sup>52</sup> On the upper Rhine, which suffered less under Napoleon’s policies of economic warfare, the toll revenues collected at Mannheim increased twenty-nine percent between 1806 and 1809; further upriver at Neuburg, toll revenues

<sup>48</sup>Johann Ockhart, *Der Rhein nach der Länge seines Laufs und der Beschaffenheit seines Stromes* (Mainz: Kupferberg, 1816). A summary of these major developments is in Gothein, *Geschichtliche Entwicklung der Rheinschiffahrt*, 43 ff.

<sup>49</sup>Gothein’s data in *Geschichtliche Entwicklung der Rheinschiffahrt*, 25–26; data for 1807 in GStAP, IHA, Rep.113, Nr. 242.

<sup>50</sup>J. J. Eichhoff, *Topographische-Statistische Darstellung des Rheins* (Cologne: M. Dumont-Schauberg, 1814), 18.

<sup>51</sup>Geoffrey Ellis, *The Napoleonic Empire* (Highlands, NJ: Humanities Press International, 1991), 102.

<sup>52</sup>Report by Sebastian Nau, Bavarian member of the Rhine Commission, November 15, 1831, Bayerisches Hauptstaatsarchiv (hereafter BayHStA), Munich, MA 63447.

increased forty-three percent in the same period.<sup>53</sup> In the ten years of the Octroi (1805–1814), the river yielded just over seventeen million francs in toll revenues.<sup>54</sup>

### Continuities in Governance and Commerce after 1815

Among the victorious powers of 1813–1814, none had an interest in returning to the anarchic Rhine regime of the prerevolutionary period. British and Prussian governments, each for its own distinct reasons, actively sought to continue the administrative rationalizations and toll reductions introduced by the French. *Staatsminister* Stein preserved the unified structure of the Octroi administration when the allies seized control of the river in 1813. As early as February 1814 Friedrich Graf zu Solms-Laubach, the future *Oberpräsident* of the Prussian Rheinprovinz, recommended to Stein that the core of Octroi practices be continued.<sup>55</sup> In Austria and Russia, Metternich and Alexander regarded the future administration of the Rhine as an issue of secondary importance. This rough position of interests produced the early general agreement that the Rhine would remain open to the commerce of all states, a principle that was incorporated into the Peace of Paris in May 1814 as article V as a crucial first step in preserving the gains of the Napoleonic period.<sup>56</sup>

In Vienna the powers established a “*Commission relative à la libre navigation des rivières*” in which the Rhine was the major issue. Work began in December 1814 with representatives from Prussia, Austria, France, and Britain. The major powers soon invited the smaller Rhine states—Netherlands, Nassau, Hessen-Darmstadt, Bavaria, and Baden—to participate in discussions that produced thirty-two articles “concerning Rhine shipping” that were signed in Vienna by the five major powers and the Rhine states on June 9, 1815, and incorporated via article 118 into the final protocol of the congress as Appendix 16B.<sup>57</sup> The Austrian delegate, Deputy Foreign Minister Jan Phillip Wessenberg, had no substantive impact on the sessions. The French were not opposed to preserving the reforms of 1804, but proceeded cautiously in the immediate aftermath of the war. Industrial superiority and an emerging ideology of free trade made the preservation of reforms that promised access to continental markets via the Rhine an obvious goal of British policy; however, Britain lacked the standing of a riparian state, and Lord Clancarty could not influence the commission to the extent that he desired. This conjunction of power and interests gave the

<sup>53</sup>Nau’s reports of December 21, 1827, and February 18, 1828, both in BayHStA, MA 63447.

<sup>54</sup>Report on Rhine revenues for 1824, dated September 13, 1825, GStAP, IHA, Rep.113, Nr. 163.

<sup>55</sup>GStAP, IIIHA I, Nr. 1367.

<sup>56</sup>“Art.V—La navigation sur la Rhin, du point où il devient navigable jusqu’à la mer et réciproquement, sera libre, de telle sorte qu’elle ne puisse être interdite a personne.” Zentral-Kommission für die Rheinschiffahrt, *Rheinurkunden*, vol. 1, 36.

<sup>57</sup>*Ibid.*, 42.

Prussian delegate Wilhelm von Humboldt the opportunity to advance Prussian goals for a Rhine regime that would foster commercial development of the river in the new Prussian Rhine provinces.

After 1815, the Prussian administrative leadership was determined to integrate its heterogeneous new possessions in the Rhineland and Westphalia into coherent Prussian provinces and to link the Rhine-Westphalian territory to the older portions of Prussia. Unlike the other German riparians (Baden, Bavaria, Hessen-Darmstadt, and Nassau), Prussia was not willing to issue a constitution to help to unify its new holdings politically.<sup>58</sup> Instead Prussia relied exclusively on economic and administrative integration to bring its new lands together. Economic integration of the Rhine provinces and Westphalia required the removal of the impediments to commerce along the river itself.<sup>59</sup> Prussian ambitions were clearly evidenced in Wilhelm von Humboldt's energetic influence in drafting the Rhine articles of 1815 at the Congress of Vienna. Humboldt doggedly argued for the greatest possible commercial freedom on the river and pushed unsuccessfully for an even stronger central administration than eventually emerged.<sup>60</sup> In pursuit of Prussian goals, Humboldt sacrificed the Cologne boatmen's traditional right of compulsory transfer (article XIX). Subsequent Prussian members of the new commission that governed the river, Johann Jacobi and Heinrich Delius, refused to support the boatmen's petitions for reinstating the right of compulsory transfer at Cologne.

Beyond Humboldt's efforts in Vienna, the impressive record of the Octroi in increasing both trade volumes and producing predictable revenues was a persuasion that spoke for itself, especially to the smaller states that could not resist the allure of revenues arising from river tolls.<sup>61</sup> Under Prussian lead the other states agreed to establish a permanent Central Commission for Navigation of the Rhine as a replacement for the Octroi—the next crucial step in preserving the governing principles for Rhine commerce that had evolved during Napoleonic hegemony. In June 1815 the member states charged the commission with several duties: first, to “provide official communication between the river states concerning all aspects of shipping on the river” (article X); second, to “develop

<sup>58</sup>Nassau issued a new constitution on September 2, 1814; Bavaria on May 26, 1818; Baden on August 22, 1818; and Hessen-Darmstadt on December 17, 1820.

<sup>59</sup>Set in a larger pattern of Prussian economic liberalization that begins with the *Allgemeines Landrecht* of 1794 and runs through the tariff reform of 1818, Prussian policy on the Rhine is more understandable, perhaps even predictable.

<sup>60</sup>Documentation of the commission's work at Vienna is in Zentral-Kommission für die Rheinschiffahrt, *Rheinurkunden*, vol. 1, 50–162; unpublished material on Prussian efforts in this body is in GStAP III.HA I Nr. 1371.

<sup>61</sup>From 1816 to 1820, for example, annual gross revenues collected on the conventional Rhine between Strassbourg and Emmerich averaged 2.2 million francs, calculated from the report of Bavarian commissioner Nau to Munich, November 15, 1831, BayHStA, MA63447. At that time, 2.2 million francs equaled 1.01 million gulden, or about half the annual budget of the Duchy of Nassau.

exact controls for the observation of the common rules” on the river (article X); third, to issue “interim instructions” on toll-rates for the river (article XXXI); and fourth, to produce a new long-term governing agreement for Rhine shipping that would regulate commerce beyond the guidelines given by the congress in the thirty-two articles of 1815.<sup>62</sup> After considerable delay involving Dutch insistence on placing tolls at the mouth of the Rhine, this fourth obligation eventually produced the Rhine Treaty of 1831 (Mainzer Akte), which reconfirmed the duties of the Central Commission as monitoring enforcement of current rules, offering new regulations, indicating necessary physical improvements in the river, and issuing an annual report on the state of commerce on the Rhine (article 93).<sup>63</sup> The agreement of 1831 was, in essence, another extension of the river regime invented and put in place during the Napoleonic period.

In the decades between 1815 and 1870, the commission initiated dozens of regulatory directives, added twenty supplementary articles to the treaty of 1831, created an agreement on common police procedures, and finally arranged for a fundamental overhaul of the 1831 agreement, producing a new treaty in 1868, the “Treaty of Mannheim,” which extended the fundamental mechanisms of Rhine governance as they had been developed in 1804 into the late nineteenth century. In addition to its own active agenda, the Central Commission spawned a number of sub-bureaucracies that operated along the length of the river: the Rhine inspectors, the revenue stations, the central accounting office, and the Rhine courts.

The commission’s activities had far-reaching consequences for the economic and political development of early-nineteenth-century Germany, many of which are just beginning to receive an assessment. Most immediately, the Central Commission forcefully advanced the economic integration of north and south Germany by preserving earlier toll reductions and permanently voiding the right of compulsory transfer. In subsequent decades the commission continued to administer the river as a unitary whole, moving toward a progressively more liberal regime, and modifying the rules of the river to accommodate changes in technology and business organization, thus transforming the river into the enormous freightway that it remains today.<sup>64</sup>

<sup>62</sup>Zentral-Kommission für die Rheinschiffahrt, *Rheinurkunden*, vol. 1, 42–50. In accordance with the documents themselves, this essay uses Roman numerals when referring to the Vienna Rhine articles of 1815 and Arabic numerals when referring to articles of the 1831 Rhine Treaty.

<sup>63</sup>On Dutch obstructionism, begin with P. J. Bouman, *Rotterdam en het Duitse achterland, 1831–1851* (Amsterdam: H. J. Paris, 1931), which surpasses any German-language account of which I am aware. For the 1831 treaty, see Zentral-Kommission für die Rheinschiffahrt, *Rheinurkunden*, vol. 1, 212–273.

<sup>64</sup>As early as 1832, Hanover cited the “beneficial effects” of the Rhine regulations under the Central Commission in its arguments to the German Confederation for a liberalization of the transit trade in Germany; see the 29th Bundestagsitzung, August 9, 1832, in H. Oncken and F. E. M. Saemich, eds.,

In the 1830s, for example, the commission adapted the regulatory regime of the river to accommodate the growing use of steam power and iron barges on the Rhine. A decade later the commission modified the Rhine regime to accommodate the organizational change in the business of shipping as new shipping corporations with large fleets of steam tugs moved to capture the business in large-scale long-distance shipping. Both steps were crucial in the evolution of Rhine commerce in the nineteenth century. The Rhine Commission's activities in managing the application of revolutionary transportation technology and new forms of business organizations on the river in the 1820s, 1830s, and 1840s demonstrate how coordinated management of the river was crucial to reducing transportation costs. Declining transportation costs were crucial to the rise of the upper Rhine economy and its industrial centers at Mannheim and Ludwigshafen. Without a coordinating institution such as the commission, it is impossible to imagine that several states would have been willing and able to manage parallel reforms along the length of the river in a unified manner.

In the century from 1835 to 1935 the Rhine increased its share of Germany's total waterway traffic from thirty-five percent to nearly sixty percent, while the percentages of traffic carried by the Elbe and the Oder each declined.<sup>65</sup> A functional regime for managing traffic on the Rhine was not the root cause of this increase, which was based on colossal exports of coal, iron, steel, and chemicals. But the commercial regime of the river was absolutely indispensable in facilitating the necessary transport of the natural endowments and industrial products of the Rhine basin. A badly dysfunctional regime in the eighteenth century severely constricted the river's trade volume. The creation of a revolutionary new arrangement in the form of the Octroi brought with it almost immediately a commercial revival that reflected the river's natural potential. Napoleonic achievement in river governance was preserved and extended throughout the nineteenth century and into the twentieth by the Peace of Paris (1814), the Vienna Congress (1815), and the treaties on Rhine shipping (1831 and 1868). That was the great prerequisite for unlocking the river's economic potential in the industrial age.

### Conclusions

The state of the Rhine regime in the eighteenth century and the changes of the revolutionary period allow a first set of concluding observations in a subject area about which a good deal has been written lately—the nature and functioning of

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*Vorgeschichte und Begründung des Deutschen Zollvereins 1815–1834*, vol. 1 (Berlin: Hobbing, 1934), 272–73.

<sup>65</sup>Andreas Kunz, "The Performance of Inland Navigation in Germany, 1835–1935: A Reassessment of Traffic Flows," in *Inland Navigation and Economic Development in Nineteenth Century Europe*, ed. Andreas Kunz and John Armstrong (Mainz: Philipp von Zabern, 1995), 49, table I.

the Holy Roman Empire. Conditions along the Rhine between 1648 and 1805 demonstrate that some sharp limits remain on the degree of revisionist optimism that can be attached to the later empire. The absolute and relative decline of the river during the seventeenth and eighteenth centuries does not support ideas emerging from other studies that the Empire could facilitate common action, enforce the collective will, or employ relatively efficient institutions.<sup>66</sup>

Strong revisionist arguments have been advanced in favor of the old Reich's economic performance and, by extension, its overall structure. Applying the arguments of the new institutional economics (NIE) to the later Empire, Oliver Volckart's work has been influential over the past decade in rehabilitating scholarly perceptions of the Empire as a framework that could and did promote economic prosperity.<sup>67</sup> This analytic approach, however, is not particularly useful for understanding Rhine commerce or other similar economic activities, for two reasons. First, as Volckart acknowledged, NIE explanations treat only mobile factors of production, most typically the many mobile forms of capital and mobile varieties of labor in that period. In the Holy Roman Empire, the argument applies to mobile factors that could selectively migrate between the numerous political territories of the empire, thereby forcing state governments into a long-term competition that gradually produced increasingly efficient institutional arrangements for economic growth.<sup>68</sup> This argument cannot apply to immobile natural resources such as waterways, forests, and mines, or to the essentially immobile forms of capital equipment developed to exploit unique physical resources, for example, river barges designed and constructed for maximum efficiency in the specific local topography of the upper Rhine. Significant portions of the Rhine commerce itself were also essentially captive to the river, unable to migrate in search of better institutional arrangements. This was true, for example, for the most important single commodity carried on the Rhine, timber transported downstream from the upper river in vast rafts. Some merchants with more easily moveable goods did abandon the river in favor of less burdened routes, as noted above, but exploitation of the remaining captive commerce continued to provide the holders of tolls, monopolies, and other special privileges with generous revenue streams.

Second, institutional competition between states could lead to improvements only in those institutional defects that lay within the power of a single state to correct; NIE makes no argument that territorial competition either created or improved institutions that would have been inherently interterritorially cooperative in nature. But interterritorial institutions were precisely what the Rhine

<sup>66</sup>Peter Wilson, "Still a Monstrosity? Some Reflections on Early Modern German Statehood," *The Historical Journal* 49 (2006): 2, 573–575, and the literature cited there.

<sup>67</sup>Oliver Volckart, "Politische Zersplitterung und Wirtschaftswachstum im Alten Reich, ca. 1650–1800," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 86, no. 1 (1999): 1–38.

<sup>68</sup>*Ibid.*, 3–6.

needed. Improvements that reduced barriers or streamlined regulation in a single state or city would do little to boost the overall efficiency of the river, which could be improved only by addressing the river in longer stretches. For this very reason there was also no incentive for a competition of institutional improvement even within individual territories, and so none of the Rhine territories produced fundamental commercial reforms for river traffic. Any significant improvement for the entire river required jointly coordinated institutional modifications in many riparian territories. This was exactly the type of interterritorial cooperation that the states of the Empire and the Empire itself did not produce.<sup>69</sup>

Any notion of the later Empire as an effective form of federalism in a large, decentralized, and diverse polity confronts the same familiar obstacles of the Imperial *ancien régime* on which Rhine traffic itself ran aground: particularism and privilege. A political structure that actively impeded the efficient use of one of the most significant natural resources in the old Reich has to be considered dysfunctional at some level.

It is true that the first substantive steps toward reform along the Rhine took place during the final days of the Empire, in the RDHS, and that ratification of the Octroi agreement of 1804 with France was one of the last acts of the Imperial Reichstag. But these actions cannot be considered genuine acts of Imperial reform. The long-term evolution of government on the Rhine suggests the Octroi regime was a reluctant compromise response by the German princes to overpowering French insistence on sweeping changes. It remains unrealistic to imagine that either the individual states of the Empire or the Empire itself as an institution could have produced these extensive and rapid reforms without irresistible external pressure.

The inability of Imperial structures to address the well-articulated problems affecting Rhine commerce only highlights the successes of the French period. As early as 1795, revolutionary French ideas and practices began attacking the well-known impediments to river traffic that had accumulated under the Empire. By 1804 the new Octroi treaty indicated clearly that the French presence on the Rhine would constitute a sharp break with preceding practices. Beginning in 1806 French reforms produced immediate, positive, and measurable effects on Rhine commerce. These are clearly demonstrable by using a broad range of data points to balance the financial losses of Cologne and Mainz against the increasing traffic and improved infrastructure on other portions of the river. French reforms were also important for the post-1815 history of the river because they comprised the core of subsequent agreements that shaped the evolution of the Rhine over the nineteenth century as it became Germany's single most important transportation link.

<sup>69</sup>Volcarkt admits that during the Empire, problems "in interterritorial trade remained." *Ibid.*, 37.

Although the short-term and long-term economic consequences of the new Rhine organization created between 1797 and 1804 were enormous, these developments have received little attention from historians of the period. Except for the specialized work of French historian Roger Dufraisse, the fundamental recasting of the Rhine regime is rarely even mentioned in accounts of the revolutionary and Napoleonic eras.<sup>70</sup> Nowhere has the Octroi received a substantive treatment. Such omissions are perhaps understandable in larger-themed treatments of Europe in an age of revolution, but these lacunae become more curious as one moves from general works to more specific studies of the French Revolution in Germany, the French presence in the Rhineland, the impact of French occupation policies on the Rhenish economy, French administration during the revolution, or the French occupation in specific departments of the Rhineland.<sup>71</sup> Much of this literature directly addresses French tariff and customs policies, French trade policy, the Continental System, and the influence of these French policies on the economic development of the Rhineland and Germany, but does not explicitly include the Octroi and the dramatically altered nature of commercial governance on the river as an additional factor that must be evaluated for its own impact on imports, exports, and economic activity along the Rhine. It may be seriously misleading to use changing volumes of Rhine commerce as evidence for how French tariff and trade policies affected European trade without factoring in the independent effects of the Octroi reforms on river traffic.<sup>72</sup>

Beyond their economic impact French commercial reforms on the Rhine might be of general interest because in their combination of revolutionary ideology, rationalizing administration, accommodation with existing structures,

<sup>70</sup>In his many essays on economic and commercial developments during the Napoleonic period, Dufraisse occasionally referred to extensive changes underway on the Rhine and sometimes identified the Octroi administration by name, but he never addressed the river's governance as a subject in its own right. See, for example, Roger Dufraisse, "Industrie et commerce dans le palatinat à l'époque française (1797–1813)," in *Vom alten Reich zu neuer Staatlichkeit. Kontinuität und Wandel im Gefolge der französischen Revolution am Mittelrhein*, ed. Alois Gerlich (Wisebaden: Franz Steiner, 1982), 108.

<sup>71</sup>Exceptions notable for brief mentions of the Octroi administration are Diefendorf, *Businessmen and Politics*, 178–179; Sabine Graumann, *Französische Verwaltung am Niederrhein. Das Roerdepartement 1798–1814* (Essen: Klartext, 1990), 125; Michael Rowe, *From Reich to State: The Rhineland in the Revolutionary Age, 1780–1830* (Cambridge: Cambridge University Press, 2003), 199. Geoffrey Ellis's brief summary of the Octroi agreement contains numerous inaccuracies, beginning with a misidentification of the "droit de relâche or Stapelrecht" as one and the same the same privilege, when in fact they were two distinctly different rights and were treated as such by the Octroi; Geoffrey Ellis, *Napoleon's Continental Blockade: The Case of Alsace* (Oxford: Clarendon Press, 1981), 52, footnote 64.

<sup>72</sup>To cite just one recent example from the voluminous literature on the Continental System, Katherine Aalestad attributes "additional river traffic" on the Rhine after 1806 and the improved economic fortunes of Strasbourg to the "elimination of British competition" and "the shift in commerce from the Atlantic seaboard to the Rhine" as results of Napoleon's Continental Blockade, without recognizing the more immediate impact of the Octroi's reforms on these Rhine developments. See Katherine Aalestad, "Revisiting the Continental System: Exploitation to Self-Destruction in the Napoleonic Empire," in *Napoleon and his Empire: Europe 1804–1814*, ed. Philip Dwyer and Alan Forrest (New York: Palgrave, 2007), 116.

taxation, infrastructure improvement, acquisition of scientific knowledge, and compilation of statistics, they could serve as a quintessential example of how the French Revolution and Napoleonic experience unfolded in the “third Germany.”

If French reforms constituted a distinct break with the old Reich by ending many practices of the Imperial past, they also provided an essential continuity for the years after 1815 by furnishing many elements of Rhine governance that would endure over the following decades. This essay has briefly traced the step-by-step preservation of the Octroi reforms between 1813 and 1815 and their reconfiguration as the centerpieces of later agreements on Rhine governance signed in 1831 and 1868. A lengthier explication could show just how closely dozens of articles in the Mainz Treaty of 1831 were modeled on earlier counterparts in the Octroi Treaty of 1804. To be sure, Napoleonic structures were renamed and participating membership in the new Rhine Commission was broadened to accommodate the changed political geography of 1815, but the essential principles and practices of the earlier French creation were recognizable to all involved. Those continuities directly linked the dramatic growth of Rhine commerce and economic expansion in the Rhine basin in the nineteenth century to the organizational achievements of the revolutionary era. Along the Rhine, nineteenth-century economic prosperity owed a lot to earlier French exercises of political power. This important recognition should be added to the complex balance sheet of the French presence in Germany when assessing the impact of the French Revolution on its western neighbor.

Because French reforms have not received adequate recognition in their own right, it can hardly be surprising that their role both in inspiring subsequent agreements on Rhine commerce and in comprising the core elements of those agreements has also generally been overlooked. In addition to the widespread material confusion that persists regarding the contents of the 1831 treaty, there has been little effort on the part of recent German historians to emphasize the intimate link between the Rhine governance of the nineteenth century and the preceding French occupation.<sup>73</sup>

The evolution of the commercial regime on the Rhine is a large regional issue with enormous consequences that remain little known. If Frank Tipton is right that “regional consciousness may be the linking term connecting the economic histories of localities with the emergence and development of the national economy,” then understanding the development of larger regional economies

<sup>73</sup>In recently discussing nineteenth-century developments on the river, Dieter Strauch consigned the Octroi to the “prehistory” of the period; French achievements find no reference in his discussion after 1815. Dieter Strauch, “Die Entwicklung des Rheinschiffahrtsrechts zwischen 1815 und 1868,” in *Der Rhein als Verkehrsweg*, ed. von Looz-Corswarem and Mölich, 61–92. Hans Jaeger makes no reference to earlier French activities in his brief discussion of the 1831 treaty; Jaeger, *Wirtschaftsordnung*, 52.

such as the Rhine river basin will be an essential step in a collective historical enterprise that stitches together local histories to produce national, continental, and global histories of trade and transportation.<sup>74</sup> For the Rhine, this task would include correcting widespread misperceptions about how the river was regulated and drawing attention to the interconnectivity of events before, during, and after the French revolutionary episode.

The Rhine River became Europe's most heavily used waterway through an interplay of highly visible natural, technological, and economic forces. But the history of the period examined here points to the less well-known commercial liberation of the Rhine by political action as the *sine qua non* for a synergistic unfolding of the material factors in the Rhine's development. Beginning with French suggestions in 1798, a series of multilateral political agreements created an appropriately interterritorial regulatory regime that reduced and eliminated artificial obstacles along the river. In this case, politics and regulation were the absolute prerequisites for releasing the river's economic potential as a transportation resource.

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<sup>74</sup>Frank Tipton, "The Regional Dimension in the Historical Analysis of Transport Flows," in *Inland Navigation and Economic Development*, ed. Kunz and Armstrong, 179.