Austrian History Yearbook (2023), **54**, 136–158
doi:10.1017/S0067237823000176

CAMBRIDGE UNIVERSITY PRESS

ARTICLE

The Beautiful Public Danube: Water Uses, Water Rights, and the Habsburg Imperial State in the Mid-nineteenth Century

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Abstract

This article analyzes an 1869 law from Cisleithania that defined all running waters as public goods. Economic and political actors debated the issue of water rights over several decades in the mid-nineteenth century, as is shown in contemporary publications, proceedings of assemblies, and administrative archives. The legal solution that was ultimately adopted established the management of water rights and uses according to a particular form of property which was intentionally preferred over a system of private appropriation. Looking in detail at what "public good" meant for the actors, this article argues that settling the legal status of rivers served to both consolidate the imperial state's power over society and to make water resources available to a productivist economic system. The new relationships to the environment that emerged during this time were inseparable from contemporary political and economic developments, and legislating was one way to bind these aspects together. Moreover, the case of water rights in the Habsburg Empire adds nuance to binary oppositions between private property and commons that dominate the study of property regimes and environment today. It invites us to consider how the establishment of a productivist economic system rested on a combination of different forms of property and strong state intervention.

Keywords: water rights; environmental history; public good; political history; Habsburg Empire

The nineteenth-century Habsburg Empire is also known as the "Danube Monarchy," an expression that mainly refers either to the geopolitical place of the empire in the field of international relations or to the symbolic role of that river in the construction of an imperial identity.[1] But the rivers flowing across the empire's territory could endorse further meanings for the society that lived there, especially in political and economic terms.[2] The *Reichswassergesetz* ("imperial law on water") enacted in 1869 in Cisleithania sheds light on some entanglements between water, politics, and the economy. One of the key issues addressed in the law was whether it was possible for an individual to own a river. According to the first articles of the law, the answer was: no.[3]

[1]Robert S. Mevissen, "Constructing the Danube Monarchy: Habsburg State-Building in the Long Nineteenth Century" (Ph.D. diss., Georgetown University, 2018). I am very grateful to Robert Mevissen for giving me access to the manuscript of his dissertation.

[2]Terje Tvedt, *Water and Society: Changing Perceptions of Societal and Historical Development* (London, 2021), chap. 1, argues for a very wide theoretical understanding of the meaning of water for human societies. For historiographical overviews of the many studies of the relationships between rivers and societies, see, among others, the introduction to *Rivers in history: Perspectives on Waterways in Europe and North America*, eds. Christof Mauch and Thomas Zeller (Pittsburgh, 2008), 1–10; and Matthew Evenden, "Beyond the Organic Machine? New Approaches in River Historiography," *Environmental History* 23 (2018): 698–720.

[3]"93. Gesetz vom 30. Mai 1869, betreffend die der Reichsgesetzgebung vorbehaltenen Bestimmungen des Wasserrechetes," *Reichs-Gesetz-Blatt für das Kaiserthum Oesterreich. Jahrgang 1869* (Vienna, 1869) (thereafter *"Reichswassergesetz"*). All legal texts are accessible online through the ALEX database of the *Österreichische Nationalbibliothek*.

The law defined all running waters, from the smallest stream to the Danube, as "public good" ("*öffentliches Gut*").[4] In other words, rivers could not be possessed as private property but belonged to the state. This had a series of practical consequences on issues like the contribution duties of citizens and on institutions for the financing of public works on rivers like flood-protection dikes. Another important consequence was that anyone who wished to use water resources for economic purposes, such as to irrigate fields or use it as a source of energy for industrial purposes, had to request authorization from the imperial state, which would possibly grant a use right for a given volume of water. The imperial government was also supposed to promote commercial navigation. In short, the law of 1869 established the notion of public good as a ruling principle to govern the allocation of water resources and enable coexistence between the interests of several actors interested in using rivers within the empire.

The legislative process that gave birth to this norm had been a long one. The issue was first raised in the 1830s and serious proposals were made from the revolutions of 1848–49 onward. These three politically contentious decades that led to the ultimate settlement on the water rights issue were very influential on the final shape of the law. The evolution of this law's territorial scope in itself reveal contemporaneous political developments within the Habsburg Empire. The earliest proposals grew out of a Lower Austrian provincial demand and were then extended to the whole empire (including the estates of the Hungarian Crown). In its final version, the *Reichswassergesetz* and its elaboration in several *Landesgesetze* applied only to the Cisleithanian half of the empire. Such a trajectory raises the question of why it seemed so important to spend so much time legislating the status of the water streams of such a large territory, and how the imperial state finally achieved this legislation. The solution itself and how it regarded water as a form of property are also interesting. While lawmakers constantly discussed the economic uses of rivers and aimed to promote the most profitable ones, they explicitly rejected a management system based on the principle of private property, arguing that it would be inadequate to the purpose of allocating water resources in the most profitable way. Why did the authors of this law prefer a system based on public good over the possibility of a private appropriation of rivers? And why did they apply the principle of public property to (almost) every stream of the empire?

In this article, I argue that the notion of public good that the law established served to both consolidate the imperial state's power over society and to make water resources available to a productivist economic system.[5] The legislative process that accomplished these aims sheds light on entangled relationships between economic development, state building, and environmental transformations. The new relationships to the environment that emerged during this time were inseparable from political and economic developments, and legislating was one way to bind these aspects together. Moreover, I argue that the case of water rights in the Habsburg Empire adds some interesting elements to the study of property regimes and the environment today. While the classical distinction inherited from the debate on the "tragedy of the commons" pits private property against the commons in a binary way,[6] the notion of public good offers a third possible term to the equation and complicates such oppositions. It invites us to consider how the establishment of a nineteenth-century productivist economic system rested on a combination of different forms of property. It also gives some insight on the ways in which historical actors debating such questions considered the environment, especially on how their vision of what could be efficient in economic and environmental terms might differ from ours.

[4]Unless specified otherwise, I will use "public good" in the rest of the article as a translation for "*öffentliches Gut*."

[5]By productivist economic system, I mean an economic system that strives to increase the wealth available in the society it is embedded in by expanding its material productive basis. The increase in material production aimed at by such "productivism" is one aspect of what we today call "growth" and can take several forms (not necessarily "industrial capitalism"). My intent when using this concept is to emphasize the actors' objective of increasing material production, an objective that was not limited to specific ideologies (like industrialism, capitalism, socialism, or others) but can be found in many development programs of the modern era. Compare with what Pierre Charbonnier calls a "will of abundance" in Pierre Charbonnier, *Abondance et Liberté : Une histoire environnementale des idées politiques* (Paris, 2020).

[6]The two classical positions in the debate stem from the classic works by Garrett Hardin, "The Tragedy of the Commons," *Science* 162, no. 3859 (1968): 1243–48 and Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge, 1990). See the third section below for more historiographic references on the debates about property regimes, economic development, and the environment.

In the first section of the article, I trace the political mechanisms that framed the writing of the law of 1869 in the Habsburg Empire. Several documents on the writing of the law, from printed proceedings of assemblies to administrative archives, shed light on a legislative process that was intrinsically linked to the ongoing process of state building. They especially document why the imperial state was interested in the issue of regulating water rights, and how it intervened with other actors in the management of water resources. In addition to this long political negotiation, the law of 1869 was also an intense debate on the economy and the role of private and public interests in the life of the empire. Therefore, in the second section of the article, I provide a detailed analysis of the economic and legal ideas that lent guidance to the legislative debates and led to the choice of the notion of public good. Finally, the last section interprets the Cisleithanian solution to water management and the implications of its property regime for the relationships between society and environment in the light of the larger body of literature on property regimes and the environment. This section will draw comparisons with other cases of nineteenth-century legal regulations of rivers in Europe and the United States. These comparisons shed light on the specificities of a system of water rights resting on the notion of public good and help us to understand the implications of the Cisleithanian lawmakers' choice. This approach also emphasizes that the role of a property regime in the management of environmental resources does not boil down to a simple equation about the efficiency of a single form of property, but is entangled with multiple political dynamics and representations of the economy in any given society.

Genesis of a Law in a Reorganized Empire

The legal status of rivers can be interpreted as a consequence of the complex situations created by their material arrangements.[7] Their legislation does not stem from a maniacal distaste for a legal vacuum, but from the necessity to arbitrate potential conflicts generated by physical, technical, and social aspects of their material realities. The erection of particular infrastructure, like water mills or rakes to collect timber drifts, affects a river's materiality and other activities, for example, by creating sand banks, reducing access to water for irrigation, or simply blocking the way for navigation. In many respects, the legal status of rivers reveals a normative aspect of the relationship between a society and its environment by stating which uses would be more desirable, who should use or not use environmental resources, and who decides on their allocation. Studying the genesis of a law is thus important to grasp power issues internal to the society that establishes this relationship. The writing of the 1869 imperial law on running waters reflected the political transformations of the Habsburg Empire in the mid-nineteenth century. In order to enact such a law, various actors had to cooperate and find a way through the debates on the political functioning of the empire from the revolutions of 1848 to the Compromise of 1867.

The "water rights issue" (*Wasserrechtsfrage*) did not appear in the Habsburg Empire in the 1830s out of a legal vacuum. In the early nineteenth century, the legal status of running waters suffered from ambiguities between provincial laws inherited from the formation process of the composite monarchy. This process had created legal differences between provinces. Such heterogeneity conflicted with the imperial government's desire to rationalize and homogenize laws and institutions. Many legal norms on water usage had existed since the sixteenth century, such as the ones concerning mills ("*Mühlenordnungen*"). The sovereign already had a form of prominence as "*Landesfürst*," but these norms were tied to the acts of provincial diets and had to be negotiated individually at the level of provinces rather than an imperial level. For example, Lower Austria and Tyrol had their own legislation

[7]Such an approach follows insights from works that consider rivers hybrid beings between natural and social processes, material and immaterial arrangements. See especially the concept of "socio-natural sites" in Verena Winiwarter, Martin Schmid, and Gert Dressel, "Looking at Half a Millenium of Co-Existence: The Danube in Vienna as a Socio-Natural Site," *Water History* 5, no. 2 (2013): 107–10; and, for an approach that leaves more space to politics and law, the concepts of "enviro-technical systems" and their extension in "enviro-technical regimes" in Sara Pritchard, *Confluence: The Nature of Technology and the Remaking of the Rhône* (Cambridge, MA, 2011), 19–23.

concerning mills.[8] Laws on irrigation or dikes could vary from one province to the other, or even within a single province. For example, the requirements of financial contributions imposed in the Austrian half of the empire through the so-called *Wasserbaunormale* of 1830 were not applied in Lombardy or Venetia.[9] In Tyrol, the districts of Trento and Rovereto had a special regulation on irrigation companies inherited from a Napoleonic law from 1806 which was confirmed by the Habsburg government in 1825 but was not enforced outside of these two districts.[10]

The imperial state attempted to homogenize this diverse legal constellation in the *Allgemeines Bürgerliches Gesetzbuch* (ABGB) of 1811. The civil code established in theory two forms of property: private property on the one hand, which in the case of rivers had particular consequences for the management of islands and riverbanks and was the most elaborated in the code, and "state property" (*Staatsgut*) on the other hand. The latter encompassed two subcategories: the state's direct domain (*Staatsvermögen*), which was meant to provide for the needs of the state (like mines), and things that were available to everyone, either through appropriation (*freystehende Sachen*) or granted for use only and called "common or public goods" ("*allgemeine oder öffentliche Güter*").[11] As mentioned in §287 of the ABGB, rivers were supposed to belong to the last category of "common or public goods." This conception was partly a heritage of seventeenth-century reinterpretations of Roman law by thinkers such as Hugo Grotius, which traditionally considered water a *res publica* (public matter), distinct from a *res nullia* (no-thing) that belonged to no one and thus could be appropriated arbitrarily. The notion of *res publica,* or public good, now implied, at least in theory, a notion of state sovereignty and of a property shared by all citizens.[12]

Nevertheless, few of these norms were functional in cases of conflict over the uses of water resources. To lawyers like Karl Peyrer, who was also the head of the Ministry of Agriculture's department in charge of water rights in the 1880s and wrote a reference handbook on water rights, in practice water management in the early nineteenth century fell under private law principles and rivers tended to be considered as private properties despite the aspirations of the civil code.[13] Use rights of water, therefore, were often associated with land property, and many domains were sold with water rights attached.[14]

Members of economic societies who worked to promote agricultural improvement considered the situation unsatisfactory and argued for a general law on the uses of running waters. As Franz von Kleyle explained in 1836 to his fellow members of the Lower Austrian Agricultural Society, who were mainly noble landowners and their estate managers, irrigation and draining played a key role in agricultural improvement, especially for fodder cultivation. However, two major difficulties prevented the building of irrigation canals: first, the difficulty of obtaining landowners' cooperation on a scale large enough to build a system of canals, and second competition with industries that used water to create energy.[15] Members of the society such as Taddäus Krzisch regularly blamed industrialists for taking over "all rivers and streams from their spring down to the Danube," often with the

[8]Otto Stolz, *Geschichtskunde der Gewässer Tirols* (Innsbruck, 1936), 323, 462–63; Verena Oberhöller, *WasserLos in Tirol: Gemein – Öffentlich – Privatisiert?* (Frankfurt am Main, 2006), 72–73.

[9]"106. Grundsätze über das Verfahren bey Wasserbauten," *Sr. k.k. Majestät Franz des Ersten politische Gesetze und Verordnungen für sämmtliche Provinzen des Oesterreischischen Kaiserstaates, mit Ausnahme von Ungarn und Siebenbürgen. Acht und fünfzigster Band, welcher die Verordnungen vom I. Januar bis letzten December 1830 enthält* (Vienna, 1831), 213–19 (thereafter "*Wasserbaunormale*").

[10]Karl Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht: Mit Vorzüglicher Rücksicht auf die Entstehungsgeschichte und die Spruch- und Verwaltungspraxis*, 2nd ed. (Vienna, 1886), 39.

[11]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 109; Anton Randa, *Das österreichische Wasserrecht mit Bezug auf die ungarische und ausländische Wassergesetzgebungen*, 3rd ed. (Prague, 1891), 21. The distinction of the different forms of property was made in article §287 of the ABGB.

[12]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 8–14; Charbonnier, *Abondance et Liberté*, 60–69.

[13]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 58.

[14]This practice is particularly visible in ads announcing the sale of a domain or a simple house in the *Wiener Zeitung*. See as examples the issues of 7 March 1837, 255; 30 July 1842, 178; and 23 August 1845, 232, among many others.

[15]Franz Joachim Ritter von Kleyle, "Ueber die Leitung und Benützung der Gewässer zum Vortheile der Landescultur und der Landwirthe," *Verhandlungen der Kaiserlich-Königlichen Landwirtschafts-Gesellschaft in Wien und Aufsätze Vermischten ökonomischen Inhaltes. Neue Folge* 4, no. 2 (1836): 75–76.

administration's approval and "at the greatest expense of agriculture and of the rich meadows whose owners now had no right even on the smallest part of the water that flows unused on Sundays and holidays." Therefore, proponents for improved agriculture looked for legal solutions to gain access to these important resources.[16]

Such conflicts between agricultural and industrial uses of water were widespread throughout Europe.[17] The Austrian press, regardless of its specialization in agricultural matters, kept an eye on different laws regarding water rights in other European states, particularly in the German states.[18] Nevertheless, the Lower Austrian Agricultural Society bound its initiative to its local provincial structures. The leading committee of the society submitted a proposal to the Lower Austrian Diet in 1835, but the debate did not lead to concrete outcomes.[19] The proposal did, however, set the terms of the debate through the articulation of two theoretical aspects pertaining to issues of water: economic uses and legal status. Franz von Kleyle emphasized that the economic uses were not limited to private interests (in his own case the improvement of agricultural lands) but concerned the "national wealth" (*Nationalreichthum*) more generally.[20] According to him, the legislators had to find a balance between the maximum quantity of water that could be used by either industrial or agricultural activities and their legal authority to use that running water. Regarding law, it was necessary to achieve a balance between the legitimate claims of private property (especially the property of riparian lands) and the unquestionable "common"[21] status of running waters.

The revolutions of 1848–49 gave new impetus to the debate over water rights in several ways. First, the revolutions inaugurated new government practices characterized by the reinforcement of the Viennese imperial government's power and a political culture that increasingly had to take the aspirations and political participation of different social groups into account.[22] The abolition of provincial diets changed the setting in which the issue could be discussed. The Schwarzenberg government of November 1848 created a ministry dedicated to agriculture and mines under the lead of Ferdinand von Thinnfeld, a Styrian industrialist involved in iron mines.[23] Thinnfeld sought to strengthen cooperation among the provincial agricultural societies by defining a new framework for agricultural policies on the scale of the whole empire.[24] In January 1849, he convened the first Agricultural Congress in Vienna to consult the representatives of agricultural interests who were chosen by each provincial society. He set a series of five important questions on the agenda: (1) the cooperation between agricultural societies and the imperial government; (2) agricultural education; (3) land property; (4) forests; and (5) water rights. Delays in the organization of the congress meant that it did not open until 19 March 1849, two weeks after the dissolution of the parliament in Kremsier/Kroměříž.[25]

Thinnfeld insisted that the congress had no legislative power and was simply a consultative body of agricultural experts. Accordingly, it should not debate legislation, strictly speaking, but rather discuss

[16]Thaddäus Krzisch, "Ein Beitrag zum Entwurfe einer Wasserordnung (Teil I)," *Niederöstereichisches Landwirthschaftliches Wochen-Blatt*, 21 March 1849, 358.

[17]Rita Gudermann, "'Wasserschätze' und 'Wasser-Diebereiein': Konflikte zwischen Müllern und Bauern im Prozess der Agrarmodernisierung im 19. Jahrhundert," *Archiv Für Sozialgeschichte* 43 (2003): 19.

[18]*Wiener Zeitung*, 7 November 1842, 2292 on a Prussian law proposal; or the *Niederöstereichisches Landwirthschaftliches Wochen-Blatt*, 238–39 for a proposal in the Grand Duchy of Baden.

[19]Kleyle, "Leitung und Benützung der Gewässer," 76; Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 59.

[20]Kleyle, "Leitung und Benützung der Gewässer," 75. The expression "national wealth" was a widely used term in the early nineteenth century that did not entail a nationalist meaning. In this context, the adjective "national" rather seems to have referred to the political community formed by the citizen of a given state.

[21]Kleyle used the term "*Gemeingut*."

[22]Christopher Clark, "After 1848: The European Revolution in Government," *Transactions of the Royal Historical Society* 22 (2012): 174, 191–94; Pieter M. Judson, *The Habsburg Empire: A New History* (Cambridge, 2016), 176–98, 215–17.

[23]Obersteiner G.P., "Thinnfeld, Ferdinand Frh. Von (1793–1868), Politiker und Industrieller," *Österreichisches Biographisches Lexikon ab 1815*, https://www.biographien.ac.at/.

[24]Ferdinand von Thinnfeld, "Ministerielle Aufforderung," *Niederösterreichisches Landwirtschaftliches Wochen-Blatt*, 6 December 1848, 235–36.

[25]*Wiener Zeitung*, 30 January 1849, 275; *Die Presse*, 3 March 1849, 3.

the principles to guide a future law.[26] Nevertheless, the congress could not escape debates on the representativeness of its members. Many representatives used it as a political platform to express either their loyalty to the emperor, as did the Croatian representatives who had not been invited,[27] or they tried to apply parliamentary practices to the congress. One of the Galician representatives, count Casimir Krasicki, ironically remarked on the status of the texts discussed by the congress after the abolition of the parliament, asking "whether we debate here on a law proposal that will be submitted to the Reichstag, or about a proposal that will actually become a law."[28] One of his colleagues criticized the "totally anti-parliamentarian" way in which some amendments were rejected.[29]

The congress did, however, facilitate the first serious confrontation between agricultural interests and those of their industrial counterparts, represented by six delegates from the Lower Austrian Society for Industry. Their spokesperson, Joseph Neumann von Spallart, defended industry's legitimacy to appropriate water power in the form of private property against the accusations expressed by proponents for improved agriculture like Taddäus Krzisch. Neumann argued that "industry . . . invigorated unused waters that flowed as dead, it tamed destructive flows by using its capital, its intelligence, and often even its health and life; and it did it in a time when neither the farmer nor the law paid attention to the invigorating benefits of water." [30] Neumann justified industry's possession of water rights on the basis of its beneficial outcomes for the economy and farmers' past lack of interest in this resource. The ministry's civil servant presiding over the debate, Karl von Kleyle (Franz's son and a member of the Lower Austrian Agricultural Society as well), recognized the legitimacy of industry's claim but emphasized further that the economic situation had changed recently. As agriculturalists now sought profitable uses for water, it was necessary to study the possibility of reallocating the shares of this resource.[31]

Debates in the congress focused on the possibilities of balancing the respective demands of agriculture and industry. The representatives agreed on an abstract vision that distinguished, on any given spot of a river, the volume of water "necessary" for a given use (often for industry) and an unused "surplus."[32] As emphasized by Hugo von Salm-Reiferscheidt, who was both delegate of the Moravian Agricultural Society and an important industrialist, the challenge was to find a way to share the surplus without questioning the sanctity of private property, especially after the upheavals of the past revolutionary year.[33] Several solutions were proposed, such as financial compensation for expropriation, or the duty of industrial owners to leave farmers access to water for at least twenty-four hours each week, since industries did not work on Sundays. Representatives of agriculture, however, insisted on a technical solution. The progress of steam machines would eventually enable industrial enterprises to work without hydraulic power. The industrialists, on their side, rejected the idea of an obligatory use of steam power. The congress finally agreed on a minimal principle: compliance with some technical standards in hydraulics to minimize the volume of water necessary for industries, to thus generate a greater surplus for irrigation.[34]

The Agricultural Congress of 1849 was an important step both for the substance and the form of the debate about who should control water. The content of the discussions definitively oriented the terms around the legal question of water as property and about the rights linked to the possession of rivers. The debate also consecrated the principle that a water surplus existed that must be reallocated to optimize the productive use of rivers. Regarding the form of the debate, the congress transferred the issue

[26] *Wiener Zeitung*, 30 January 1849, 275; *Verhandlungen des landwirthschaftlichen Congresses gehalten zu Wien im Monate März 1849* (Vienna, 1849), 14.

[27] *Verhandlungen des landwirthschaftlichen Congresses*, 14–15.

[28] Ibid., 18.

[29] Ibid., 41.

[30] Ibid., 107–8.

[31] Ibid., 137.

[32] Ibid., 123–24.

[33] Ibid., 117.

[34] The discussion on the role of technical progress took place during several sessions; see *Verhandlungen des landwirthschaftlichen Congresses*, 93–94, 114–20, 129–31.

from a provincial scale to an imperial one. The congress represented an experiment of cooperation between provincial societies that was widely welcomed, and the organization of a future similar industrial congress was eagerly expected (but never took place).[35] Above all, the imperial government appeared as the leader of the debate. Thinnfeld's initiative was to inaugurate a new era of collaboration between Vienna and the representatives of specific interest groups within the several provinces.[36] The minister enshrined the principle of an increased responsibility of the government in the economic development of the empire. As Thinnfeld stated in the ministerial program on water rights, it was "the duty of state administrations to pursue the goal that each item within the state's territory should be used and made fruitful for the common good if possible."[37] The government's intervention in the management of water resources increased in the following decades, especially through the promotion of another use of rivers: navigation.

During the "Neoabsolutist" period of the 1850s, the imperial government did not follow up on hopes for a more parliamentarian system. Nevertheless, it did not totally renounce the process of consultation, which now took the form of sounding out interest groups rather than parliamentary debates. The anticipated Industrial Congress did not take place. Instead, industrialists were invited to a customs congress (where water usage was not on the agenda).[38] The imperial government also sent the propositions of the Agricultural Congress to the Chambers of Commerce and Industry of Vienna, Milan, Venice, Prague, and Liberec that had been created in 1851. There, the industrialists did not question the necessity of systematizing the management of water through a law, but they strongly criticized the solutions proposed by proponents of improved agriculture in accordance with the principles already developed in 1849 by Joseph Neumann. The industrialists criticized proposals that imposed minimal technical standards or that obliged them to leave a weekly twenty-four-hour period of free access to agriculturalists, seeing such norms as a hindrance to freedom of enterprise. As the Ministry of Interior summarized these criticisms in 1853, it removed such measures from the law proposal. It seems that the project was then put on hold for several years and no further discussion took place.[39]

The revolutions of 1848 had another consequence beyond the first steps toward a balancing of agricultural and industrial interests. The consequences of the final abolition of serfdom (*Grundentlastung*) enacted in September 1848 and confirmed in March 1849 were not restricted to land property and the payment of compensations to the former landlords.[40] Among the many easements abolished in this process were some financial obligations regarding the material arrangements of rivers. In Tyrol, for example, municipalities paid an *Archensteuer* to the imperial state each year to finance the construction of dikes, in amounts ranging from 1 to 400 florins. The abolition of such financial resources made it necessary for public authorities to quickly redefine the obligations of social actors in the arrangements regarding rivers, otherwise, the dikes would either collapse or be charged exclusively to a state that was always running out of money.[41] Such a structural change in the financing of public works on rivers had the consequence of making local imperial administrations even more concerned with water issues than they were before 1848.

[35]Joseph Neumann von Spallart, "Ueber die Wasserrechtsfrage," *Zeitschrift Des Niederösterreichischen Gewerb-Vereins*, 5 May 1849, 100.

[36]Thinnfeld, "Ministerielle Aufforderung," 235; *Der österreichischen Lloyd*, 28 December 1848, 1.

[37]*Verhandlungen des landwirthschaftlichen Congresses*, 93.

[38]*Zeitschrift des niederösterreichischen Gewerb-Vereins,* 20 October 1849, 290.

[39]Neumann von Spallart, "Ueber die Wasserrechtsfrage," 100–1; Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 63; Christian Reichl, "Die Entwicklung des österreichischen Wasserrechts von 1848 bis zur Gegenwart" (Ph.D. diss., Karl-Franzens Universität Graz, 1994), 82.

[40]Questions that were a persistent problem in the economic history of the Habsburg monarchy. See Nachum T. Gross, "Austria-Hungary in the World Economy," 21–22; and Richard L. Rudolph, "Economic Revolution in Austria? The Meaning of 1848 in Austrian Economic History," both in *Economic Development in the Habsburg Monarchy in the Nineteenth Century: Essays*, ed. John Komlos (New York, 1983), 172–78; and for more recent overviews see Roman Sandgruber, *Ökonomie und Politik: Österreichische Wirtschaftsgeschichte vom Mittelalter bis zur Gegenwart*, 2nd ed. (Vienna, 2005), 234–36; Judson, *The Habsburg Empire*, 174–75, 227–29.

[41]Österreichisches Staatsarchiv (OeStA)/Allgemeine Verwaltungsarchiv (AVA)/Landwirtschaft/Ackerbauministerium/A15/2305–233 and A52/2942–269.

Whereas the discussion between agriculturalists and industrialists was put temporarily on hold during the 1850s, the issue of water rights nevertheless did not lose its relevance. The imperial government grew increasingly interested in public works on rivers. In 1850, the minister of Commerce, Industry, and Public Works, Karl von Bruck, charged the newly created provincial departments of public works (*Landesbaudirektionen*) with the task of surveying all the rivers of the empire. Provincial engineers had to distinguish between "imperial" and "provincial" rivers (*Reichs- und Landesflüsse*) according to their navigability.[42] One objective of the survey was to settle the financial responsibilities of the government to hydraulic public works of all sorts, limiting them to navigable portions of rivers.

Additionally, Bruck expected beneficial consequences for commerce and, more broadly, the stability of the empire to derive from the improvement of navigation. As he explained when he introduced his administrative reform, "land roads and waterways are suitable not only to remove [natural] obstacles to traffic, but also to build stronger ties between the individual parts [of the empire] and form a powerful whole."[43] The minister of commerce hoped to prepare the infrastructural component of his broader economic reforms designed to reinforce the empire's political situation within Central Europe.[44] In that respect, the survey of the empire's rivers was meant to gather in Vienna all knowledge of the imperial territory likely to help in the improvement of navigation. Provincial engineers sent tables summarizing the essential information about rivers, which were then used to create a map of the navigable routes of the empire. This map specified which parts of the rivers were accessible to steamboats, as well as the state of railroads in 1854.[45] The imperial government was thus anticipating the enactment of the law by imposing in practice administrative norms that distinguished between navigable and non-navigable parts of the rivers with the aim of promoting the most profitable uses of rivers.

In practice, however, this distinction between imperial and provincial rivers came up against two obstacles. First, it distinguished between stretches of rivers rather than rivers as a whole. And some of the ongoing public works at the time were ultimately designed precisely to make several portions of rivers navigable. This situation created temporary uncertainties about the status of some parts of the territory. This was the case for the Inn river between Innsbruck and Hall in Tyrol. The presence of a huge wood rake designed to collect timber drifts for the consumption of Hall's salt mines prevented navigation on that specific portion of the river. The dismantling of the rake had been debated between the state administration in charge of the mines and the administration of public works since the 1830s and was finally settled on and planned in the early 1850s. The necessary works started in 1855, as the use of the Inn for navigation purposes finally won priority over timber drifts in the discussions internal to imperial administrations.[46] This decision reflected a broader transformation of the river: at the same time, state administrations ordered the suppression of almost all privately owned rakes around Innsbruck,[47] while the forestry law of 1852 imposed stricter control

[42]Tiroler Landesarchiv (TLA)/Sonderbehörden vor 1868/Landesbaudirektion (LBD)/39–16: Eintheilung in Reichs- und Landesbauten, 1850; TLA/Sonderbehörden vor 1868/LBD/87–8: 1850–63: Relation betreffend der Unterscheidung der Gewässer in Reichs- und Landesflüsse.

[43]TLA/Sonderbehörden vor 1868/LBD/51–9: Organisierung der Baubehörden/« Bestimmungen über den von Sr. Majestät dem Kaiser allerhöchst genehmigten Organismus der Staats-Baubehörden nebst den für dieselben erlassenen, besonderen Vorschriften, Amtsinsturktionen u.dgl. », 1849. Karl von Bruck's view on infrastructural investment reflected a more largely European pattern, see Clark, "After 1848," 179–83.

[44]Harm-Hinrich Brandt, "Liberalismus in Österreich zwischen Revolution und Großer Depression," in *Austriaca: Abhandlungen zur Habsburgermonarchie im langen 19. Jahrhundert*, ed. Matthias Stickler (Vienna, 2020 [1988]), 119–22; Harm-Hinrich Brandt, "Von Bruck zu Naumann: 'Mitteleuropa' in der Zeit der Paulskirche und des Ersten Weltkrieges," in *Austriaca*, ed. Stickler (2020[1996]), 253–60; Werner Drobesch, "Die ökonomischen Aspekte der Bruck-Schwarzenbergschen 'Mitteleuropa'-Idee: Eine wirtschaftlich-politische Vision im Spiegel der Wirtschaftsdaten," in *Mitteleuropa – Idee, Wissenschaft und Kultur im 19. und 20. Jahrhundert: Beiträge aus österreichischer und ungarischer Sicht,* eds. Richard Plaschka, Horst Haselsteiner, and Anna M. Drabek (Vienna, 1997), 19–21 and 30–31.

[45]OeStA/AVA/Kartensammlung Teil II/E-a/14 « Die Land- und Wasser Communicationen des Kaiserthumes Oesterreich, herausgegeben von der k.k. Direktion der administrativen Statistik, Wien 1856 ».

[46]OeStA/AVA/Handel/Handelsministerium/Bauwesen/A1241/1553-B "1849: Beantragte Beseitigung des Haller Holzrechens am Inn"; TLA/Sonderbehörden vor 1868/LBD/77–25a "Haller Holzrechen".

[47]TLA/Sonderbehörden vor 1868/LBD/77–15 "Holzfangrechen am Inn".

on wood drifting.[48] In the meantime, Tyrolean engineers first classified this part of the river as an imperial river in 1850, before reviewing its classification and removing it from the category in 1853.[49]

Second, and more annoyingly for the administration's work, this uncertainty was reinforced by ambiguity about parts of the river that were not navigable for boats, but were floatable for rafts. No clear instruction for these sections was anticipated in the distinction between imperial and provincial rivers, but important arrangements were nevertheless required, especially with regard to dikes against floods. Local civil servants did not know how to calculate the financial contributions of the state and of riparian municipalities to these works, as they had no legal principle to follow. The municipality of Hatting, for example, was located on the Inn upstream from Innsbruck, on a non-navigable portion of the river. The municipality suffered from several important floods in the 1850s and requested the state's help for the diking works. This led to intensive exchanges between the Tyrolean *Statthalterei*, which supported the municipality's demand, and the Viennese government that granted a preliminary subsidy but then refused subsequent subsidies. The Tyrolean civil servants felt lost without a clear principle to guide the administrative work and finally asked the Ministry of Interior for a law "in order to get firm reference points concerning the contribution duties" of the several involved actors.[50] The vagueness on the legal status of specific portions of the river created uncertainties regarding who was responsible for the material arrangements of the river and thus slowed down the works required either to keep streams in their bed or to make the most profitable use of them.

The imperial government did enact a few scattered norms about the economic uses of water during the 1850s. The forestry law of 1852, enacted following the work of the Agricultural Congress, regulated wood floating on rivers, while the law on mines of 1854 gave imperial administrations the ability to requisition surface waters for this use.[51] Finally, the law on enterprise of 1859 classified hydraulic industries among the ones requiring an administrative authorization, like industries using fire or steam machines, noxious industries, or industries harmful to public health.[52] From the government's point of view, a legal principle to integrate water management rules in a comprehensive system was still lacking.

The final phase of work on the law on water rights coincided with the restoration of parliamentary rule in the 1860s. This institutional transformation influenced the final shape of the law. The Ministry of Commerce and Economy relaunched the legislative process in 1862, charging the ministerial counselor, Carl Weiß Freiherr von Teufenbach, to write a new proposal based on the one left on standby in 1853. The new proposal was then sent to the Chambers of Commerce and Industry for their responses, and to the *Statthaltereien* which were asked to gather small commissions with representatives of agricultural and industrial interests, a provincial engineer, and a lawyer.[53] The debate was more lively this time, and the *Wiener Zeitung* even published the proceedings of the debate in a special issue of the Lower Austrian Chamber of Commerce and Industry's reports. The ministry sent this document to the *Statthaltereien* to help the work of the commissions.[54] The new proposal at first retained a distinction between navigable rivers on the one hand, considered public goods and therefore unavailable for private appropriation, and "streams" (*Bächer*) on the other hand, which were non-navigable and thus

[48]"250. Kaiserliches Patent von 3. December 1852," *Allgemeines Reichs-Gesetz- und Regierungsblatt für das Kaiserthum Oesterreich. Jahrgang 1852* (Vienna, 1852), 1053–80 (hereafter "*Reichsforstgesetz*").

[49]TLA/Sonderbehörden vor 1868/LBD/39–16: Eintheilung in Reichs- und Landesbauten, 1850/Tabelarische Uebersicht der im Kronlande Tirol und Vorarlberg bestehenden floß- u. schiffbaren Gewässer.

[50]OeStA/AVA/Inneres/Ministerium des Innern/Allgemeine Reihe/A245 : Wasserbau J-Z 1848–1859/3990–149 1857; OeStA/AVA/Inneres/Ministerium des Innern/Allgemeine Reihe/A 49a : Wasserbau Dalmatien-Tirol 1848–1859/18843–787 1855; OeStA/AVA/Inneres/Ministerium des Innern/Allgemeine Reihe/A249a : Wasserbau Dalmatien-Tirol 1848–1859/22928–1125 1853.

[51]"146. Kaiserliches Patent vom 23. Mai 1854," *Reichs- Gesetz-Blatt für das Kaiserthum Oesterreich. Jahrgang 1854* (Vienna, 1854), 551–601 (hereafter "*Berggesetz*"), §98 and 99.

[52]"227. Kaiserliches Patent vom 20. December 1859," *Reichs-Gesetz-Blatt für das Kaiserthum Oesterreich. Jahrgang 1859* (Vienna, 1859), 619–50 (hereafter "*Gewerbeordnung*"), §31.

[53]TLA/Sonderbehörden vor 1868/LBD/87–9: Entwurf eines Wassergestzes.

[54]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," *Beilage zum Hauptblatt der Wiener Zeitung*, 21 April 1863, 1–34.

potentially appropriable. This distinction, already impractical for civil servants on the ground, became a source of extreme complication in the discussions of the Chamber of Commerce, where representatives proposed to create an additional distinction between "natural" and "artificial" streams (*Wild- und Werkbächer*).[55]

As in the 1850s, the advice of the several consultations was centralized in Vienna. This time, the government was determined to complete the process. In 1864, the *Ministerrat* even contemplated preempting the enactment of the law by abolishing all the remaining provincial ordinances on mills, but this idea was rejected for fear of a temporary legal vacuum.[56] Carl Weiß von Teufenbach gathered a new ministerial commission to finish the law proposal between July 1864 and March 1865.[57] Some representatives of economic interest were invited, such as Franz von Mayrhofer, who had presided over the debates in the dedicated branch of the Lower Austrian Chamber of Commerce and Industry in 1863, or Joseph Neumann von Spallart, as well as Florian Pasetti, the famous engineer of the Adige regulation in the 1840s and Viennese Danube regulation of the 1850s and former head of the *Generalbaudirektion*.[58] The commission wrote the final version of the law, which categorized all streams of the empire as public goods regardless of their navigability. At the end of the long process of consultation of different economic sectors and of experiments of administrative management of running waters, the authors abandoned the principle of the management of water resources based on a system of private property.

A final legislative twist remained before the enactment of the new law. The *Landtage* that had been reinstated in 1861 claimed their competence on agricultural matters and demanded that the law be passed as a provincial law.[59] The political crisis of 1866–67 forced the government to give in to this demand and to bring the law to parliament in 1869. At that point, some parliamentarians tried unsuccessfully to go back on the principle of the public good and to reintroduce the possibility of private appropriation of streams.[60] The new parliament, however, did not make any major change to the law, be it through the *Reichswassergesetz* of 1869 or the following *Landeswassergesetze* that governed its provincial enactment. The latter were written by the Viennese Ministry of Agriculture, which carefully controlled their discussion in the various *Landtage*.[61]

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The genesis of the law on water reflected a changing political system that, following Robert J. Evans's expression, was "experimenting" to find its process of political decision making.[62] The negotiation of the law sheds light on a process of mid-nineteenth-century state building that partially drew on the management of environmental resources such as water.[63] Seizing on a demand that emanated from civil society, the imperial state tried to establish itself as the exclusive source of a homogeneous power over the whole imperial space. It achieved this goal by conserving some forms of cooperation which, in the following decades, were further developed by the provincial bodies. Seen through Jana Osterkamp's category of "cooperative empire," the Agricultural Congress of 1849 appears as an experiment in collaboration where representatives of different provinces could discuss among themselves,

[55]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 5.

[56]Stefan Malfèr et al., eds., *Die Protokolle des Österreichischen Ministerrates 1848–1867. V. Abteilung, Die Ministerien Erzherzog Rainer und Mensdorff. Band 8: 25 Mai 1864–26. November 1864, vol. 8* (Vienna, 1981), 241–44.

[57]Reichl, "Die Entwicklung des österreichischen," 84–85.

[58]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 67; Elisabeth Zeilinger, "Der unvermeidliche Hofrat Pasetti und die Regulierung der Donau bei Wien," in *Die Donau: Eine Reise in die Vergangenheit*, eds. Hans Petchar and Elisabeth Zeilinger (Vienna, 2021), 115–23.

[59]Arthur Freiherr von Hohenbruck, *Die Landtage und die Landwirthschaft: Zusammenstellung der Verhandlungen über landwirthschaftliche Fragen in der vierten (1865/1866) Session der österreichischen Landtage* (Pest/Vienna/Leipzig, 1866), 20–22.

[60]*Stenographische Protokolle über die Sitzungen des Hauses der Abgeordneten des Reichsrathes: IV. Session (I. Session, II. Wahlperiode, vom 20. Mai 1867 bis 15. Mai 1869)* (Vienna, 1869), 5857.

[61]OeStA/AVA/Landwirtschaft/Ackerbauministerium und Landeskultur/A 15 and A 34.

[62]Robert J. Evans, "From Confederation to Compromise: The Austrian Experiment, 1849–67," in *Austria, Hungary and the Habsburgs: Essays on Central Europa, c. 1683–1867* (Oxford, 2006), 266–92.

[63]Mevissen, "Constructing the Danube Monarchy."

before the imperial government turned to a more "radial power structure" in the 1850s and 1860s, embodied in the Chambers of Commerce and Industry and the provincial committees.[64]

Building forms of cooperation to achieve resource management rested primarily on the state's role as a referee in conflicts between agriculturalists and industrialists. The opposition between the two categories was nevertheless not clear cut. As many actors acknowledged during the Agricultural Congress, starting with the minister of Agriculture Thinnfeld himself, many participants had personal interests on both sides at the same time.[65] They had an interest in not seeing the interests of one or the other side fundamentally harmed. Whereas the interest of the economic sectors opposed each other on an individual scale, many actors tried to contribute to a solution that would be most profitable at the level of the imperial state and presented a spirit of collaboration as beneficial to the overall imperial economy. From the point of view of the representation of economic interests and consultations of the legislative process, solving the issue of water rights amounted to a patriotic action to which many interests were offered the opportunity to contribute. One could argue that the empire itself was built through this kind of cooperation that enabled private economic actors to combine personal economic interests with an opportunity to make the empire their own.[66]

From the viewpoint of the imperial state, its interest was not limited to the establishment of its role as referee in conflicts among its citizens. The enactment of the law enabled the imperial state to consolidate a legal order that was until then extremely heterogeneous from one province to another, and even within single provinces like Tyrol. It was an opportunity to consolidate the legitimacy of its administrations, which, since the eighteenth century, were important actors in the work of state centralization.[67] The government's policies of the 1850s strove to fulfill this process of imperial integration by creating direct relationships between the population and imperial administration, especially through local civil servants.[68] The latter now had to fulfill numerous diverse tasks. Their final role in water management according to the law of 1869 did not totally match the range of competences that had been experimented with in the 1850s, but the imperial government nevertheless intervened in an important way in the legal and economic structures of the empire. The choice of the public good principle enabled the imperial government and private actors to combine economic and political interests.

Public Good as an Allocation System Between Water Uses

The 1869 law on water was not a mere political tool used as a pretext to realize a new imperial and territorial order. It had a precise objective at the material and economic level: to find a systematic rule to manage water resources to achieve a coexistence between its various uses and to share it efficiently among the most productive of them. Beyond a series of political experiments and a reorganization of power relations, the legislative debates shed light on a broader discussion about economic and legal ideas that sought to define a new relationship between imperial society and the water streams flowing in its territory. The lawmakers referred to specific economic ideas from which they derived a hierarchy of water uses in the law of 1869. In doing so, they discussed the broader interplay between property, private interests, and public interest.

How Could Law Make Water Resources Productive?

The civil servants, agriculturalists, industrialists, and lawyers who contributed to the writing of the law throughout its decades of negotiation were above all concerned with finding an efficient system,

[64]Jana Osterkamp, "Cooperative Empire: Provincial Initiatives in Imperial Austria," *Austrian History Yearbook* 47 (2016): 134–44; Jana Osterkamp, *Vielfalt Ordnen: Eine föderale Geschichte der Habsburgermonarchie vom Vormärz bis 1918* (Göttingen, 2020), 173–91.

[65]*Verhandlungen des landwirthschaftlichen Congresses*, 126.

[66]Judson, *The Habsburg Empire*, chap. 4.

[67]Waltraud Heindl, "Bureaucracy, Officials, and the State in the Austrian Monarchy: Stages of Change since the Eighteenth Century," *Austrian History Yearbook* 37 (2006): 34–57.

[68]John Deák, *Forging a Multinational State: State Making in Imperial Austria from the Enlightenment to the First World War* (Stanford, 2015), 91–97.

grounded in legal norms, for the management of water streams of any nature. Their debates considered the merits of several possible property regimes, especially those of private property and state property. They prioritized these merits according to an economic scale—water resources had to be oriented toward their most productive uses. The consensus on this objective was so strong that in response to an article from the 1862 proposal that stated that the civil servants attributing use rights had to pursue the "general economic interests" ("*die volkswirthschaftlichen Interessen*"), the representatives of the Lower Austrian Chamber of Commerce and Industry suggested cutting it as superfluous.[69] Such reasoning aimed at securing the greatest economic use of water at a collective level depended on representations of the functioning of the economy that pointed toward a specific set of concrete practices in the allocation of resource. This reflection on how to make water resources more productive guided the legislators toward choosing the property regime of the public good instead of private property.

The participants in these debates never cited any economist in particular, but they frequently associated the law on water with the idea of "*National Ökonomie*," according to traditions of political economy dating back to the eighteenth century. This influence was particularly strong in the way that the actors considered the use of streams within the empire's territory. As Guillaume Garner has shown, theories of the *Nationalökonomie* inherited from the reception of Adam Smith considered space to be a container of natural resources. It was the task of human work to develop these resources, either through agricultural and industrial work, or through trade that redistributed resources across the territory.[70] The Agricultural Congress of 1849 had expressed similar connections. Joseph Neumann compared the "state's life" (meaning the life of a society as a whole) to a tree, whose roots would be agriculture and whose branches would be industry. According to him, the congress had to find an organic balance between these activities to enable the full development of the whole society.[71] Fidelis Terpinz, a representative from Carniola, stated that "Mother Earth" (*Muttererde*) had given water for two equally "beneficial" activities, agriculture and industry. He concluded that the resource should be used in such a way as to create the "biggest benefit" ("*den grösseren Nutzen*") by arranging rivers and streams to prevent any wasting.[72]

The lawmakers linked the legal debate to the idea of transforming water into an economic resource. The form of property thus became an essential criterion to set up an order of priorities between the various economic practices linked to streams. The actors involved in the making of the law spent much time debating whether a hierarchy of the usefulness of water uses existed in absolute terms. Some, like Wilhelm Hirschfeld, proposed to prioritize the following uses in order of importance "A. navigation with boats or rafts; B. fishing; C. irrigation; D. industry."[73] This ranking should serve as the principal criteria to attribute water rights and find guidance to manage the growing "multifunctionality" of water that characterized recent economic development.[74]

The primacy granted to navigation was the least discussed idea. In a pamphlet addressed to the Frankfurt Parliament in 1848, Baron Ludwig von Forgatsch presented commercial navigation as the first of the many objectives of arrangements on the Danube.[75] The primacy of navigation was in great part due to the strong optimism of contemporaries regarding improvements to steam navigation and its potential commercial benefits.[76] It coincided with great investment in regulating rivers since the

[69]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 23.

[70]Guillaume Garner, *État, Économie, Territoire en Allemagne: L'Espace dans le Caméralisme et l'Économie Politique 1740–1820*, Civilisations et Sociétés (Paris, 2005), 298–307.

[71]*Verhandlungen des landwirthschaftlichen Congresses*, 110.

[72]*Verhandlungen des landwirthschaftlichen Congresses*, 87–88.

[73]Wilhelm Hirschfeld, *Ein Beitrag zur Bestimmung der rechtlichen Verhältnisse des Wassers für Staats- und Landwirthschaft* (Altona, 1846), 145.

[74]On the growing "multifunctionality" of rivers as a characteristic feature of European economic development, see Tvedt, *Water and Society*, chap. 2.

[75]Ludwig Freiherr von Forgatsch, *Die schiffbare Donau von Ulm Bis in das Schwarze Meer. Den Mitgliedern des verfassungsgebenden Reichtages zur Gütigen Einsicht* (Frankfurt am Main, 1848), 4.

[76]David Blackbourn, *The Conquest of Nature: Water, Landscape and the Making of Modern Germany* (New York/London, 2006), 161–68.

late eighteenth and early nineteenth century. As Luminita Gatejel has emphasized, since the 1830s the imperial government was expected to take charge of the material works of regulating rivers for the purpose of navigation.[77] The material transformations also brought up new representations in which the distinction of navigable sections was central.[78] The plan to promote navigation by Karl von Bruck in the 1850s, which was implemented with an explosion of budgets dedicated to navigation works, reproduced such schemes on a greater scale.[79] This preference for commercial navigation justified the important role granted to imperial administrations in the management of rivers overall. The Viennese government presented the improvement of navigation as an imperial interest.[80] Accordingly, every navigable river should belong to the state and become a public good to be sure that nothing would impede navigation.

The navigability of a river became an essential criterion for its legal classification. Some early law proposals rested on this distinction, like the distinction between "imperial" and "provincial" rivers, before their definitive abandonment in 1869 for practical reasons.[81] The proposal of 1862 had ordered the legal articles themselves according to individual water uses in the following order: irrigation, industry, navigation, fishing, and water supply to municipalities. This proposal still argued for retaining a form of private property on non-navigable parts of rivers,[82] while the navigable parts should become public goods. Whereas some representatives fought tooth and nail for the possibility of an exclusive right to private property on non-navigable streams, no one debated §12, which opened the possibility of making a portion of a river navigable through works and consequently withdrawing it from private property and transforming it into a public good.[83] The proposal of 1869, that classified all streams as public goods regardless of their navigability, only partially erased the fundamental distinction between navigable and non-navigable portions of rivers. Unlike other uses, navigation was the only use with a dedicated section of the law and was still presented as an essential characteristic of a river.[84] On the margins, the law of 1869 also opened the possibility of private property status for non-navigable portions of rivers, under the condition that the claimant could produce pre-existing property titles. Such a private appropriation of running waters remained anecdotal. On the contrary, this possibility was absolutely excluded for navigable portions.[85]

During the two decades of legislative debate, representatives of various economic interests bitterly discussed whether agriculture should have priority over industry. Proponents of improved agriculture first pushed industrialists into taking a defensive position. During the Agricultural Congress of 1849, they had justified the priority of agriculture mainly using a technical argument: that industrialists could substitute steam power for hydraulic power, whereas farmers could not do without water.[86] Industrialists contested this argument and claimed that the local development of industry could be more profitable than agriculture for the economy as a whole.[87] In 1863, the representatives of the Lower Austrian Chamber of Commerce and Industry argued that industry could create jobs and make the empire less dependent on imports. Depending on the local circumstances it could thus be

[77]Luminita Gatejel, "Overcoming the Iron Gates: Austrian Transport and River Regulation on the Lower Danube, 1830s–1840s," *Central European History* 49, no. 2 (2016): 167–68.

[78]Gatejel, "Overcoming the Iron Gates," 178.

[79]Mevissen, "Constructing the Danube Monarchy," 83–86.

[80]TLA/Sonderbehörden vor 1868/LBD/51–9: Organisierung der Baubehörden/« Bestimmungen über den von Sr. Majestät dem Kaiser allerhöchst genehmigten Organismus der Staats-Baubehörden nebst den für dieselben erlassenen, besonderen Vorschriften, Amtsinsturktionen u.dgl. », 1849.

[81]TLA/Sonderbehörden vor 1868/LBD/39–16: Eintheilung in Reichs- und Landesbauten, 1850; TLA/Sonderbehörden vor 1868/LBD/87–8: 1850–63: Relation betreffend der Unterscheidung der Gewässer in Reichs- und Landesflüsse; *Stenographische Protokolle des Abgeordnetenhauses*, 5851–5853.

[82]Although unused surpluses were supposed to be given back to state administrations.

[83]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 10.

[84]The special status of navigation would disappear in the later revision of the law in 1934 in the Republic of Austria, when other uses of rivers became more important, especially hydroelectricity.

[85]*Reichswassergesetz*, §3.

[86]Ibid., 34.

[87]Neumann von Spallart, "Ueber die Wasserrechtsfrage," 100–1.

more "profitable" ("*nutzbringend*") to encourage industrial development rather than to irrigate meadows.[88]

The evolution of these proposals sheds light on a shift in the conceptions of economic development that guided the law's writing. Agricultural points of view dominated the projects of 1849–62, which accordingly granted agriculture a central role in the empire's economic prosperity. The proposal of 1862 even included in §110 a hierarchy of water uses similar to Wilhelm von Hirschfeld's that placed agriculture ahead of the industry after navigation. Such a strict prioritization of uses disappeared from later proposals under the increasing influence of industrialists. This disappearance stemmed from the idea that the legal norm guiding the allocation of water resources should not be more favorable to any side of the conflict between agriculture and industry (which, as emphasized earlier, were not in a clear-cut opposition). Moreover, it reinforced the role of imperial administrations to set priorities. When it came time to allocate use rights, it was now civil servants and district engineers who determined what use would be the most beneficial locally to the "general good" (*allgemeines Wohl*).[89]

Property Between Private and Public Interests

The widely shared conception of a general economy, expressed as the "*Volkswirthschaft*" or the "*Nationaloekonomie*," was decisive for the final shape of the 1869 law and the articulation of a legal status for public goods. Out of the general concept of economy, the lawmakers discussed the relationships between private and collective interests. In 1863, some representatives of the Lower Austrian Chamber of Commerce and Industry argued, for example, that "private profits contribute to the common good," in a way reminiscent of the Smithian "invisible hand" without ever mentioning it by name. According to this perspective, placing any limits on private property could discourage future investments and thus harm the economy. Nevertheless, the Chamber of Commerce eventually rejected this point of view. Franz von Mayrhofer explained that such a position "was to be rejected from a legal and economic [*volkswirthschaftlichen*] point of view." Furthermore, "it would not be responsible to sacrifice a certain and fruitful use of water in the present for a future uncertain use." In a system of private property, a private owner could paralyze the resource or, at a given spot of the stream, waste the resource by not using its whole flow. In order to use the surplus left free by existing users, the lawmakers agreed that a higher authority was required to determine the quantity of water each actor could use, and possibly to redistribute it at a later date.[90] This role fell to the imperial administration. According to some representatives in parliament in 1869, older legal principles dating from the *Mühlenordnung* of 1814 justified the decision to entrust political authorities with this task.[91] This argument led to the suppression of any private appropriation of even non-navigable parts of rivers, and in the end amounted to a great extension and reinterpretation of the principles used to justify it.[92]

During the debates in parliament in 1869, some members of parliament tried in vain to reverse this principle and to defend the private property of non-navigable streams. Conservative representatives like Kazimierz Grocholski argued repeatedly for keeping "existing property relations," including what people informally knew as "their own" even without a written title, since these could be "important sources of income" in the already existing situation.[93] Some liberals like Adolf Pratobevera also

[88]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 30–31.

[89]"64. Gesetz vom 28. August 1870 über Benützung, Leitung und Abwehr der Gewässer," *Gesetz- und Verordnungsblatt für die gefürstete Graffschaft Tirol und das Land Vorarlberg. Jahrgang 1870*, (s.l., 1870), 135–56 (hereafter "*Tiroler Landeswassergesetz*"), §75–79.

[90]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 9–10.

[91]*Stenographische Protokolle des Abgeordnetenhauses*, 5859.

[92]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 46, reminds that the dispositions of the *Mühlenordnung* concerning watermills were rather secondary in regard to the regulation of milling in general (especially the abolition of the obligation to bring grain to specific mills). In that regulation, the role of "political authorities" (which at the time were not necessarily the state's) was about regulating competition between millers and preventing negative consequences of the erection of watermills, such as flooding, for neighbors rather than about determining the mill's profitability for the economy in general.

[93]*Stenographische Protokolle des Abgeordnetenhauses*, 5857: by what was informally known as property, Grocholski meant "what people mean under the expression 'my water.'"

joined in the critique of the reallocation of use rights, which they perceived as an "expropriation." While they acknowledged the legitimacy of expropriations of direct public interest, for example in the case of railways or navigation, both Grocholski and Pratobevera considered reallocating water rights to a private industrialist or farmer "unjustified, unless higher considerations for the general good [*allgemeine Wohl*] require it."[94] Their argument also mirrored a preoccupation for what they considered to be attacks on the principle of property as a foundation of the social order. But their argumentation was countered by other liberals like Franz Klier, the rapporteur of the law in the *Abgeordnetenhaus*, who thought that the imperial administrations were best suited to identify the most profitable uses. The representatives of the government, Carl Weiß, now section head in the Ministry of Agriculture, and Cäsar Benoni, ministerial counselor in the Ministry of Justice, explained that the reallocation of water rights indirectly benefited the general good and was therefore justified.[95] The principle of the public good adopted in Cisleithania thus rested on a conception of the economy where a private property regime did not necessarily produce an optimal economic use of natural resources.

This legal debate sparked an economic debate in wide parts of a public sphere that was oriented toward very practical solutions but nevertheless touched upon theoretical grounds. Whereas many speakers relied on abstract arguments, it is important to emphasize that this mobilization of economic thought happened in a flexible framework and was not without important ambiguities. The distinction between "*allgemeines Wohl*" (general good or general interest) and "*Staatswohl*" (state's good or state's interest) was unspecified in many arguments, be it in the political debate or in the economic thought in general.[96] This vagueness, which probably had its roots in eighteenth-century cameralist thinking, prompted the lawmakers to take into account the possibility, if not the necessity, of a state intervention in the management of natural resources that would go beyond a simple guarantee of property rights or the creation of infrastructure necessary for navigation. The ongoing crystallization of a consensus around economic and legal ideas tended to consolidate the power of the imperial administration, which became an inescapable actor in guiding the relationship between the imperial society and its material environment. According to §15 of the law of 1869, for example, imperial administrations would distribute the local water surplus and, potentially, coerce cooperation between riparian owners in irrigation matters to make the empire's rivers as productive as possible.

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In making rivers a public good, the law of 1869 prohibited the private appropriation of streams. Use rights of water were consequently detached from property rights. Only those who obtained an authorization from the district administration (*Bezirkshauptmannschaft*) and were enrolled in a special register, the *Wasserbuch*, could now make an economic use of water.[97] The status of public good crystallized a set of economic and political concepts that no longer left the management of natural resources to the free usage of economic actors working for their private interests. The imperial state played a pivotal role in the arbitration of possible conflicts as well as in the determination of the most beneficial uses of the resource. In this way, the state introduced a particular relationship to the environment through the concept of a public good and its applications: the choice of this specific regime of property management was expected to enable a greater incorporation of water resources in the economic system of the empire seen as a whole.

[94]*Stenographische Protokolle des Abgeordnetenhauses*, 5869.

[95]*Stenographische Protokolle des Abgeordnetenhauses*, 5859–5860 and 5870–5871. A similar discussion took place in the *Herrenhaus*, see *Stenographische Protokolle des Herrenhauses des Reichsrates: IV. Session 1867, 1868, 1869* (Vienna, 1869), 2065–2077.

[96]Garner, *État, Économie, Territoire en Allemagne*, 278–81, 343–45.

[97]This principle is still in application in today's Republic of Austria, where *Wasserbücher* are accessible online, like in Tyrol: https://www.tirol.gv.at/umwelt/wasser-forst-und-energierecht/wasserbuch/. Unfortunately, the online version of the *Wasserbuch* does not allow for historical research on the late nineteenth century.

The Public Good, Neither Private Nor Common

As a response to political and economic concerns, the 1869 law on running waters contributed to redefining the legal notion of public good. The notion itself was not an invention of mid-nineteenth-century Cisleithanian lawmakers. It was already present in the civil code of 1811, as well as in other European legal systems. The French Napoleonic Civil Code of 1804 established a category of "public domain" (*domaine public*) owned by the nation and distinct from the "state domain" (*domaine de l'État*). The state became then, as Ekaterina Pravilova puts it, "the manager on behalf of the people." Pravilova emphasizes the ambiguity of this legal theory, especially when legislators tried to adapt it to other states. The Russian codification endeavor of the 1820–30s led by Mikhail Speransky, partly inspired by the French case, raised the question of the applicability of such a notion of "*domaine public*," since the Russian empire did not recognize any "national sovereignty" (in the sense of sovereignty of the people or citizens).[98] A similar question could be raised in the case of the Habsburg Empire—since the principle of national sovereignty was rejected by the imperial government,[99] how was the notion of "public good" to be understood precisely? In his handbook on water rights, Karl Peyrer took a pragmatic stance. He emphasized that whereas the notion of public good already existed in the Austrian legal system, it remained vague for a long time in the case of water. According to Peyrer, until 1869, civil courts tended to treat rivers like private properties in cases of conflicts. The law of 1869 defined the notion of public good as a distinct form of property much more concretely as it outlined the practical consequences of this legal concept in terms of management of the resource and extended its application to non-navigable streams.[100]

This evolution of legal concepts is interesting in the light of historiographical arguments on the relationship between property regimes and the environment. The incorporation of water in a productivist economy does not seem to take place as a simple "privatization" of the resource, but rather as a form of management that combined several forms of property and a strong state presence. The presence of the notion of public good and the role of the state in regulating relationships between property and the natural environment, which was almost absent at the beginning of the scholarly debate,[101] complicates the binary oppositions between private property and self-regulated commons. Understanding how the different forms of property interacted is therefore helpful to understand how property regimes bind together the economic system, politics, and the environment.[102]

Choosing Public Good Instead of Private Property

The Cisleithanian lawmakers developed the law of 1869 from the notion of private property and even contemplated the possibility of private appropriations of rivers in their early proposals. Nevertheless, the final version of the law intentionally departed from the model of private property. It is of course important not to analyze private property in a monolithic fashion, as if it were an exclusively individual appropriation. Many lawyers today call for private property to be considered as a bundle of rights that may vary.[103] But even this perspective does not correspond to the system of public good chosen by the Cisleithanian lawmakers.

In the view of the lawmakers, three types of arguments justified not putting private property at the center of the management system of water resources. The first argument was a physical one: as water

[98]Ekaterina Pravilova, *A Public Empire: Property and the Quest for the Common Good in Imperial Russia* (Princeton, 2014), 42–45.

[99]For a discussion of the complex problem of "sovereignty" in the Habsburg Monarchy between 1848 and 1867, see Osterkamp, *Vielfalt Ordnen*, 183–89, 205–10, 220–25.

[100]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, 58.

[101]Hardin, "The Tragedy of the Commons"; Ostrom, *Governing the Commons*.

[102]Frédéric Graber and Fabien Locher, "Jouir et Posséder. Environnement et Propriété dans l'histoire," in *Posséder La Nature: Environnement et Propriété dans l'histoire*, eds. Frédéric Graber and Fabien Locher (Paris, 2018), 12.

[103]Morton J. Horwitz, *The Transformation of American Law, 1780–1860* (Cambridge, MA., 1977), chap. 2; Pierre Cretois, Éric Fabri, and Maxime Lambrecht, "Introduction," *Raisons politiques* 73, no. 1 (2019): 5; Billy Christmas, "Hugo Grotius and Private Property," *Raisons Politiques* 73, no. 1 (2019): 29–32.

flows downstream, it would be illusory to hope to contain it on one's own private ground. Therefore, the rapporteur of the law, Franz Klier, preferred to speak of a "*Zugehör*" ("belonging") rather than an "*Eigenthum*" ("property") of water, in a way comparable to free air.[104] The second argument was economic: since the general interest was not the sum of private interests, private property was not necessarily the most efficient system to attain the greatest general interest.[105] Finally, university law professor and liberal politician Josef Unger used an argument from legal theory during the debates in the *Herrenhaus* in 1869. He argued that private property could be justified only by the use of the resource, and under this understanding, an unused surplus of water could not be appropriated. Consequently, water resources should generally elude the regime of private property and become a public good managed by civil servants. Unger's radical argumentation triggered lively discussions in the *Herrenhaus*. He himself had to recognize that he had expressed a theoretical principle regarding an owner's duty to use resources in a productive way rather than an argument in favor of systematic expropriations for the benefit of the state.[106] In a similar way, the minister of Agriculture Alfred Potocki had to defend himself several times from the accusation that the legislation attacked the "sanctity" of private property. According to him, water was a particular case. Since it "had become from experience the cause of prosperity in the countries of advanced culture" like Lombardy, its economic importance justified to manage it according to rules other than those of private property, without this constituting an attack against the principle of property as a foundation of the social order.[107]

The lawmakers did not completely erase private property as such from the management of water. In addition to the few exceptions possibly granted for non-navigable portions of streams, private property was still present in the form of property of riparian grounds. Riparian landowners were essential to the material arrangements of rivers. The management of waters had to take into account the interactions between a river and its banks: a landowner could gain an advantage or suffer damages from fluvial dynamics, in the case of diking works or flooding for example. In this regard, such interactions had to be included in the management system of streams.[108] Moreover, the notion of public good made imperial administrations in great part responsible for conducting the public works on rivers, while the imperial government was constantly running out of money.[109] Recognizing the private property of riparian grounds legitimized obliging their private owners to contribute financially for the costs of the works, even when the government was supposed to support the greatest part of the expenses. In that sense, a management system based on the notion of public good could not do totally without a form of private property.

The rights of riparian landowners were nevertheless highly limited. In addition to the periodic financial contributions they had to make, private landowners could be forced to undertake works against their will. This was especially the case in the constitution of irrigation societies (*Wassergenossenschaften*), whose membership could be forced by imperial administrations. The only escape available to the landowner was to sell his property within a given amount of time.[110] Moreover, the possession of riparian property did not give any rights over the use of the river beforehand. The Cisleithanian system was fundamentally different from the North American "incorporation" of nature described by Theodore Steinberg. In the latter, groups of industrialists could indeed appropriate a river by acquiring all the surrounding grounds, before their long-term use of the river was recognized in law by the courts within a system of common law that left an important role to custom.[111]

[104]*Stenographische Protokolle des Abgeordnetenhauses*, 5851, 5859.

[105]See note 78 for references to the 1863 debate in the Lower Austrian Chamber of Commerce and Industry, where this argument was most clearly expressed.

[106]*Stenographische Protokolle des Herrenhauses des Reichsrates*, 2068–70.

[107]*Stenographische Protokolle des Abgeordnetenhauses*, 5872–73.

[108]*Reichswassergesetz*, §26, which reproduces earlier dispositions from the *Wasserbaunormale* of 1830.

[109]Harm-Hinrich Brandt, "Public Finances of Neo-Absolutism in Austria in the 1850s: Integration and Modernisation," in *Austriaca*, ed. Brandt ([1987]), 63.

[110]*Reichswassergesetz*, V. Abschnitt; *Tiroler Landeswassergesetz*.

[111]Theodore Steinberg, *Nature Incorporated: Industrialization and the Waters of New England*, 2nd ed. (Cambridge, 2003), 140–45.

On the contrary, in the Cisleithanian system, private individuals who wished to make use of a river always had to request authorization from the imperial administration for their rights to be recorded in a *Wasserbuch*. The management of the resource was detached from the dynamics of the land market. The law of 1869 consolidated a form of interaction between private lands and waters that could be used by all. This system resembled the notion of "public domain," where the state became the manager of the resource on behalf of the empire's citizens and entrusted the local imperial administrations created since 1849 with this task.

Administrative Water Management

The law of 1869 established a legal principal whose implementation still needed to be carried out. As Stefania Barca has emphasized in the case of southern Italian rivers, this implementation was not automatic. In spite of legislation inspired by the Napoleonic Code aimed at a new management of water resources, the Liri river experienced what Barca calls a "tragedy of enclosures." In the case of the Liri, the resistance of riparian landowners to administrative regulation ultimately amounted to a privatization of rivers comparable to the outcome of the situation described earlier by Theodore Steinberg.[112] In the case of Cisleithania, several converging elements suggest that the principle of water as a public good had real consequences on water management, unlike in the Neapolitan case.

In the decades following the enactment of the law, lawyers interested in issues of water rights globally expressed great satisfaction about the law of 1869. Based on his experience as a practitioner in charge of appeals to the Ministry of Agriculture, Karl Peyrer praised the homogeneity of the system, which treated all rivers in the same way regardless of their navigability and thus eased considerably the work of the administration.[113] Regarding legal theory, the coherence of the law was still being praised in the twentieth century as "one of the best creations of the old Austrian legislation."[114] The Cisleithanian law of 1869 also integrated all the rules constituting the regulation system within one single text, unlike the legislation of neighboring states such as Bavaria, where four different laws had established comparable principles in 1852.[115] The Cisleithanian text thus appeared as a model in the eyes of legal theorists and served as a model for foreign legislation on water, as in Germany in the 1870s or in the case of the Russian law for Turkestan of 1916.[116]

On more practical grounds, the jurisprudence of Austrian courts reinforced the law's implementation, especially of its parts concerning the prerogatives of the imperial administration. As early as 1872, the *Oberstes Gerichtshof* (Supreme Court) declared itself incompetent in matters of hydraulic conflicts because of the absence of private property on rivers. According to the judges, the rivers' status as public goods took them out of the usual civil jurisdiction and required all cases of conflict over water usage to be transferred to the administration, even if the courts had issued a valid decision on the substance of the case.[117] In particular cases, the Supreme Court recognized the validity of some private rights on non-navigable portions of rivers, such as the fishing rights of a Galician lord grounded on the written settlement of the *Grundentlastung* from the 1850s. But even in that case, the judge specified that the court only recognized the lord's exclusive fishing rights as a use right in relationship to other users, and that this did not change the public status of the river itself.[118] The jurisprudence of the *Verwaltungs-Gerichtshof* (High Administrative Court) created in 1876 consolidated administrative

[112]Stefania Barca, *Enclosing Water: Nature and Political Economy in a Mediterranean Valley, 1796–1916* (Cambridge, 2010), 111–16.

[113]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, XI, 120–21.

[114]Karl Haager-Vanderhaag, *Das neue österreichische Wasserrecht: Kommentar zum Wasserrechtsgesetz unter Berücksichtigung der Durchführungsvorschriften, der Entstehungsgeschichte sowie des Schrifttums, der Verwaltungspraxis und der Spruchpraxis der obersten Gerichtshöfe sowie der wirtschaftlichen Entwicklung* (Vienna, 1936), 46.

[115]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, XI.

[116]Peyrer Ritter von Heimstätt, *Das Oesterreichische Wasserrecht*, IV; Pravilova, *A Public Empire*, 122–23.

[117]Julius Glaser, Joseph Unger, and Joseph von Walther, eds., *Sammlung von Civilrechtlichen Entscheidungen des k.k. Obersten Gerichtshofes. Sechzehnter Band* (Vienna, 1881), 159–60.

[118]Julius Glaser, Joseph Unger, and Joseph von Walther, eds., *Sammlung von Civilrechtlichen Entscheidungen des k.k. Obersten Gerichtshofes. Elfter Band* (Vienna, 1878), 284–85.

prerogatives as well by stating that local engineers and civil servants could coerce private individuals to proceed according to their instructions even before the termination of legal periods of contestation (even if it meant reversing a decision later, in the case where the contestation accorded a right to the private individual).[119]

As Tatjana Tönsmeyer has emphasized in a study on water use conflicts in Bohemia, the imperial administration managed to establish itself as the arbitrator in conflicts between private individuals through its presence at the local level.[120] This administrative prerogative even assumed an exclusive character that had not been imagined in the early legislative proposals. The proposal of 1862, for example, had imagined a *Wassermagistrate* as an intermediary between administrators and private individuals. It would have consisted of a council on hydraulic matters composed of district engineers and representatives of agricultural and industrial interests.[121] This project disappeared in the final version of the law, leaving civil servants and district engineers the only competent people on these issues. During arbitrations of conflicts, it was not rare that some aspects were considered "purely technical," and consequently left to the expertise of engineers.[122]

It seems therefore that Cisleithanian administrations managed to establish themselves as the sole managers of water resources much more effectively than their French counterparts studied by Alice Ingold. Whereas French law shared with the Austrian law a vision of rivers as public domain and represented another influential legal model throughout the nineteenth century, there was no definition of ownership for non-navigable portions of rivers in France until 1898. Power struggles between French courts and administrations also contributed to diminish the latter's field of intervention.[123] Finally, French legal practice proved to be less constraining for private individuals than in Cisleithania. It was, for example, unthinkable for French lawyers to coerce an owner to adhere to the mandates of an irrigation association, whereas the Cisleithanian law of 1869 provided for exactly this possibility.[124] Although this possibility seems to have been very rarely used in practice, Jana Osterkamp suggests that the development of irrigation associations in the following decades was not left solely to private initiative. Rather, the imperial administrations seem to have remained almost too present in the setting up of irrigation projects.[125]

In addition to arbitrations of conflicts, the imperial administration oversaw the fixing of water rights and potential reallocation of unused surpluses. Many liberal representatives considered this competence one of the cornerstones of the law without which "there can be no progress [*Fortschritt*] on the path of the legislation on water rights."[126] Use rights had to be recorded in a dedicated register, the *Wasserbuch*, which specified some limited time periods for the rights of specific uses. Floating rights for wood, for example, were granted in three-year periods and were regularly renegotiated.[127] The reallocation of surplus caused many discussions on its potentially arbitrary character and was perceived by industrialists as a form of dispossession. Regarding earlier law proposals, industrialists feared in particular that the seasonality of river flows would not be taken into account, and that the administrations would consider waters kept in reserve for dryer periods to be unused.[128] In response to such concerns, the final law provided for time periods of contestation for the industrialists to explain their use of water before reallocations took place, as well as a system of compensation provided by the

[119]Adam Freiherr von Budwiński, *Erkenntnisse des k.k. Verwaltungsgerichtshofes. III. Jahrgang 1879* (Vienna, 1879), 260–61.

[120]Tatjana Tönsmeyer, *Adelige Moderne: Großgrundbesitz und ländliche Gesellschaft in England und Böhmen 1848–1918*, Industrielle Welt 83 (Cologne, 2012), 157–61.

[121]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 25–26.

[122]OeStA/AVA/Landwirtschaft/Ackerbauministerium und Landeskultur/A72/412–30.

[123]Alice Ingold, "Gouverner les eaux courantes en France au XIX^{e} siècle. Administration, droits et savoirs," *Annales. Histoire, Sciences Sociales* 66, no. 1 (2011): 98–103.

[124]Alice Ingold, "Les sociétés d'irrigation 'ibien commun et action collective," *Entreprises et histoire* 50, no. 1 (2008): 33.

[125]Jana Osterkamp, "Wasser, Erde, Imperium. Eine kleine Politikgeschichte der Meliorationen in der Habsburgermonarchie," in *Vom Vorrücken des Staates in die Fläche: Ein europäisches Phänomen des langen 19. Jahrhunderts*, eds. Jörg Ganzenmüller and Tatjana Tönsmeyer (Weimar, 2016), 184–93.

[126]*Stenographische Protokolle des Abgeordnetenhauses*, 5869–70.

[127]*Reichsforstgesetz*, §26 and 33.

[128]"Bericht der Ersten Section der Niederösterreichischen Handels- und Gewerbekammer," 7–10.

beneficiary of the reallocation.[129] Nevertheless, several civil servants like count Alberti de Poja proposed to expand the prerogatives of imperial administrations even further in the 1890s by limiting the period of rights for industrial uses as a way to ease reallocations of water use rights or the termination of noxious activities.[130] The law on mountain streams of 1884 also confirmed the extension of administrative control of little rivers, particularly for protection against floods.[131] Both in terms of arbitration of conflicts between individuals and of physical management of watercourses, the state, as manager of water resources through its administrations, went beyond a mere wish expressed in the law and became a reality with concrete practical consequences.

From Commons to Public Goods: A Change in Scales

The management of water as a public good had intentionally emerged in opposition to a system of private property. It aimed at making rivers available for economic actors who asked for it, according to the idea that rivers should be used in common, as expressed by Franz von Kleyle in 1836.[132] However, the shift in vocabulary from the term "*gemein*" used by von Kleyle to the one of "*öffentlich*" used in the law of 1869 was not innocuous. Historiographical debates on the relationships between property regimes and the environment have mainly focused on an opposition between commons and private property, crystallized by the issue of the "tragedy of the commons" that, for a great part, reenacted nineteenth-century debates on enclosures.[133] Following Garett Hardin's argumentation, some scholars see private property as the best property regime to optimize both production and the preservation of natural resources. Confronted by what is perceived as an "extension of privative logics," other scholars tend to present commons as the opposite model, sometimes in a too idealized vision of the harmony of society and nature that commons would promote.[134]

In the light of this binary opposition, it could be tempting to assimilate public goods to commons,[135] especially since large parts of political economy's vocabulary tend to treat both terms as quasi-synonyms because of their collective (as opposed to "individual") aspect.[136] But although the legal category of commons was available in the nineteenth century through the term "*Gemeingut*," the Cisleithanian lawmakers made another choice. Since the mid-eighteenth century, this form of property was increasingly discredited, as the partition of common pastures reveals. While the privatization of common pastures had taken a rather slow pace until the mid-nineteenth century to mitigate its associated social conflicts, liberal reformers drafted new partition plans in the 1840s and especially after 1848 that accelerated the shifting away from that form of property, at the cost of increased social conflicts.[137] Instead of the "*Gemeingut*," the Cisleithanian lawmakers chose on purpose the "*öffentliches Gut*" as a distinct legal category. Although the "public good" of the law of 1869 was conceived in opposition to private property, it was very different from the commons in terms of the

[129]The debate on compensations was particularly lively in the Herrenhaus after Josef Unger's intervention to justify expropriations, see *Stenographische Protokolle des Herrenhauses*, 2067–72.

[130]Alfred Graf Alberti de Poja, *Für die Reform des Oesterreichischen Wasserrechtes: Ein Vortrag gehalten am 24. März 1898 im Verbande der Industriellen in den politischen Bezirken Baden, Mödling, Neunkirchen, Wr.-Neustadt und Umgebung* (Vienna, 1898), 27–29.

[131]"117. Gesetz vom 30. Juni 1884, betreffend Vorkehrungen zur unschädlichen Ableitung von Gebirgswässern," *Reichsgesetzblatt für die im Reichsrathe vertretenen Königreiche und Länder. Jahrgang 1884* (Vienna, 1884), 374–80 (hereafter "*Wildbachverbauungsgesetz*").

[132]Kleyle, "Leitung und Benützung der Gewässer," 75–76.

[133]Fabien Locher, "Les pâturages de la Guerre froide: Garrett Hardin et la « Tragédie des communs »", *Revue d'histoire moderne & contemporaine* 60, no. 1 (2013): 22–25; Giacomo Bonan, "Confronting Hardin: Trends and Approaches to the Commons in Historiography," *Theoretical Inquieries* 19 (2018): 619–20.

[134]Graber and Locher, "Jouir et Posséder," 11 and 21.

[135]Like Stolz, *Geschichtskunde der Gewässer Tirols*, 463–64.

[136]Sofia Wickberg, "Biens publics/biens privés," in *Dictionnaire d'économie politique: Capitalisme, institutions, pouvoir*, eds. Colin Hay and Andy Smith (Paris, 2018), 57–59.

[137]Hubert Weitensfelder, "Allmendeteilungen in Vorarlberg im 18. und 19 Jahrhundert," *Montfort Vierteljahresschrift für Geschichte und Gegenwart Vorarlbergs* 49, no. 4 (1997): 342–46; Joachim Popek, "Conflicts Over Common Rights to Cattle Grazing on Common Lands and Manorial Properties in Austrian Galicia (1772–1918)," *Rural History* 31, no. 1 (2021): 84–87.

economic and political perspectives it entailed. The notion of public good thus complicates the narratives on property regimes and the environment that stemmed from the debate over the "tragedy of the commons."

From an analytical point of view, the resource management system established by the law of 1869 introduced important differences from other systems of commons recorded in earlier periods. One major difference was the economic perspective according to which the resource was to be used. In systems of common pastures, forests, or even rivers, the resource was divided among all members of the community to provide everyone with a part, however small. The poorest members could sometimes receive extended use rights to guarantee them a minimal income and satisfy their necessary needs ("*Nothdurft*"). Commons thus took part in a system of allocation of resources that followed the principle of subsistence economy.[138] In the system of public waters, imperial administrations first allocated the resource to one individual who wished to make use of it before allocating the remaining unused waters to other individuals, or reallocating the resource in order to favor the uses with the greater utility ("*Nützlichkeit*") and considered most profitable for the "national economy." Rather than striving to satisfy the essential needs of the largest part of a community, it aimed at orienting a resource toward its most generally productive uses. While the literature on the "tragedy of the commons" tends to discuss the respective ecological efficiency of private property and commons in idealized forms,[139] it is also interesting to note that conservation was not a preoccupation in the debate on the public good as it took place in the mid-nineteenth-century Habsburg Empire. By then, the notion of public good set the focus on economic efficiency within a specific theoretical framework.

Moreover, the system of water management established in the Habsburg Empire introduced a change in the scale of management. Commons usually concerned local scales such as a municipality or a parish. The notion of common property rested on an "us" defined by a system of social relationships between people living in the same place and excluded people exterior to the community.[140] The system of public goods, however, transferred the management of the resource to the scale of the empire. The meaning of the term "community" implied in the notion of "public" was accordingly redefined. It was now a depersonalized community, not ruled in an autonomous fashion at the local scale, but in a top-down fashion by administrations which applied the same norms from Tyrol to Galicia.[141] This management system embedded rivers in a much larger economic system that went hand in hand with the consolidation of a territorial state which sought to rule in a homogeneous fashion over the several provinces of the empire. The primacy of navigation among water uses is particularly revealing of the change of scales: the legal notion of public good made it possible to give a new "framework of the social reality of the river,"[142] one that established its expected economic functions over a large imperial territory where waterways could be surveyed and mapped.[143] The extension of the notion of public good to the non-navigable sections of rivers further reveals the scope of the attempt to

[138]Paul Warde, "Imposition, Emulation and Adaptation: Regulatory Regimes in the Commons of Early Modern Germany," *Environment and History* 19, no. 3 (2013): 330–36; Paolo Tedeschi, "Notes sur la gestion des ressources naturelles dans les vallées de la Lombardie Orientale Au XIXe Siècle: Les Eaux," *Histoire Des Alpes – Storia Delle Alpi – Geschichte Der Alpen* 19 (2014): 117; Stefania Bianchi and Mark Bertogliati, "'L'acqua che corre ai mulini': Risorse idriche tra gestione colletiva e proprietà privata nelle valli insubriche delle Alpi centrali (XIII-XIX sec)," *Histoire Des Alpes – Storia Delle Alpi – Geschichte Der Alpen* 19 (2014): 127–42.

[139]Graber and Locher, "Jouir et Posséder," 24–25.

[140]Edward P. Thompson, *Customs in Common* (London, The Merlin Press, 1991), 175–84.

[141]This redefinition of the scales of the "community" could be investigated further in a comparison on a larger scale with other contexts, such as the colonial context. As a source of inspiration on the meanings of the "community," see Shubhra Gururani, "Regimes of Control, Strategies of Access: Politics of Forest Use in the Uttarakhand Himalaya, India," in *Agrarian Environments: Resources, Representation, and Rule in India*, eds. Arun Agrawal and Kalyanakrishnan Sivaramakrishnan (Durham, 2000), 171–72.

[142]Ingold, "Gouverner les eaux courantes en France au XIX^{e} siècle," 103.

[143]See, for example, the map realized after the surveys ordered by Karl von Bruck, OeStA/AVA/Kartensammlung Teil II/E-a/14 "Die Land- und Wasser Communicationen desKaiserthumes Oesterreich, herausgegeben von der k.k. Direktion der administrativen Statistik, Wien, 1856."

bind together economic activities of various natures, from industries to agriculture, and the environment in a larger imperial system.

Conclusion

Cisleithanian lawmakers chose to define water as a public good in the law of 1869 to establish an administrative allocation system of water resources in order to make them the most productive possible. The legal status of rivers was a way to combine economic objectives with a political agenda. In that way, law became a tool to reframe the relationship of the Cisleithanian society with its environment by putting water resources at the service of a program that combined economic prosperity and empire building.

The law of 1869 on water rights enables us to complicate narratives about the "privatization" or "commodification of nature" during the nineteenth century. According to such narratives, the incorporation of environmental resources in a productivist economic system took place through a process of individualized private appropriation that would leave the allocation of the resource to market mechanisms. In what is sometimes summarized as a "liberalization of the environment," the state's role would be limited to guaranteeing exclusive property rights and removing any obstacles that prevented industrialists from accessing environmental resources.[144] In that perspective, private property would play the key role in the establishment of a productivist economy.

Pierre Charbonnier has provided interesting insights on the ways in which nineteenth-century liberalism tried to bind political objectives with economic development and the exploitation of environmental resources. According to him, the "liberal pact" sought to conquer an individual autonomy resting on the idea of abundance.[145] The economic expectations for water uses in the Habsburg Empire pointed toward a similar "will of abundance," a quest for constant improvement of society's material existing conditions.[146] But contrary to the expectations of a narrative of "privatization of the environment," the lawmakers in the Habsburg Empire detached the rights to use water from landed property and market dynamics with the aim of making the resource more productive. Cisleithanian lawmakers, even liberals, believed that there was a disharmony between individual interests and the general interest and rejected in a certain sense the "liberal creed" described by Karl Polanyi.[147] Rather, they interpreted the issue of property and abundance in an original way, in which the state played a major role. They judged inadequate a system of resource management based on private property and instead took the allocation of water use rights away from market systems. The imperial state did not simply "enforce *laisser-faire*"[148] nor organize an integral commodification of nature.[149] The management system of water resources organized complex interactions between private and public property.

The state's intervention was pivotal for the economic "modernization" that began in the 1850s and in the reorganization of environments to put resources in the service of what we today call "growth." The promotion of the public good was embedded in the mid-nineteenth-century dynamic of reorganization of relationships between the state, civil society, and environments. It participated in the processes of territorialization and consolidation of state power. The relationship between economy and environment that emerged then was inseparable from the process of state building and of redefinition

[144]The narrative of liberalization has been induced mainly out of the case of pollution regulation during the French Revolution and First Empire, see Jean-Baptiste Fressoz, *L'Apocalypse Joyeuse : Une histoire du risque technologique*, 2nd ed., Points Histoire 560 (Paris, 2020 [2012]), chap. 4; Jean-Baptiste Fressoz et al., *Introduction à l'histoire environnementale*, Repères (Paris, 2014), 39–40; François Jarrige and Thomas Le Roux, *La Contamination du Monde: Une histoire des pollutions à l'âge industriel*, L'Univers Historique (Paris, 2017), 84–89.

[145]Charbonnier, *Abondance et Liberté*, 103–5.

[146]Charbonnier, *Abondance et Liberté,* 41–45.

[147]Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*, 2nd ed. (Boston, 1957 [1944]), chap. 12.

[148]Polanyi, *The Great Transformation*, 139.

[149]Polanyi, *The Great Transformation*, chap. 15.

of the scales at which "community" and "public" were understood. Unlike in the case of commons, where a local community managed resources for a subsistence economy, the public good was meant to incorporate resources in the productivist economy of a large imperial state. The way in which European societies redefined their relationship to the environment was a deeply political process, in which law and state administrations proved to be powerful tools for the realization of the environmental changes required by such modernization projects.

Cite this article: Gruffat C (2023). The Beautiful Public Danube: Water Uses, Water Rights, and the Habsburg Imperial State in the Mid-nineteenth Century. *Austrian History Yearbook* **54**, 136–158. https://doi.org/10.1017/S0067237823000176