



Materializing Imperial Rule? Nature, Environment, and the Middle Class in Habsburg Central Europe

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New imperial history has fundamentally transformed our understanding of empires and questioned established certainties with regard to paths of state building and state formation. This challenge has proved fruitful for historians of Austria-Hungary, as it has led to a new perception of the Dual Monarchy as a sometimes innovative and in certain regards even progressive polity.

The observation that nature and environment became more closely entangled with imperial rule and politics in the nineteenth century and had an impact on common notions of what modern empire actually was serves as a starting point for this study. Along three representative repositories of imperial knowledge—Czoernig's *Ethnographische Karte* (1857), the Hungarian *Czigányösszeírás eredményei* (1893), and the catalogue accompanying one part (the Austrian) of the Habsburg contribution to the 1900 *exposition universelle*—it shows how new spheres of the non-human became entangled with imperial politics and were transformed into resources with which to further the imperial project. These three examples, I argue, are just three minor elements against a larger discursive backdrop that slowly furthered the embodiment of a notion of modern empire, which featured the improvement of the natural environment as a constitutive aspect of its exercise of power.

Consequentially, this raises the question of a *cui bono*, placing the focus on a considerably large body of imperial civil service, not only in charge of this operation but also functioning as the driving force behind it. I understand the middle-class officials who made up the administration as the imperial intermediaries identified by new imperial history, and I shed light on the diversity of this increasingly important social class, a diversity which resulted from the ongoing engagement and subtle participation of middle-class civil-servants in the imperial project. I also keep a close eye on the resources they could mobilize, particularly expert knowledge.

I seek to further a more nuanced understanding of the social transformation that Austria-Hungary's imperial project underwent in the long nineteenth century as this distinctive polity (Austria-Hungary) relied on the middle classes as central imperial intermediaries who furthered the modernization of the Dual Monarchy by fostering specific sets of values and furthering the use of resources the appropriation and exploitation of which have left lasting marks in Central European mentalities.

Keywords: Habsburg Empire, environmental history, Central Europe, 19th century, central administration, middle-class, forestry, nature, landscape

In this article I show how the emergence of a centralized middle-class imperial administration in Central Europe in the long nineteenth century created at the same time a homogeneous imperial environmental sphere that this emerging administration came to consider “natural.” During this process, environment as “nature” was transformed from something local into a fundamental resource of imperial rule which, under the management of an administration that fed itself from the steady supply of members of a growing middle class, was supposed to benefit the integration of local society into the emerging imperial society and the creation of a larger, more unified imperial identity. The Habsburg Empire around 1900, I argue, was fundamentally different from its embodiments 100 or 200 years earlier insofar as it had successfully transformed from an *ancien régime*-style polity into a modern middle-class empire. This metamorphosis was made possible in no small part, I argue, by two processes. The first of these processes was the materialization of the knowledge necessary for power, by which I mean, throughout this article, giving concrete form to information, for instance with the creation of maps and statistics, which in the case of the Habsburg Empire gradually came to replace the individuals who had stored this information. The second process was the large-scale systematic mobilization of the Empire’s (non-human) environment.

The predominant reading of Central European history in the secondary literature (especially though not only for the long nineteenth century) has changed substantially over the course of the past decade. This took place in large part simply because the focus on national histories lost much of its explanatory purchase, while more comprehensive approaches that are striving to account for the complexity of the entanglements that characterized this region around 1900 moved to the foreground.¹ The increasing absorption of newer theoretical debates and methodological innovations, such as postcolonialism, new imperial history, and the history of science, have furthered Digital History and its successive integration into the research programs and routines of historians, but the work of anthropologists and sociologists has also had a strong impact on the field.²

1 Fillafer, “Einleitung”; Varga, “Writing Imperial History.”

2 Judson, *The Habsburg Empire*; yet also Deak, *Forging a Multinational State*; Surman, *Universities in Imperial Austria*; Fillafer, *Aufklärung habsburgisch*; Gammerl, *Subjects, Citizens and Others*; Bowman et al., “An Imperial Dynamo?” Though not all these studies follow the “revisionist” narrative, they all display remarkable distance from the teleological narrative of nationalization. Among the more recent studies that take a more conservative stance, see Beller, *The Habsburg Monarchy*. The history of science exerted considerable

New imperial history has unquestionably left a significant imprint on the rewriting of Central European histories over the past decade, yet even the most recent comprehensive accounts of Central European history in the long nineteenth century are flawed with regard to certain facets.³ I would like to point out one particular aspect here, which concerns the neglect of most subjects dealt with by environmental humanists in historical accounts of Habsburg Central Europe on the macro level.⁴

In the following, I begin with a discussion of the methodological and theoretical aspects which could be relevant to a rethinking and rewriting of Central European history, especially with regard to the long nineteenth century, derived from some of the larger trends in the historiographical research.⁵ This

influence for instance on the history of knowledge and furthered the development of a substantially better understanding of administrative history: Göderle, *Zensus und Ethnizität*.

3 New imperial history has been implemented thus far particularly with regard to Central Europe in the long nineteenth century, probably first by Leonhard and von Hirschhausen, *Empires und Nationalstaaten*. also Judson, “L’Autriche-Hongrie était-elle un empire ?” Particularly research on the eighteenth century is still very much dominated by the research paradigm of the fiscal-military state, Godsey, *The Sineus of Habsburg Power*.

4 According to Kupper, *Umweltgeschichte*, 12f., environmental historical research on Europe in general is still in its beginnings. There is, however, some work on former Cisleithania, though very little on the macro level, and significantly more on former Transleithania. Some insights into recent research are granted by conference announcements and reports, Tagungsbericht. *The Environmental History of the Central European Borderlands*; and *Exploiting Nature, Making an Empire*. For the Austrian half of Habsburg Central Europe, see Coen, *Climate in Motion*; Frank, *Oil Empire*; Ganzenmüller and Tönsmeier, *Vom Vorrückten des Staates in die Fläche*; Wüst and Drossbach, *Umwelt-, Klima- und Konsumgeschichte*; Landry, Kupper, and Winiwarter, *Austrian Environmental History*. A renowned school of social ecology based at the Vienna University of Natural Resources and Life Sciences has exerted a significant influence on the rethinking of environmental history, for instance the work of Verena Winiwarter, Martin Schmied, and Simone Gingrich. It exceeds the regional scope of Habsburg Central Europe in terms of time and space. Research on former Transleithania is well developed, including a very recent special issue of *The Hungarian Historical Review*, edited by Gábor Demeter and Beatrix Romhányi, *Natural Resources and Society*. Further special issues of journals include *Természeti kibívások – társadalmi válaszok*, *Korall*. For an overview, see Kiss, “A Brief Overview on the Roots and Current Status of Environmental History in Hungary.” See also Rác, *The Steppe to Europe*; Horváth, *Víz és társadalom Magyarországon a középkortól a XX. század végéig*; Horváth et al., *Mensch und Umwelt im pannonischen Raum vom 18. bis ins 20. Jahrhundert*.

5 In the research running up to this article, digitally available and accessible sources played a significant role, yet it quickly became clear that the sheer mass of potentially relevant data required advanced tools to design an efficient research process. Together with my research group, made up of historians and engineers, including specialists at the Graz University of Technology, I used a self-developed tool with the working title *advanced digital research environment* (ADRE), which can structure mass data and extract specific information. This tool uses machine learning algorithms out of the class of NLP (natural language processing) frameworks, particularly BERT in different pretrained versions. Furthermore, we used SpaCy and diverse annotation tools which helped in data preprocessing, as well as several image segmentation

includes new imperial history, environmental humanities, and the major terms and fields that come with this expression. Then, I offer a quick sketch of the tools from the expanding toolbox that the digital humanities (or digital history?) have to offer, and I consider how these tools could prove particularly helpful when dealing with the challenges that come with the long nineteenth century, an epoch which is unlike any other (with the exception of the twentieth and early twenty-first centuries), as the historian is faced with the task of grappling with an immense and incalculable wealth of sources, both primary and secondary.⁶ I then offer a point of departure for an environmental humanities' perspective on Habsburg Central Europe. First, I discuss the degree to which environmental aspects have become a central part of accounts of the history of the empire during the nineteenth century. Then, I demonstrate the degree to which interaction with natural environments on two levels—that of discourse and that of administrative action—had become part of imperial politics by the end of the long nineteenth century.

The Promises of (New) Imperial History

Several studies in the early 2000s focused on the dynamics of the emergence, expansion, and to a lesser extent decline of empires before Jane Burbank and Frederick Cooper offered a programmatic reading of global history through the eyes of imperial power.⁷ *Empires in World History* provides possibly the shortest definition of what an empire is and how understanding imperial rule reduces complexity and furthers the clear identification of important processes more easily in historical research. Burbank and Cooper break empire down to only a few features, three of which I consider particularly relevant to the Habsburg case. The first is its heterogeneity in terms of its population. The second is its mode of domination, which was usually indirect and reliant of the cooperation

algorithms. Prototypes of ADRE were very helpful in extracting relevant source data from larger research data lakes and in building the datasets used in the research process. The documentation of this process will be published in due time in an article of its own, which will deal with the challenges presented by data-driven historical research, fueled by deep-learning algorithms.

6 Lässig, “Digital History Challenges and Opportunities for the Profession.” On the challenge this poses to editing, see Vogeler, “The ‘Assertive Edition’.”

7 I would consider Dominic Lieven among the first to pick up on this perspective. Lieven, *Empire*; Darwin, *After Tamerlane*; Burbank and Cooper, *Empires in World History*.

of certain elite groups. The third is its way of building resources through a multitude of possible strategies.⁸

Despite its weaknesses, I argue that this concept of empire is helpful when it comes to analyzing complex political entities and structures such as Habsburg Central Europe, first and foremost since it offers an alternative to other, even more problematic terms, such as “state.”⁹ The concept of imperial history allows us to frame complexes of political power in a flexible, even fluid way, which helps give us a grasp on what Habsburg notions of rule in the nineteenth century encompassed. The case of the Habsburg Monarchy, which was a constitutive part of the Holy Roman Empire and at the same time stretched far beyond its limitations, has challenged historians of Central Europe for decades. The fall of the Holy Roman Empire did not exactly contribute to a clarification of the situation, since its political orientation and power interests remained bifurcated for another half-century. The *Kaiserthum Oesterreich*, as the Habsburg Monarchy was called between 1804 and 1848, was usually referred to as *Kaiserstaat*, which translates into English as the Austrian Empire, a difference in terminology (the different between “staat” or “state” and empire) which illustrates unintentionally the underdetermined character of the political entity in question, which indeed lay between a state and an empire. During the short-lived era of neo-absolutism, the Habsburg Monarchy sought for transformation into central statehood.¹⁰ In 1867, however, the Compromise turned it into a unique empire, consisting of one part openly striving towards nation-statehood and another that successfully combined the remains of decades of central state-building with resurfaced fragments of its *ancien régime* structure.¹¹

This series of at least four different configurations in the imperial history of the Habsburg Monarchy in less than one century exemplifies the impossibility of the task of nailing down the narrative of a single political entity in this case. Trying to account for further central developments in nineteenth-century Central Europe, for instance the territorial extension or the constitutional genesis of

8 The concept has met with substantial criticism as well, and particularly the term “empire” can make it difficult to operationalize the idea behind it, as it is historically overlaid and refers to a multitude of different meanings. For criticism and debate, see Ghosh, “Another Set of Imperial Turns?” With regard to Habsburg Central Europe, see Wendehorst, “Altes Reich, ‘Alte Reiche’ und der Imperial Turn”; Fillafer, “Imperium oder Kulturstaat?”

9 However, even recent literature by renowned scholars continues to consider “state” a well-suited framework for analyses of Habsburg Central Europe: Beller, *The Habsburg Monarchy*, 5f.

10 Deak, *Forging a Multinational State*, 99ff.

11 Göderle, *Zensus und Ethnizität*, 93ff.

Habsburg rule, further complicates the situation. New imperial history offers a chance to unravel this complex and puzzling story by narrowing the focus to just two aspects: rule and the buildup of the imperial intermediaries whose contributions finally provided for the upkeep and mediation of imperial rule.¹² Imperial history has contributed to an unlearning of the dominant narratives of teleology in history by replacing the well-established focus on idealized (Western) ideas of statehood and offering instead, as critical tools or perspectives, alternative forms of political and social organization.¹³

Empire and Its Environments

Environments are an issue that have only lately been drawn into discussions of new imperial history.¹⁴ The entire program of the environmental humanities which has emerged in the surge of a multi-disciplinary analysis of the Anthropocene has added substantially to older and deeply rooted research traditions in the field of environmental history. This concerns, in particular, a rethinking of the strong binary opposition between nature and culture, and many (frequently implicit) basic assumptions that go with this *Great Divide*.¹⁵ The intensity of the debate around the Anthropocene has substantially furthered our understanding of the web of life, and it has turned out to be necessary in many places to renegotiate the relationship between “human” and “non-human” in a way that does not simply lead to another binary understanding of a complex social and material reality.¹⁶ The theoretical advance seen in the past decade leaves us in a precarious situation, as very much has been thrown into question, and with good reason. Not only have the physical limits of the human body been questioned, but human coevolution with animals has also become an important issue, and the new approaches which have emerged toward materialism now provide ways to scrutinize the influence of matters on historical processes.¹⁷ The term “human” merits reflection, as the human is in constant exchange and permanent coevolution with its environment.

12 Wendehorst, “Altes Reich, ‘Alte Reiche’ und der Imperial Turn.”

13 Other macrohistories, such as Kennedy, *The Rise and Fall of the Great Powers*; Bayly, *The Birth of the Modern World*; Osterhammel, *The Transformation of the World*.

14 Peterson, *Pipe Dreams*, 4ff.

15 Generally Latour, *We Have Never Been Modern*; in terms of history Kreitman, “Feathers, Fertilizer and States of Nature,” 18ff.

16 Moore, *Capitalism in the Web of Life*, 13ff.

17 Bennett and Joyce, *Material Powers*; Bennett, *Vibrant Matter*; Fishel, *The Microbial State*; Rees, “Animal Agents?”

When it comes to an analysis of events and long-term developments, it might turn out to be necessary to look closely at the chains of translation providing for these to take place.¹⁸ Power-relations are never out of the equation, of course, and it can prove challenging to keep an eye on social configurations and resource inequalities among human and non-human actants.¹⁹

Like many other research programs rooted in the cultural history of the 1980s and sharing a theoretical heritage with the linguistic turn, imperial history tends to be uneasy with the analyses of the material foundations of societies which give no consideration of environments. Regarding Habsburg Central Europe, the situation is particularly dire, though this applies to its German-speaking areas much more than to most other regions.²⁰ None of the large comprehensive studies on Habsburg Central Europe published in the past two decades devotes as much as a chapter to the question of environment.²¹ Among the older work, particularly social and economic history showed some interest in the matter, though this interest was mostly limited to agriculture. However, some sizeable studies do exist, particularly regarding Hungary.²²

Habsburg Central Europe through the Lens of Imperial History

Habsburg Central Europe evades description and analysis according to the categories and terminologies of nation-state histories, as stated above. To what degree can imperial history contribute to a clearer understanding of the essence of this flexible and territorially fluid polity between c. 1800 and 1918? Or, to frame the question slightly differently, by focusing on which specific quality of Habsburg rule could historians identify the core of Habsburg rule?

Burbank and Cooper suggest separating imperial rule analytically from the institutions built to transmit the exercise of power over populations. Regarding the Habsburg Empire, this would mean looking at those on whose close collaboration Habsburg rulers depended. For several centuries, Habsburg rule

18 Latour, “Circulating Reference”; Göderle, “Die räumliche Matrix des modernen Staates.”

19 Füssel and Neu, *Akteur-Netzwerk-Theorie und Geschichtswissenschaft*.

20 Environmental, agricultural, and infrastructural histories were written for instance in Hungary, the former Czechoslovakia, and former Yugoslavia between the 1960s and the 1990s. See Hadač et al., *Obrožená příroda; Rácz, The Steppe to Europe*.

21 There are, however, two important readers on environmental history by scholars with a particular focus on Central Europe: Winiwarter and Knoll, *Umweltgeschichte*; Kupper, *Umweltgeschichte*.

22 Thematic issue of *The Hungarian Historical Review* under the title *Natural Resources and Society*. *The Hungarian Historical Review* 9, no. 2 (2020).

over enormous territories relied on the cooperation of aristocratic elites, which took care of administration, security, and jurisdiction on the regional and local levels. Habsburg rule was an indirect one. The ruler played hardly any role in his or her subjects' daily lives and experiences, although *Supplikationen* offered a way to appeal directly to the emperor.²³

This complex and slow apparatus provided a surprising degree of flexibility, since the different regions worked as segregated modules. The ruler dealt primarily with his aristocratic proxies in charge of regional and local affairs, a system that allowed to keep imperial administration slim and flexible, as bureaucratic tasks were outsourced and taken over by the emperors' imperial intermediaries. At the same time, *ancien régime* rule had significant disadvantages. It was relatively slow in terms of recruiting and mobilization, it was expensive from the ruler's perspective, as his proxies had a strong interest in providing as little money and men as possible in the context of taxation and military mobilization, and it proved increasingly inefficient. It further allowed an enormous range of economic and social particularities to coexist inside one single polity. Different formations of knowledge fundamental to running an empire remained strictly separated. It was particularly the ruler's lack of information regarding the composition of environmental resources and populations on local and regional levels, yet also his deficient understanding of the spatial configuration of the empire that put him at a severe disadvantage by the mid-eighteenth century in Central Europe, at the latest.²⁴

The regencies of three Habsburg rulers—Charles VI, Maria Theresa, and Joseph II—saw the introduction of a number of important lines of action that connect Habsburg Central Europe in the mid-eighteenth century and Habsburg Central Europe in the mid nineteenth century (according to Koselleck, the so-called *Sattelzeit*). Charles VI initiated significant infrastructure projects, such as the *Reichsstrassen*, and Maria Theresa created a number of centralized administrative agencies and began to tackle issues of population census. Joseph II finally went ahead with the project of imperial centralization and furthered the production of significant topographical and cadastral maps.²⁵ These three

23 Some groundbreaking and relevant research on the issue of the *Reichsbofrat* has been conducted in an international cooperation between the universities of Graz and Eichstätt as well as the Historical Commission of the Bavarian Academy of Sciences in the past 15 years: Haug-Moritz and Ullmann, *Frühneuzeitliche Supplikationspraxis und monarchische Herrschaft*; Schreiber, "Untertanen als Supplikantinnen und Supplikanten."

24 Helmedach, "Infrastrukturpolitische Grundsatzentscheidungen des 18. Jahrhunderts"; Göderle, "Modernisierung durch Vermessung?"

25 Koselleck, "Einleitung"; Helmedach, *Das Verkehrssystem als Modernisierungsfaktor*; Tantner, *Ordnung der Häuser*.

rulers laid the foundation of a fundamentally new architecture of imperial rule. By giving material form to the transmission of rule through the construction of buildings for administrative agencies, roads, and canals and the transformation of knowledge into paper, they tried to reduce their dependance on aristocratic elites and further their own policy spaces.²⁶

Their attempts to wrest the significant knowledge formations required for the successful exercise of imperial rule from the aristocratic elites which had been in charge of the transmission of rule for centuries proved tiresome and difficult, yet as I will show in the following pages, the long-term operations they launched and the processes they initiated constitute a crucial line of continuity for any understanding of the modernization of Habsburg Central Europe in the long nineteenth century.

Mapping Lands, Assessing Resources, Counting Animals and Subjects

As mentioned above, it is extraordinary difficult to fashion a cohesive historical narrative concerning whatever political entity the Habsburg Empire between 1804/1806 and 1918 might have been. There was a central sphere of imperial rule, but it extended rather to the northeast than to the southwest, which is not in line with the dominant historiographical narratives that try to emphasize the coherence of twentieth-century *Deutsch-Österreich*.²⁷

It is probably easiest to follow the trail of successful (and failed) attempts to further imperial consolidation on the crucial level of Burbank's and Cooper's imperial intermediaries by identifying the outlines of the different embodiments Habsburg rule underwent during the long nineteenth century. From the mid-eighteenth century onward, Habsburg rulers invested in a growing central administration, struggling to get better control of the resources necessary for imperial rule, which included humans and animals, or so-called natural resources. Drawing on three cases, I will offer examples of how this recalibration of imperial rule can be observed.

The expansion of the central administration, which encompassed, as I argue, the civil service yet also at least to some extent the military (for instance when it came to the enormously important mapping operations), was one trail to be followed, even though it did not emerge in a linear way.²⁸ The second

26 Göderle, "Modernisierung durch Vermessung?"

27 An impressive overview is provided in Kaps, "Habsburg maritim."

28 Deak, *Forging a Multinational State*; Adlgasser and Lindström, "The Habsburg Civil Service."

trail to be followed is the long-term operations and processes that proved so resilient that they endured the regencies of two or sometimes three different rulers.²⁹ The land survey (started in 1807) and the cadastral mapping operation (begun in 1816) were both launched by Francis II/I. The land survey was only finished in 1869 under Francis Joseph, and the cadaster was finished in 1861. Both operations yielded substantial knowledge necessary to the modernization of rule, and both required tremendous resources in an era of scarce finances and significant political, social, and economic change. The realization of these projects thus must have been a strenuous effort.

If we try to keep these two facets in mind before we step back to look at the bigger picture and the long lines of development of Habsburg Central Europe in the long nineteenth century, the Habsburg struggle for power and rule presents itself as an ongoing negotiation between rulers and different groups competing for roles as imperial intermediaries. It makes sense to frame the two major factions involved in this altercation as the older and settled aristocracy on the one hand and well-educated though hardly established middle-class social risers on the other.³⁰ This long and tiresome negotiation between Habsburg rulers, their established aristocratic proxies, and the well-trained middle-class experts successively seeping into the growing central administration extended over well more than a century, ebbing forth and back, before ending in the interesting situation of the post-Compromise era. I plead for an interpretation of this as a process of imperial transformation rather than a long and teleological prelude to nation-statehood. During this transformation, which was not telic but (much to the ruler's dismay) open-ended, we observe the substitution of one group of imperial intermediaries for another, and surprisingly, we see not only the older group involved in the new arrangement in the end, but also the emergence of new opportunities for larger groups of an increasingly integrated imperial society, and we also see an increase in terms of political participation.

29 Göderle, *Zensus und Ethnizität*; Göderle, "Modernisierung durch Vermessung?"; Tantner, *Ordnung der Häuser*.

30 For an excellent depiction of these two groups and the social logics of the *ancien régime*, see Siemann, *Metternich: Strategist and Visionary*. Further Godsey, "Adelsautonomie, Konfession und Nation"; Judson, *The Habsburg Empire*; Fillafer, *Aufklärung habsburgisch*. Heindl also touches on this issue, yet a comprehensive analysis, a *Gesellschaftsgeschichte* of Habsburg central Europe in the first half of the nineteenth century remains a desideratum, and if such a work were to aspire to include all of Central Europe relevant to Habsburg rule in the nineteenth century, it would probably be an impossible task.

Redesigning an Empire, Stitching Things Together

The details of the transformation of imperial rule are particularly interesting. I argue that the engagement of well-trained experts of middle-class descent in the ranks of the relatively new imperial central administration redefined the relationship between the empire and its different actors, ranging from humans to animals to material objects and resources.

The central process during the transformation of imperial rule was the production of a knowledge formation of crucial importance by the ruler himself. As the emperor's view concerning the details of his subjects and his lands was blocked by aristocratic proxies who were not willing to share this delicate information with him, rulers in consecutive order began the tiresome work of producing their own knowledge bases. This process began with the launch of census operations and the like, as well as land surveys. Censuses and mapping operations are difficult to carry out, and the logistics behind them are similarly complex and challenging.³¹

Due to the extension of the Habsburg Monarchy, a considerable number of experts was required to address this enormous task, yet at the same time, the resources of which the imperial administration disposed in terms of staff and financial means were extremely limited. The first conscriptions began in the 1760s, followed soon by the *Josephinische Landesaufnahme*, both of which were measures that did not immediately yield the results that were hoped for.³² Rulers and the relatively small, centralized administration that was in place by that time, however, began to understand the breadth and the difficulty of the task that lay ahead of them.

In the long run, however, the beginning of this centralized production of a massive and comprehensive knowledge resource created a core of modern imperial administration.³³ In contrast to the eventful political history of the Habsburg Monarchy in the long nineteenth century, its administrative history contains persistent strands of continuous development. Mapping and the production of statistical knowledge and statistical tools were not yet tasks particularly close to the ruler's interests. We observe, on the contrary, an interesting dynamic that was transimperially representative: middle-class experts

31 Göderle, "Volkszählung und moderner Staat."

32 Tantner, *Ordnung der Häuser*.

33 Gugerli and Speich, *Topografien der Nation*.

who had joined the ranks of the imperial administration advanced these fields with significant personal engagement and sometimes even their own money.³⁴

In the 1740s, Maria Theresa recognized the necessity of redefining her relationship with her imperial intermediaries if she sought to remain politically competitive. Once she realized that this reform was extremely unlikely to happen, she started to rebuild imperial rule by creating new institutions that were supposed to circumvent the issues she encountered in accessing information concerning the subjects and objects encompassed by her sovereignty.³⁵ From that moment onward, the fabric of modern empire was woven from at least two sides.

Middle-class Interests and Imperial Politics in the First Half of the Nineteenth Century

Unlike the aristocratic intermediaries of imperial rule, the middle-class experts and bureaucrats who were supposed to provide their rulers not only with information but also comprehensive knowledge usually disposed of little financial means or other forms of valuable capital.³⁶ Their dependence on the ruler could be considerably larger than that of aristocrats in the transmission of imperial rule. The middle classes' lack of resources beyond education, knowledge, and expertise is an important aspect to be taken into consideration in the study of the ongoing process of imperial transformation.

On the other hand, rulers depended on middle-class experts to advance their knowledge base and to further their degree of control over the lands they ruled. The first half of the nineteenth century provides particularly interesting examples in the case of Habsburg Central Europe. Emperor Francis II/I neither discontinued nor abandoned most of the institutions and innovations inherited from Joseph II. On the contrary, he hesitatingly advanced and consolidated the

34 On “transimperiality,” see Schär, *Tropenliebe*; Hedinger and Heé, “Transimperial History.”

35 In the context of the history of science and more recently the history of knowledge, a transition from an early-modern notion of information and an emerging concept of knowledge took place in Central Europe in the eighteenth century. Information refers to a more delimited snippet of knowledge, to be recontextualized and reconfigured in order to become knowledge, which encompasses a more complex resource to be used in a specific setting. Lately, historians have begun to operationalize the term data as well, which is used for the mass of uniformized information processed from the second half of the nineteenth century onward. Brendecke et al., *Information in der Frühen Neuzeit*; von Oertzen, “Machineries of Data Power”; von Oertzen, “Die Historizität der Verdattung.”

36 An interesting recent study by Lackner, “Eine Frage der Tradition”; on capital, see Bourdieu, “State Nobility.”

respective progress that had been made. While he acted only reluctantly with regard to the installation of a statistical office, he launched the land survey in 1807 and the cadastral mapping operation in 1816. Mapping in particular required a considerable workforce of men (primarily well-trained military staff) who had significant respective qualifications.

The two mapping operations launched by Francis were only finished in the 1860s, making up for a large and quite costly process running in the background. It proved sufficiently resilient to resist a revolution and two successions to the throne. Once the statistical office started in 1829, it constituted a significantly smaller operation in the first place.

In the first half of the nineteenth century, maps and statistical tables were produced in large numbers, yet when it comes to statistics, only the smaller part of this material was created by the imperial bureaucracy, which does not mean that it was not produced by imperial bureaucrats. Middle-class civil servants were among the most important contributors of statistical information beyond the official authorities. The prominent case of Karl Czoernig is illustrative here. Czoernig remains an excellent example of a well-trained expert in the Habsburg administration whose ambition regularly went beyond his professional duties. An impatient polymath with a weakness for statistics, Czoernig did in his spare-time what he was not supposed (and sometimes not allowed) to do in his service. Like other young and ambitious bureaucrats of his generation (i.e., members of the new social strata composed of well-educated social risers of middle-class descent who were filling in for *ancien régime* predecessors after 1815 during the slow expansion of the civil service), Czoernig appears to have had his private and his professional interests aligned. Middle-class interests and imperial politics had little in common at first sight, yet surprisingly, they often overlapped in the decades after 1830.³⁷

The Naturalization of Imperial History: Czoernigs Ethnographische Karte, 1857

The term public-private-partnership, which came into increasingly prominent use in the late 1990s and early 2000s, turns out to be surprisingly well suited to describe a common mode of cooperation between rulers and selected middle-

37 Rumpler, “Carl Josef Czoernig Frh. von Czernhausen”; Göderle, “State Building, Imperial Science, and Bourgeois Careers,” see further Czoernig’s statistical works.

class civil servants. The latter engaged in large and frequently costly operations to produce stellar bodies of significant knowledge. Rulers, in turn, granted financial support, yet, crucially important, they generously authorized the use of further pieces of restricted administrative knowledge and sometimes even of bureaucratic resources.³⁸

Among the probably most outstanding examples of this phenomenon is Karl von Czoernig's famous *Ethnographie der österreichischen Monarchie*, published in 1857 and stretching over several volumes.³⁹ The book came with an ethnographic map based on the work of Joseph von Scheda, an officer in the Habsburg army and a leading cartographer of the era. What makes Czoernig's map so important for an inquiry into the natural history of the Habsburg Empire is its composition. In an 18-page-long preface, Czoernig relocates the Habsburg Monarchy by connecting it with several new layers of legitimacy. Prior histories of Habsburg rule had relied primarily on the illustration of the Habsburg families sovereign descendancy, its provenance in the Roman-Greek pantheon on the one hand and that of the Catholic Church on the other. Czoernig provided additional legitimacy for Habsburg rule. He mobilized further support from an unexpected side, the inhabitants of Habsburg Central Europe.⁴⁰ According to him, populations and also mountains and rivers ensured that Habsburg rule was firmly rooted in a larger harmonic ensemble. The *Kaiserstaat* (emperor's state) rested solidly on foundations that equally balanced the heterogeneity of European peoples (*Völkerstämme*), climates, landscapes, and cultures. Situated in the middle of Europe, the Austrian Empire reflected the continent's diversity in a single entity. It reconciled the mild south and the harsh north and Europe's industrial centers and backward peripheries.⁴¹

There is another interesting passage in the preface which describes the task with which Czoernig was entrusted: “[...] [Czoernig] war darauf bedacht, neben der gleichzeitigen Bearbeitung der Darstellung der materiellen Hilfskräfte des Staates auch die Materialien zu einer ethnographischen Karte der Monarchie zu sammeln.”⁴² Czoernig, who was the acting head of *Direktion der administrativen Statistik*, the key statistical authority of the Habsburg Empire since 1841, refers

38 Göderle, “State Building, Imperial Science, and Bourgeois Careers.”

39 Czoernig, *Ethnographie der oesterreichischen Monarchie*.

40 Ibid., VI.

41 Ibid., 23ff.

42 English: “he was eager, while working on the presentation of the material resources of the state, also to gather material for an ethnographic map of the monarchy.” Czoernig, *Ethnographie der oesterreichischen Monarchie*, VI.

to the twofold task he was supposed to perform. First, he was charged with assessing the material resources of which the empire disposed. Then, he was to gather the information required for the production of an ethnographic map. In the German original, there are two references to matter: once as a resource and once as a representation of knowledge. Czoernig was one man in a long line of Habsburg bureaucrats who were charged with putting the knowledge required to run an empire into material form. Tables and maps were material representations of the large quantities of information that was of fundamental importance to effective rule. In the era of the *ancien régime*, this information had not been accessible to the ruler nor to anyone else apart from the imperial intermediaries who were charged with its production and administration. This kind of knowledge was stored socially rather than physically. The transformation, by middle-class civil servants, of this knowledge into material form meant the modernization of imperial rule.

Though Czoernig's narrative comes to no less than 712 pages and covers all matters touching Habsburg rule, it focuses primarily on what he refers to as ethnography. Czoernig refers only twice in his magnum opus to the overarching aspect of natural harmony that distinguished the *Kaiserstaat*, yet he does so in prominent and strategically important places—once in the preface and then on the opening page, i.e., in the two parts of the book that would have been read even by a reader who took only a short look at the enormous volume. In doing so, he slowly opened a backdoor for new actors to take their place on the stage of Central European historical discourse: mountains, forests, and streams.

Czoernig's *Ethnographie* and particularly his statement concerning the challenges related to the analysis of the material foundations of imperial rule and the materialization of the knowledge necessary for rule mark a point of culmination in a process that had been underway for more than a century by the time the book was published. Czoernig and the fellow officials he mentions in his work, Scheda and von Coronini, were among the first Habsburg bureaucrats to dispose of significant knowledge on the materiality of empire. Their statistical (Czoernig) and cartographic (Scheda, von Coronini) work and that of their predecessors put them in a position to put together significant knowledge concerning the lands, vegetation, populations, livestock, and natural resources of the Habsburg Empire. They belonged to the generation of civil servants which gone past the threshold to reach reliable comparisons, and they stitched patches of data together and produced a comprehensive picture of Habsburg Central Europe as a polity. In close collaboration, they offered an image of

Habsburg Central Europe as a unified and harmonic entity, presented by them as a confluence of many diverse natural features rather than as an arbitrary patchwork rug made up of territories and fiefdoms.

Czoernig and Scheda together produced a central European landscape and a population. Scheda's spectacular map, focusing on the topography of Central Europe, created the first highly aesthetic "natural" foundation for Habsburg rule by turning its legitimacy upside down. If one looks at this map, "natural" borders immediately become visible, and the wider public clearly sees the inner coherence of the *Kaiserstaat*. At once, the notion that there could be no further commonality than the emperor's person to glue this territory together becomes absurd.

Particularly to the east, the northwest, and the west, Scheda's powerful representation of the important mountain ranges instills a sense of a nomological demarcation. The craftsmanship of this map lies in its composition, as can be seen toward the south, in northern Italy, and Dalmatia. The latter in particular lacks defining topographical features that would make it a part of the compact mass of the imperial territory. However, two legends, placed on each side of the Dalmatian coast, fill the empty space. They restore the balance of the map and provide additional information to charge the "natural" harmony of the structure with further meaning. To the left, the political structure is explained. It reproduces and further emphasizes the dominant natural features rendered visible in the map. To the right, Czoernig's ethnographical features are described. That they do not entirely match the political and natural realities given visual form by the map is a major *raison d'être* of Habsburg rule. Mediation and settlement were the complex and difficult tasks to be executed precisely by the emperor.

The results of Czoernig's ethnographic survey are plotted in no less than 14 colors, eight of which are dominant. At least visually, colors pair with distinct landscape features on more than one occasion, and Czoernig refers to this in his work as well when he describes the German-speaking groups as hardened dwellers of the Alpine regions and draws a connecting line between the Hungarian speakers, their language, and their supposed origins on the plain that formed the geographical center of the Monarchy.⁴³

43 A rich and lucid literature exists on mapping nationality in particular in Central Europe. For an overview, see Labbé, *La Nationalité*; Hansen, *Mapping the Germans*. The aspect of nature, however, has not been considered in detail so far.

Improving Environments and Populations: The “Gypsy Census” of 1893

As has been shown in the previous section, by the 1850s, leading imperial bureaucrats of bourgeois descent had already begun to provide new sources of legitimacy for Habsburg imperial rule. According to the knowledge to which they had given material form, the *Kaiserstaat* reflected a natural order of things, and its environment was an essential asset with regard to the resources at the rulers’ (and their subjects’) disposal. Following this argument, its longstanding history proved that its eminent diversity in terms of the peoples, languages, and cultures it accommodated was neither anachronistic nor an anomaly. Rather, the Austrian Empire fulfilled an important function, serving as a bridge between many different peoples, landscapes, and histories that met in the very heart of Europe.

The coincidence between what were considered characteristic traits of individual tribes (*Volksstämme*) and respective topographies was an important argument used by Czoernig to emphasize the degree to which the shape and the structure of the Habsburg Empire and its administration harmonized with the natural conditions offered by Central Europe.

Czoernig’s book was published at the climax of neo-absolutism. The 1850s saw an enormous boost toward administrative centralization. It had been the emperor’s wish to remove the remains of the *ancien régime* from participation in imperial rule, which meant that the functions earlier performed by lordships and other representatives of the old regime had to be taken over immediately by a new imperial central administration.⁴⁴ A major strategic aspect of this process was the finalization of the territorialization of imperial rule, which required a new settlement on the constitution and the regulation of centralized administration built entirely on territory.⁴⁵ Bureaucracy worked, roughly, on four different layers: the municipalities; the layer of the *Kreise* (later districts); the layer of the *Kronländer* (provinces); and, finally, the top layer in Vienna, where all the ministries and the imperial administration were located. Each municipality covered a particular territory, each district covered a number of municipalities, each province encompassed a limited number of districts, and the empire was made up by the totality of its provinces. The totality of municipalities therefore constituted the entire territory of the Habsburg Monarchy. Each house, each

44 Brandt, *Der Österreichische Neoabsolutismus*; Deak, *Forging a Multinational State*.

45 On the notion of the territorialization of rule, see Kreitman, “Feathers, Fertilizer and States of Nature”; Elden, *The Birth of Territory*.

tree, and each flower was attributed to the responsibility of a municipality, a district, and so on.⁴⁶

This concept constituted a rupture with century-old and well-established practices and imaginations of space. It turned the *ancien régimes* principles of space upside-down, and it created interstices on which imperial administration could build, a process that led to a lasting transformation of the relationship between empire and its environment.⁴⁷ Territorialization, however, came at a price. Maps and statistics worked slowly yet very well when it came to assessing the resources and capacities a territory had to offer if these assets remained stable and immovable. The Habsburg administration successfully operationalized an idea of space that divided the enormous area of the empire into relatively small containers, namely the municipalities. The sum of the far more than 20,000 municipalities, with all their resources, made up for the combined human and non-human resources of the empire, according to this logic. Although administrative reality soon revealed the flaws of this system and the suppositions it rested on (neither human nor livestock resources of empire were immobile), the combination of statistical information and cartographic knowledge became one of the foundations of modern empire.⁴⁸

By the second half of the nineteenth century, statistics and cartography had become two branches of eminent importance in the imperial administration. Both developed autopoietic logics accordingly.⁴⁹ Whereas cartography primarily produced visualizations of imperial power to be used in all branches of the bureaucracy, statistics had become a tool for the production and representation of knowledge used by many civil servants in most fields of civil administration. Beyond the central statistical services, which were mainly in charge of the census, statistical data was produced by many different branches of administration on different levels.⁵⁰

46 Göderle, *Zensus und Ethnizität*, 86ff.

47 On the concept of fractal spaces, see Bretschneider and Duhamelle, “Fraktalität.”

48 Göderle, *Zensus und Ethnizität*, 101–10.

49 Luhmann, *Soziale Systeme*, 60ff.

50 It is impossible to offer a complete overview of the abundant production of statistical data in Habsburg central Europe after the Compromise, as even the central statistical offices in Vienna and Budapest do not appear to have had a clear idea of the dimension of this phenomenon. To provide but two examples, the Bohemian provincial statistics and the statistics of the Chamber of Commerce both produced statistical data on a significant scale and were both directed by important figures in the Habsburg administration (Rauchberg and Riedl), yet their work does not appear to have found significant consideration in the official statistical series.

Not only were maps and tables formidable tools of visualization, they also advanced planning and offered a foundation for arguments concerning what the empire should look like in the near future. Cadastral and topographic maps for the first time offered illustrations of the overwhelming proportion of “nature” in the Dual Monarchy, an impression further emphasized by statistical work concerning used and still unused “natural” resources, from livestock to forests to fields. Moreover, these representations placed “nature” in the imperial sphere of action. It rapidly became an object of imperial politics and schemes. Many principal interventions led by middle-class bureaucrats that had as an objective the “improvement” of imperial resources and populations aimed precisely at a structural modification of tendencies, activities, and habits seen, at least by the imperial administration, as natural, habits and tendencies involving both humans and their livestock and domesticated animals.

Whereas the example of Czoernig’s map shows that “natural” conditions could be used to support and emphasize legal claims and the legitimacy of rule, the case of “Czigányösszeírás eredményei,” or the “Gypsy Census” of 1893, shows that nature was also a predominant area of bureaucratic intervention. The head of the Hungarian statistical office, Dr. Antal/Anton Herrmann, compared the “Gypsy” population of the country to inarable land that requires significant improvement through structural measures. He names drainage and the construction of dams, measures that are supposed to allow agricultural land use indirectly through the improvement of the soil.⁵¹

Apart from the racist discourse of which these sentences are part, it is important to keep two aspects in mind here. The first is epistemic and emphasizes the conviction that both human and non-human dwellers of empire are basically subject to modification and improvement. The second important aspect here is the fact that an administration dominated by the middle class had little leverage for direct intervention into people’s lives. Administrative interventions therefore frequently aimed at a modification of conditions and circumstances, a strategy first put to use in controlling imperial “nature.”

Dominant imaginations of modern empire were therefore derived from a practice of imperial rule that had been developed over the course of little more than one century. This practice involved the incessant creation of new traffic and urban infrastructures, the production of new and better agricultural land and the administration of many of these projects from a top-down-perspective, and

51 *A Magyarországhban 1893. január 31-én végrehajtott czigányösszeírás eredményei*, 5.

the use of the rich and detailed maps and tables produced by the statistical and cartographical services.⁵² The long nineteenth century saw the invention of the Habsburg Empire as a coherent natural sphere, and its ongoing improvement through imperial politics was a major aspiration for imperial politics.

Modern Empire and Its Forests on Display: Exposition Universelle, 1900

In April 1900, the *exposition universelle* was opened in Paris. It featured more than 76,000 exhibitors and attracted 48 million visitors, which made it an enormous success.⁵³ The Dual Monarchy was represented by no less than three different delegations, one for Bosnia-Herzegovina, one for Hungary, and one for Austria.⁵⁴

The Austrian contribution to the exposition reflected a considerable material effort on at least two levels. First, it included buildings, models, maps, samples of different products, catalogues, brochures, and a considerable delegation of high-ranking bureaucrats as well as representatives of industry, commerce, agriculture, and commodities. The *General-Commissariat* alone numbered two dozen members, all of them renowned experts and high-ranking members of the ministerial bureaucracy. The *exposition universelle* was a show of force of enormous significance. Nation states, empires, and manufacturers met in open competition in front of an enormous audience. A closer look at the exposition shows the importance of economic and technological leadership to imperial rulers and their administrations, yet it also reveals the dense fabric spun between economic, industrial, and administrative elites.⁵⁵ Second, the Cisleithanian presence at the *exposition universelle* literally displayed the materiality of modern empire, the wide array of things, objects, and non-human life it encompassed and required for its operation, and the degree to which empire, its middle classes, and its environments were interlocked in this common effort. When referring to the material dimension of imperial rule as represented in the *exposition universelle* 1900 thus, we need to consider the enormous costs it involved as much as the

52 Göderle, “Modernisierung durch Vermessung?”; Helmedach, *Das Verkehrssystem als Modernisierungsfaktor*; Petrovic, “Die Schifffahrt und die Wirtschaft im mittleren Donauraum.” On infrastructure in general, see van Laak, *Alles im Fluss*.

53 Kretschmer, *Geschichte der Weltausstellungen*, 152.

54 Though the official denomination for the Austrian half of the Dual Monarchy was *Die im Reichsrathe vertretenen Königreiche und Länder*, which was frequently referred to as *Cisleithanien*, the expression Austria had become common even in the official language. I refer here to the title of a catalogue that accompanied the Cisleithanian effort: *Staats- und Fondsförste*.

55 Mölk, *Perspektiven der Modernisierung*.

ties it had to the material foundations of rule, which the Austrian contribution to the exposition sought to display in abundant clarity.

The exposition represented a dashing triumph of Western superiority. Its salons, displays, and promenades subtly united a rich cultural heritage (Western and Orientalized) with the mastery of modern technology, which represented the added value of the emergence of the middle classes.⁵⁶ However, alongside the spectacular and exotic sights at this show of force, the exhibition also included many less flashy yet all the more remarkable displays, one of them effortfully organized and arranged by the *Staats- und Fondsförste*, administrated by the *k.k. Ministerium des Ackerbaus*. It came with a large and detailed catalogue that proudly featured its key parameters and left little doubt about the forest administration's own assessment concerning its contribution to the modernization effort.

The catalogue displayed significant knowledge of the composition and use of the central European forests that formed part of the *Staats- und Fondsförste*, thus the proportion of the afforestation that was controlled by the central administration. These areas encompassed the remains of large and heterogeneous widely spread properties that were only merged under a common administration in the second half of the nineteenth century, when structured silvicultural land use under a centralized management began. To this end, the ministry of agriculture created an agency of its own, which disposed of seven regional offices, each in charge of a larger territory. The Gorizian branch of the forest and domain authority covered no less than four crownlands: Carinthia, Carniola, the Austrian Littoral, and Dalmatia. The forest and domain authorities constituted something interesting in the larger context of the imperial administration. They were fully within the ministry of agriculture and therefore the larger bureaucratic apparatus, yet they did not reproduce the larger and more general structure of central administration. The six regional offices did not fit into the overarching architecture of fifteen crownlands. The district offices of a given region (of the six) did not match the borders of the political districts. The personnel of this authority consisted of a middle-class staff made up primarily of forestry professionals with significant training and expertise. The forest and domain authority interlocked larger parts of the silvicultural environment and the imperial administration via its middle-class personnel.

The catalogue begins with a comprehensive description of the areas under control of the forest and domain authority. The properties it managed emanated

56 On one aspect, see Brockmeier, "Die Pariser Weltausstellung."

from “priorly much larger [yet dispersed] possessions of *Cameralgüter*, *Montanforsten* and *Fondsgüter*” that originally (probably early nineteenth century) accounted for more than 13 percent of the imperial territory. These possessions shrunk over the course of most of the nineteenth century, before the establishment of said authority consolidated the situation (when these properties combined covered no more than 4.5 percent of the total territory), which finally led to a slight recovery (to around 5 percent of the territory in 1900).⁵⁷ That the forest and domain authority knew its forests very well becomes clear in the next section of the catalogue, when a range of different tree species is presented in detail, including their respective preferred habitat conditions and their roles in the total population of trees owned by the state. Most important were the spruce and the European beech, which accounted for 51 and 20.5 percent of the total tree population respectively, followed by fir (18 percent), larch (4 percent), pine (3 percent), and diverse deciduous trees (2.2 percent). The authority’s impressive data on the composition of its forests came from its continued efforts concerning forest surveying. It displayed similarly impressive knowledge on the wide variety of climatic conditions occurring over the total area of the Habsburg forests.

The next section of the catalogue deals with the personnel employed in the service of silvicultural land use. The forest and domain authority disposed of a total staff of 1,474 people, predominantly specialists, including half a dozen engineers. According to the catalogue, the core mission of the authority consisted of ensuring the sustainable management of the tree population (“der Staatsforstbesitz [sollte] vornehmlich aus Gesichtspunkten der Förderung der allgemeinen Wohlfahrt bewirtschaftet werden”),⁵⁸ yet this task appears to have gone markedly beyond simple forest economy. Among the three major sources of the forests administrated by the authority, particularly those emanating from the former *Montanforste* (forests that were exploited in the context of mining operations and sometimes early industrialization) were frequently in bad shape and required significant investment, and large scale reforestation was necessary in many places. Soon after the ministry of agriculture had taken over control of the forests in 1873, it built large capacities to this end by creating permanent tree nurseries. As a next step, selective cutting was introduced to reduce clearcutting, though even in 1900, almost three quarters of the yearly revenue came from clearcutting and only one fifth through selective cutting, yet the areas suffering

57 *Staats- und Fondsförste*, 5–6.

58 *Ibid.*, 12: “The state forest [should be] managed primarily in the interest of the common welfare.”

from deforestation had still become smaller. The forest and domain authority homogenized forestry across the territory of Cisleithania and developed best-practice approaches concerning the maintenance of the forests. Reafforestation was afforded in a blended procedure, mixing natural dissemination, sowing (particularly larches) and tree planting (primarily spruce), thus trying to balance ecological and economical objectives. Certain tree species were promoted regionally, for instance Swiss pine in some Alpine areas, yet in cooperation with the agricultural university of Vienna, the authority extensively experimented with tree species not native to Central Europe as well in the hopes of improving the yield of its forests.⁵⁹

Further sections of the catalogue dealt with working conditions in the forests administrated by the forest and domain authority and with the general yields of these forests. The authority was very keen on presenting itself as an attractive and fair employer, particularly of the seasonal workforce required for the maintenance of the forests. The financial performance of the forests was subject to a critical assessment. In comparison with private forest properties in Cisleithania or other state-owned forest domains in the German Empire, which yielded between 6 fl. 19kr. and 29 fl. 19kr. per year and hectare, the forest and domain authority yielded only 1 fl. 54kr. per year and hectare.⁶⁰ There were, however, single domains that fared significantly better in Bohemia, Lower Austria, and Western Galicia, which yielded between 17fl. 45kr. and 5 fl. 84kr. yearly per hectare.⁶¹

What were the major reasons for the overall poor performance of the forests managed by the forest and domain authority? It was, after all, an agency that claimed to be on the forefront of modern silvicultural administration and disposed of an adequate organizational structure, significant expertise, and sufficient means to render its assets profitable. This question deserves more attention than can be given here, yet servitudes and usufructs certainly were one factor. The forest and domain authority simply had no undivided claims to many of the more profitable assets it administrated. The *ancien régime* continued to exert influence in large patches of the modern state forest, thus surviving

59 Ibid., 31–35.

60 Ibid., 42.

61 Ibid. According to this list, several things appear to be particularly interesting, as it does not fully correspond with the major modernization narrative usually applied to late Habsburg Cisleithania: for once, the predominantly German-speaking west of the empire was more a significant part of the problem than a beacon of best-practice.

in a mode of coexistence with modern empire with which the latter grappled, a mode which further included grazing rights. The situation of many assets also played a role, as many forests were in exposed positions, which rendered silvicultural use in some cases impossible. The poor infrastructure added to the problem. Whereas older forest industry had relied heavily on log driving as a primary means of transport, the forest and domain authority desperately tried to move as much transport as possible to roads and tracks, but the construction of these infrastructure elements was costly and difficult.

The forest and domain authority made a proud display of its unbroken spirit of modernization and its capacities, competences, and achievements. The challenges and difficulties it dealt with, however, can also be read and understood as a larger self-description of the modern Habsburg Empire on the eve of a new century. Surely, it was the middle-class perspective that was represented here, but most scholars will agree that by 1900, larger parts of the Habsburg Monarchy should be considered an embodiment of a middle-class empire. It was a polity not only run by this growing social group, but also integrating at significant speed and to the benefit of this class. Another important feature is the slight moment of divisiveness concerning the empire's composition, expressed by three different exhibition presences of different parts of Habsburg Central Europe. Most important, however, was the degree to which modern empire was interlocked with its environment and to which environmental resources were crucially exploited to finance further imperial integration (forestry was an eminently important branch of the Habsburg economy). The 5 percent of the Cisleithanian territory that was controlled and exploited by the forest and domain authority stretched over the entirety of Cisleithania (except for Moravia), yet it represented a very coarse-meshed net. In miniature, it realized the overall claim of the imperial administration: it successfully controlled an immense area. Yet the limitations with which it was confronted were all the more visible. The *ancien régime* continued to exist in many places and successfully prevented the empire from fully benefiting from what was considered modernization. The resulting weak profitability and the owner's takeout barred important investments. And at the same time, negotiations with the quickly growing working class were not only tiresome but also costly. The middle-class empire was gaining ground, but this came at a price.

Conclusions

The analytic framework provided by new imperial history offers a good point of departure for a thorough analysis of the metamorphoses of rule that Habsburg central Europe underwent in the long nineteenth century. It provides a flexible terminology with which to identify, balance, and describe the different actors which made up for empire in this period. Though new imperial history has not emerged from a scholarly tradition with a particular focus on environmental history, this article shows that it offers sufficient opportunities to integrate such a perspective.

This article showed the degree to which the emergence of middle-class empire in Central Europe depended on a transformation of patterns of perception and exploitation of natural resources. In the beginning, the text recontextualizes the historiography of empire and statehood in nineteenth-century Central Europe, stating that the political landscape of this region was ambivalent and fluid for longer stretches of time, yet that statehood in particular provides an unsuitable terminology and little explanatory power to account sufficiently for an analysis of the political history of the region. After opting for imperial history as the most suitable analytical repertoire, the article presents its key insight: that middle-class bureaucrats successfully replaced established aristocratic elites as mediators of imperial rule in this region in a painstakingly long and slow process of transformation that began in the mid-eighteenth century.

Consequently, the text stays with the emerging middle class. It investigates the strategies that were successfully put to use and the resources that were exploited. In the main section of the article, I present three examples in order to illustrate three essential points. The first example from the 1850s shows how the Habsburg Empire rendered nature accessible to imperial politics by thoroughly integrating it into its master representations and entangling it with key parameters of imperial politics, such as the linguistic and ethnographic diversity of its peoples. The second example, from the 1890s, demonstrates the degree to which the improvement of nature in the empire had become a common and successful tool of imperial politics and a possibility to be used beyond nature. The third example finally shows how close the ties between modern empire and nature had become and the degree to which non-human actors of the imperial ensemble had to contribute to this ongoing operation. The *exposition universelle* left a lasting impression on the degree of modernity to which the Austrian part of the Habsburg Empire lay a claim, yet it also illustrated that it was possibly

less an empire as a united whole that had allied itself with a natural world it claimed to control and more one particular group within this empire, namely an interconnected middle class that benefitted from the larger European project of global imperialism.

Bibliography

Printed sources:

- A Magyarországon 1893. január 31-én végrehajtott cigányösszeírás eredményei.* Ergebnisse der in Ungarn am 31. Jänner 1893 durchgeführten Zigeuner-Conscription. Magyar statisztikai közlemények. Új folyam 9. Budapest: Athenaeum r. társulat könyvnyomdája, 1895.
- Czoernig, Karl von. *Ethnographie der oesterreichischen Monarchie mit einer ethnographischen Karte in vier Blaettern.* Vienna: Kaiserlich-koenigliche Hof- und Staatsdruckerei, 1857.
- Die Staats- und Fondsförste Österreichs: Ein Leitfaden für den Besuch der Ausstellung der österreichischen Staatsforstverwaltung in Paris 1900.* Edited by K. K. Ackerbauministerium. Vienna: Kaiserlich-königliche Hof- und Staatsdruckerei: 1900.

Secondary literature:

- Adlgasser, Franz, and Fredrik Lindström, eds. *The Habsburg Civil Service and Beyond.* Vienna: Austrian Academy of Sciences Press, 2019.
- Bayly, C. A. *The Birth of the Modern World 1780–1914. Global Connections and Comparisons.* Malden–Oxford: Blackwell, 2004. doi: 10.7551/mitpress/8906.003.0004
- Beller, Steven. *The Habsburg Monarchy, 1815–1918.* Cambridge: Cambridge University Press, 2018.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things.* Durham: Duke University Press, 2010. doi: 10.1017/S1537592710003476
- Bennett, Tony, and Patrick Joyce, eds. *Material Powers: Cultural Studies, History and the Material Turn.* London–New York: Routledge, 2010.
- Bourdieu, Pierre. *State Nobility: Elite Schools in the Field of Power.* Cambridge: Polity Press, 1996.
- Bowman, William et al. “An Imperial Dynamo? CEH Forum on Pieter Judson’s the Habsburg Empire: A New History.” *Central European History* 50, no. 2 (2017): 236–59. doi: 10.1017/S0008938917000310

- Brandt, Harm-Hinrich ed. *Der Österreichische Neoabsolutismus als Verfassungs- und Verwaltungsproblem*. Vienna: Böhlau, 2014.
- Brendecke, Arndt, Markus Friedrich, and Susanne Friedrich, eds. *Information in der Frühen Neuzeit. Status, Bestände, Strategien*. Berlin: LIT, 2008.
- Bretschneider, Falk, and Christophe Duhamelle. "Fraktalität: Raumgeschichte und soziales Handeln im Alten Reich." *Zeitschrift für Historische Forschung* 43 (2016): 703–46.
- Brockmeier, Alke. "Die Pariser Weltausstellung in deutschen Kulturzeitschriften." In *Perspektiven der Modernisierung: Die Pariser Weltausstellung, die Arbeiterbewegung, das koloniale China in europäischen und amerikanischen Kulturzeitschriften um 1900*, edited by Ulrich Mölk, 25–40. Berlin: De Gruyter, 2010.
- Burbank, Jane, and Frederick Cooper. *Empires in World History: Power and the Politics of Difference*. Princeton: Princeton University Press, 2010.
- Coen, Deborah C. *Climate in Motion: Science, Empire, and the Problem of Scale*. Chicago: University of Chicago Press, 2018. doi: 10.3197/096734019x15755402985677
- Darwin, John. *After Tamerlane: The Rise and Fall of Global Empires, 1400–2000*. New York, Berlin, London: Bloomsbury Publishing Plc, 2007.
- Deak, John. *Forging a Multinational State: State Making in Imperial Austria from the Enlightenment to the First World War*. Stanford University Press, 2015.
- Elden, Stuart. *The Birth of Territory*. Chicago, London: University of Chicago Press, 2013.
- Fillafer, Franz Leander. *Aufklärung habsburgisch: Staatsbildung, Wissenskultur und Geschichtspolitik in Zentraleuropa 1750–1850*. Göttingen: Wallstein, 2020.
- Fillafer, Franz Leander. "Einleitung." In *Josephinismus zwischen den Regimen: Eduard Winter, Fritz Valjavec und die zentraleuropäischen Historiographien im 20. Jahrhundert*, edited by Franz Leander Fillafer, and Thomas Wallnig, 7–50. Vienna–Cologne–Weimar: Böhlau, 2015.
- Fillafer, Franz Leander. "Imperium oder Kulturstaat?" In *Kulturpolitik und Theater: Die kontinentalen Imperien in Europa im Vergleich*, edited by Philipp Ther, 23–54. Vienna–Cologne–Weimar: Oldenbourg, Böhlau, 2012.
- Fishel, Stefanie R. *The Microbial State: Global Thriving and the Body Politic*. Minneapolis: University of Minnesota Press, 2017.
- Frank, Alison. *Oil Empire: Visions of Prosperity in Austrian Galicia*. Cambridge: Harvard University Press, 2005. doi: 10.4159/harvard.9780674337046.c12

- Füssel, Marian, and Tim Neu, eds. *Akteur-Netzwerk-Theorie und Geschichtswissenschaft, Akteur-Netzwerk-Theorie und Geschichtswissenschaft*. Paderborn: Ferdinand Schöningh, 2021. doi: 10.30965/9783657781416
- Gammerl, Benno. *Subjects, Citizens and Others: Administering Ethnic Heterogeneity in the British and Habsburg Empires, 1867–1918*. New York–Oxford: Berghahn, 2018.
- Ganzenmüller, Tatjana, and Jörg Tönsmeier, eds. *Vom Vorrücken des Staates in die Fläche: Ein europäisches Phänomen des langen 19. Jahrhunderts*. Cologne: Böhlau, 2016.
- Ghosh, Durba. “Another Set of Imperial Turns?” *American Historical Review*, 117 no. 3 (2012): 772–93. doi: 10.1086/ahr.117.3.772
- Godsey, William D. “Adelsautonomie, Konfession und Nation im österreichischen Absolutismus, ca. 1620–1848.” *Zeitschrift für Historische Forschung* 33, no. 2 (2006): 197–239.
- Godsey, William D. *The Sineus of Habsburg Power: Lower Austria in a Fiscal-Military State 1650–1820*. Oxford: Oxford University Press, 2018.
- Göderle, Wolfgang. “Die räumliche Matrix des modernen Staates: Die Volkszählung des Jahres 1869 im Habsburgerreich im Lichte von Latours Zirkulierender Referenz.” *Schweizerische Zeitschrift für Geschichte* 65, no. 3 (2015): 414–27.
- Göderle, Wolfgang. “Modernisierung durch Vermessung? Das Wissen des modernen Staats in Zentraleuropa, circa 1760–1890.” *Archiv für Sozialgeschichte* 57 (2017): 155–86.
- Göderle, Wolfgang. “State Building, Imperial Science, and Bourgeois Careers in the Habsburg Monarchy in the 1848 Generation: The Cases of Karl Czoernig (1804–1889) and Carl Alexander von Hügel (1795/96–1870).” *Hungarian Historical Review* 7, no. 2 (2018): 222–49.
- Göderle, Wolfgang. “Volkszählung und moderner Staat: Die Praxis des Zensus im späten Habsburgerreich am Beispiel der Zählung des Jahres 1869.” In *Die Zählung der Welt: Kulturgeschichte der Statistik vom 18. bis 20. Jahrhundert*, edited by Stefan Haas, Michael C. Schneider, and Nicolas Bilo, 95–118. Stuttgart: Franz Steiner Verlag, 2019.
- Göderle, Wolfgang. *Zensus und Ethnizität: Zur Herstellung von Wissen über soziale Wirklichkeiten im Habsburgerreich zwischen 1848 und 1910*. Göttingen: Wallstein, 2016.
- Gugerli, David, and Daniel Speich. *Topografien der Nation: Politik, kartografische Ordnung und Landschaft im 19. Jahrhundert*. Zurich: Chronos, 2002.

- Hadač, Emil, Bedřich Moldan, and Jaroslav Stoklasa. *Obrožžená příroda: Biosféra – člověk – technosféra* [Biosphere, man, technosphere]. Prague: Horizont, 1983.
- Hansen, Jason D. *Mapping the Germans: Statistical Science, Cartography, and the Visualization of the German Nation, 1848–1914*. Oxford: Oxford University Press, 2015.
- Haug-Moritz, Gabriele, and Sabine Ullmann, eds. *Frühneuzeitliche Supplikationspraxis und monarchische Herrschaft in europäischer Perspektive: Beiträge zur Rechtsgeschichte Österreichs*. Vol. 5. Vienna: Österreichische Akademie der Wissenschaften, 2015.
- Hedinger, Daniel, and Nadin Heé. “Transimperial History: Connectivity, Cooperation and Competition.” *Journal of Modern European History* 16, no. 4 (2018): 429–52. doi: 10.17104/1611-8944-2018-4-429
- Helmedach, Andreas. *Das Verkehrssystem als Modernisierungsfaktor: Straßen, Post, Fuhrwesen und Reisen nach Triest und Fiume vom Beginn des 18. Jahrhunderts bis zum Eisenbahnzeitalter*. Munich: R. Oldenbourg, 2002.
- Helmedach, Andreas. “Infrastrukturpolitische Grundsatzentscheidungen des 18. Jahrhunderts am Beispiel des Landverkehrswesens: Großbritannien, Frankreich, Habsburgermonarchie.” *Comparativ* 2 (1996): 11–50.
- Horváth, Krisztián Gergely. *Víz és társadalom Magyarországon a középkortól a XX. század végéig* [Water and society in Hungary from the Middle Ages to the end of the twentieth century]. Budapest: Balassi Kiadó, 2014.
- Horváth, Krisztián Gergely, B. Batgagelj et al., eds. *Mensch und Umwelt im pannonischen Raum vom 18. bis ins 20. Jahrhundert: 40. Internat. Kulturbist. Symp. Mogersdorf 2010*. Celje, 2014.
- Judson, Pieter M. “L’Autriche-Hongrie était-elle un empire ?” *Annales. Histoire, Sciences Sociales* 63, no. 3 (2008): 563–96.
- Judson, Pieter M. *The Habsburg Empire: A New History*. Cambridge: Harvard University Press, 2016.
- Kaps, Klemens. “Habsburg maritim: Kaufleute, Politische Ökonomie und Güterketten zwischen Zentraleuropa und dem Spanischen Atlantik im 18. Jahrhundert.” PhD diss., University of Linz, 2021.
- Kennedy, Paul. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*. London–Sydney–Wellington: Hyman, 1988.
- Kiss, Andrea. “A Brief Overview on the Roots and Current Status of Environmental History in Hungary.” *Environment and History* 19 (2013): 391–94.

- Koselleck, Reinhart. “Einleitung.” In *Geschichtliche Grundbegriffe*, vol. 1, edited by Otto Brunner, Reinhart Koselleck, and Werner Conze, XIII–XXVII. Stuttgart: Klett-Cotta, 1972.
- Kreitman, Paul. “Feathers, Fertilizer and States of Nature: Uses of Albatrosses in the U.S.-Japan Borderlands.” PhD diss., Princeton University, 2015.
- Kretschmer, Winfried. *Geschichte der Weltausstellungen*. Frankfurt am Main–New York: Campus, 1999.
- Kupper, Patrick. *Umweltgeschichte*. Göttingen: Vandenhoeck&Ruprecht, 2021.
- Labbé, Morgane. *La Nationalité, Une histoire de chiffres : Politique et statistiques en Europe Centrale (1848–1919)*. Paris: Presses de Sciences Po, 2019.
- Lackner, Andreas. “Eine Frage der Tradition: Ein Ressourcenmodell der Beamenschaft im Kaisertum Österreich zu Beginn des 19. Jahrhunderts.” MA Thesis. University of Graz, 2021.
- Landry, Marc, Patrick Kupper, and Verena Winiwarter, eds. *Austrian Environmental History, Contemporanea*. New Orleans: University of New Orleans Press, 2018.
- Lässig, Simone. “Digital History Challenges and Opportunities for the Profession.” *Geschichte und Gesellschaft* 47, no. 1 (2021): 5–34. doi: 10.13109/gege.2021.47.1.5
- Latour, Bruno. “Circulating Reference: Sampling the Soil in the Amazon Forest.” In *Pandora’s Hope: Essays on the Reality of Science Studies*, edited by Bruno Latour, 24–79. Cambridge: Harvard University Press, 1999.
- Latour, Bruno. *We Have Never Been Modern, Configurations*, vol. 2. Cambridge: Harvard University Press, 1993. doi: 10.1353/con.1994.0041
- Leonhard, Jörn, and Ulrike von Hirschhausen. *Empires und Nationalstaaten im 19. Jahrhundert*. Göttingen: Vandenhoeck&Ruprecht, 2009.
- Lieven, Dominic. *Empire: The Russian Empire and Its Rivals*. New Haven: Yale University Press, 2001.
- Lučić, Iva, and Jawad Daheur. “Exploiting Nature, Making an Empire: Natural Resource Extraction in the Late Habsburg Empire.” *H-Soz-Kult*, May 10, 2021, www.hsozkult.de/event/id/event-97485. Last accessed on May 6, 2022.
- Luhmann, Niklas. *Soziale Systeme. Grundriß einer allgemeinen Theorie*. Frankfurt am Main: Suhrkamp, 1991[1987].
- Mölk, Ulrich, ed. *Perspektiven der Modernisierung : Die Pariser Weltausstellung, Die Arbeiterbewegung, das koloniale China in europäischen und amerikanischen Kulturzeitschriften um 1900*. Berlin: De Gruyter, 2010.

- Moore, Jason W. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London, New York: Verso, 2015.
- Oertzen, Christine von. "Die Historizität der Verdatung: Konzepte, Werkzeuge und Praktiken im 19. Jahrhundert." *NTM Zeitschrift für Geschichte der Wissenschaften, Technik und Medizin* 25 (2017): 407–34. doi: 10.1007/s00048-017-0183-6
- Oertzen, Christine von. "Machineries of Data Power: Manual versus Mechanical Census Compilation in Nineteenth-Century Europe." *Osiris* 32, no. 1 (2017): 129–50. doi: 10.1086/693916
- Osterhammel, Jürgen. *The Transformation of the World: A Global History of the Nineteenth Century*. Princeton: Princeton University Press, 2014.
- Peterson, Maya Karin. *Pipe Dreams: Water and Empire in Central Asia's Aral Sea Basin*. Cambridge: Cambridge University Press, 2019.
- Petrovic, Nikola. *Die Schifffahrt und die Wirtschaft im mittleren Donaauraum in der Zeit des Merkantilismus*. Belgrade: Proleter, 1978.
- RÁCZ, Lajos. *The Steppe to Europe: An Environmental History of Hungary in the Traditional Age*. Cambridge: The White Horse Press, 2013.
- Rees, Amanda. "Animal Agents? Historiography, Theory and the History of Science in the Anthropocene." *BJHS Themes* 2, no. 2003 (2017): 1–10. doi: 10.1017/bjt.2017.11
- Rumpler, Helmut. "Carl Josef Czoernig Frh. von Czernhausen als 'Vater' der österreichischen Verwaltungsstatistik." In *Mensch – Gruppe – Gesellschaft. Von bunten Wiesen und deren Gärtnerinnen bzw. Gärtnern*, edited by Christian Brünner, 833–47. Graz: NWV, 2010.
- Schär, Bernhard C. *Tropenliebe: Schweizer Naturforscher und niederländischer Imperialismus in Südostasien um 1900*. Frankfurt am Main–New York: Campus, 2015.
- Schreiber, Thomas. "Untertanen als Supplikantinnen und Supplikanten am Reichshofrat Kaiser Rudolfs II (1576–1612). Eine systematische Analyse." PhD diss., University of Graz, 2018.
- Siemann, Wolfram. *Metternich: Strategist and Visionary*. Cambridge–London: Harvard University Press, 2019.
- Surman, Jan. *Universities in Imperial Austria 1848–1918: A Social History of a Multilingual Space*. West Lafayette: Purdue University Press, 2018.
- "Tagungsbericht: The Environmental History of the Central European Borderlands since 1980." Prague, September 20, 2019. *H-Soz-Kult*, January 28, 2020. www.hsozkult.de/conferencereport/id/tagungsberichte-8613. Last accessed on May 6, 2022.

- Tantner, Anton. *Ordnung der Häuser, Beschreibung der Seelen: Hausnummerierung und Seelenkonskription in der Habsburgermonarchie*. Innsbruck–Vienna–Bozen: Studienverlag, 2007.
- Van Laak, Dirk. “*Alles im Fluss. Die Lebensadern unserer Gesellschaft – Geschichte und Zukunft der Infrastruktur*.” Frankfurt am Main: S. Fischer, 2018.
- Varga, Bálint. “Writing Imperial History in the Age of High Nationalism: Imperial Historians on the Fringes of the Habsburg Monarchy.” *European Review of History* 24, no. 1 (2017): 80–95. doi: 10.1080/13507486.2016.1217402
- Vogeler, Georg. “The ‘Assertive Edition’: On the Consequences of Digital Methods in Scholarly Editing for Historians.” *International Journal of Digital Humanities* 1 (2019): 309–22. doi: 10.1007/s42803-019-00025-5
- Wendehorst, Stephan. “Altes Reich, ‘Alte Reiche’ und der Imperial Turn in der Geschichtswissenschaft.” In *Die Anatomie Frühneuzeitlicher Imperien: Herrschaftsmanagement jenseits von Staat und Nation*, 11–26. Oldenbourg: De Gruyter, 2015.
- Winiwarter, Verena, and Martin Knoll. *Umweltgeschichte*. Weimar–Vienna: Böhlau, 2007.
- Wüst, Wolfgang, and Gisela Drossbach, eds. *Umwelt-, Klima- und Konsumgeschichte: Fallstudien zu Süddeutschland, Österreich und der Schweiz*. Berlin: Peter Lang, 2018.