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ABSTRACT

In the nineteenth century, across Europe and beyond, acclimatisation societies formed to introduce and acclimatise plants and animals in their respective countries. Prior research on this transnational phenomenon has pointed out that while the different societies, like the French and British societies, varied in their understanding of acclimatisation and in their aims, their development was tied to settler colonialism. The Acclimatisation Society in Berlin (Akklimatisations-Verein in Berlin) and its predecessors in contrast developed in a national context that was not yet involved in formal colonialism. To better understand the Acclimatisation Society in Berlin this article provides an analysis of its understanding of acclimatisation, its aims and its activities based on the society's publications. It argues that the Berlin Society, while taking a mostly practical approach and never formulating a coherent theory of acclimatisation, understood it to be not only a process and method but a science as well. Acclimatisation was seen as a patriotic activity, through which the society aimed to increase the nation's wealth. Key to understanding the Berlin Society's development is the specific historical context of Prussia's growing population, industrialisation, and the quest for a German nation-state. Against this backdrop, the society's activities can be understood as a search for Cheap Nature: Through science, they tried to appropriate extra-human labour to feed the growing population. Despite its nationalist orientation, the Berlin Society was part of an international scientific network of exchange that was connected to colonialism, and thus the society cannot be viewed as detached from it. This study of the Berlin Society thus provides insight into nineteenth-century European understandings of nature and the networks of science and knowledge that formed around it.

BY

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Introduction

In 1858, the tradesman Ernst Kaufmann wrote of the landscape surrounding Coburg: "Forest and meadow spoke of the progress of acclimatisation because they bloomed and shone in the splendour of introduced plants; in and on them moved the animals that over time had become native."[1] Kaufmann visited Coburg as a representative of the Royal Prussian Acclimatisation Society (Königlich Preussischer Acclimatisations-Verein, hereafter referred to as KPAV) to an agricultural and forestry conference. While plants and animals had always travelled and spread to new places, the advent of colonialism increased those exchanges and made them a subject of increased economic interest.[2] The KPAV, founded in 1856, was part of a wave of societies that formed from the mid-nineteenth century onwards in Europe and beyond, seeking a more systematic approach to the introduction and, most importantly, the acclimatisation of new plants and animals within their respective countries.[3]

While all acclimatisation societies generally understood acclimatisation to be a mediated process of transplanting an organism into a new environment, the historian Michael Osborne has shown that the exact understanding of acclimatisation and its aim "varied with cultural, temporal and geographical context."[4] The French La Société d'Acclimatation (hereafter referred to as the "French Society"), the first of its kind, understood

1 Ernst Kaufmann, "Bericht über die Wirksamkeit des Vereins," *Zeitschrift für Akklimatisation* (from hereafter cited as *ZfA*) 1 (1858): 64. Unless otherwise noted, all translations are my own. Original: *"Wald und Flur sprachen von dem Fortschreiten der Acclimatisation: denn sie blühten und prangten im Schmucke eingeführter Gewächse; in und auf ihnen bewegten sich die im Laufe der Zeiten einheimisch gewordenen Thiere."*

2 Banu Subramaniam, "Through Linnaean Labyrinths: A Botanical Colonization," in *Botany of Empire: Plant Worlds and the Scientific Legacies of Colonialism* (University of Washington Press, 2024), EBSCOhost; Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Harvard University Press, 2004), 3–12.

3 The French and British Acclimatisation societies have received some scholarly attention, see Christopher Lever, *They Dined on Eland: The Story of the Acclimatisation Societies* (Quiller Press, 1992); Warwick Anderson, "Climates of Opinion: Acclimatization in Nineteenth-Century France and England," *Victorian Studies* 35, no. 2 (1992), https://www.jstor.org/stable/3828004; Michael A. Osborne, *Nature, the Exotic, and the Science of French Colonialism* (Indiana University Press, 1994); Michael A. Osborne, "Acclimatizing the World: A History of the Paradigmatic Colonial Science," *Osiris* 15, no. 1 (2000), https://doi.org/10.1086/649323; Anita Guerrini and Michael A. Osborne, "Animals in Circulation: The 'Prehistory' of Modern Zoos," in *The Ark and Beyond: The Evolution of Zoo and Aquarium Conservation,* ed. Minteer et al. (University of Chicago Press, 2018). On societies in (former) British colonies, see Thomas R. Dunlap, "Remaking the Land: The Acclimatization Movement and Anglo Ideas of Nature," *Journal of World History* 8, no. 2 (1997), https://www.jstor.org/stable/20068597; Harriet Ritvo, "The World as Zoo: Acclimatization in the Nineteenth Century," in *The Ark and Beyond*: *The Evolution of Zoo and Aquarium Conservation,* ed. Minteer et al. (University of Chicago Press, 2018).

4 Osborne, "Acclimatizing," 137.

acclimatisation to be the process of adaptation and possible transformation that an organism undergoes when transplanted into a new, foreign environment. The British Society, in contrast, was anti-transformist and viewed acclimatisation as merely the transplantation of an organism between analogous climates.[5] Both societies, however, viewed acclimatisation as a means to bolster food production. Moreover, they were entangled with their countries' colonial efforts, with Osborne considering acclimatisation to be one of the essential sciences of French colonialism in Algeria.[6] Acclimatisation societies in British settler colonies, in contrast, were often more interested, as Harriet Ritvo puts it, in "supplanting the local fauna than supplementing it" to reshape the landscape to something familiar.[7] The American Acclimatization Society, for instance, tried to introduce all the songbirds mentioned by Shakespeare to New York City's Central Park in the 1890s.[8]

What united these societies despite their differing aims was the colonial context from which they emerged. Indeed, Osborne has argued that acclimatisation studies and the proliferation of the societies in the nineteenth century have been tied to the pan-European phenomenon of settler colonialism.[9] Unlike its French and British counterparts though, the KPAV and its successor, the Acclimatisation Society in Berlin (Akklimatisations-Verein in Berlin), which formed in 1863 from a merger of the KPAV with the competing Central Institute for Acclimatisation in Germany (Central-Institut für Akklimatisation in Deutschland, from hereafter referred to CIAD), did not emerge in a state engaged in formal colonialism. The German Empire, unified in 1871, only acquired colonies in 1884 after the Berlin Society had already disbanded.[10] Against this backdrop, this essay will examine the Berlin Society and its predecessors, which have so far received only little scholarly

5 Anderson, "Climates," 136–137; Osborne, "Acclimatizing," 137.

6 Osborne, *French Colonialism*, xiv.

7 Harriet Ritvo, *The Animal Estate: The English and Other Creatures in the Victorian Age* (Harvard University Press, 1987), 240; Dunlap, "Remaking," 304.

8 Banu Subramaniam, "Like a Tumbleweed in Eden: The Diasporic Lives of Concepts," *Contributions to the History of Concepts* 14, no. 1 (2019): 7, https://doi.org/10.3167/choc.2019.140101.

9 Osborne, *French Colonialism*, 176.

10 While the year 1884 signifies the beginning of formal German colonialism, German colonial entanglements have a longer history. Examples of these entanglements for example include German trade companies' activities in West Africa and the South Pacific in the nineteenth century. Further, especially since the 1870s there were increased calls for German colonies within the German Empire and a colonial movement formed. For overviews of German colonialism before 1884 see Sebastian Conrad, *Deutsche Kolonialgeschichte* (C. H. Beck, 2023), 22–27 and Horst Gründer, *Geschichte der Deutschen Kolonien,* 8th ed. (Ferdinand Schöningh, 2023), 17–25, 47–54.

attention.[11] Based on the societies' publications, in particular the *Journal for Acclimatisation* (*Zeitschrift für Akklimatisation,* from hereafter referred to as *ZfA*), which was published between 1858 and at least 1874, the societies' aims, understanding of acclimatisation, and activities will be analysed to better understand this particular variation of a transnational phenomenon.[12] In the following, the term "Berlin Society" will be used when discussing the activities of the Prussian societies. If relevant, it will be specified whether the KPAV, the CIAD, or the society post-1863 is meant.

To the Berlin Society, I argue, acclimatisation had three interrelated meanings: It was not only seen as a process and a method but also a science, though the society mostly focussed on the practical application of acclimatisation and never developed a coherent theory of what acclimatisation was. Acclimatisation was understood to be a patriotic activity. The society's main purpose was to increase the wealth of the nation, first the Prussian and later the German. This points towards the specific context in which it emerged: a time of a quest for a German nation-state, a growing population, and rising industrialisation. Further, I argue that the Berlin society's activities and those of other European acclimatisation societies can be understood, following Jason W. Moore, as a quest for Cheap Nature.[13] By extracting extra-human natures and appropriating them with the help of science, they tried to find cheaper sources of nutrition for their respective populations. They clearly saw humans as separate from and as masters of nature. Lastly, I argue that while the Berlin Society predates formal German colonialism and pursued nationalist aims, it was still part of an international knowledge network and through this network, profited from other countries' colonial efforts.

To show this, I first discuss acclimatisation discourses in Europe in the nineteenth century and then introduce the Prussian case study. After introducing the Berlin Society's main publication and discussing its basic understanding of acclimatisation, I will then take a closer look at the society's understanding of climate in the *ZfA* before turning to the society's aims and

11 On the Prussian Acclimatisation societies, see Annelore Rieke-Müller and Lothar Dittrich, *Der Löwe brüllt nebenan: Die Gründung Zoologischer Gärten im deutschsprachigen Raum 1833 - 1869* (Böhlau, 1998); Iris Borowy, "Akklimatisierung: Die Umformung Europäischer Landschaft als Projekt im Dienst von Wirtschaft und Wissenschaft, 1850-1900," *Themenportal Europäische Geschichte*, 2009, https://www.europa.clio-online.de/essay/id/fdae-1493; Iris Borowy, "The Other Side of Bio-Invasion: The Example of Acclimatization in Germany," in *Invasive and Introduced Plants and Animals: Human Perceptions, Attitudes and Approaches to Management*, ed. Ian D. Rotherham and Robert A. Lambert (Taylor & Francis, 2011).

12 The volumes from 1858 to 1861, 1863 to 1866 and 1869 to 1874 are included in this analysis. It was not possible to obtain the volumes from 1862, 1867 and 1868.

13 Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (Verso, 2015), 62–64.

how it understood the relationship between humans and nature. In a final chapter, I will give an overview of the society's activities and briefly bring in the question of colonialism.

Acclimatisation Discourses in the Nineteenth Century

In the nineteenth century, the concept of "acclimatisation" became a major theme in the natural sciences and colonial discourses. The word "acclimatisation" itself first appeared in the eighteenth century in French, being used as early as 1775 by the naturalist Comte de Buffon.[14] It is unclear when the term first started to gain traction in German, but its first mention in an encyclopaedia occured in 1840, indicating that it was a concept of some importance since it warranted an entry.[15]

Already around 1800, multifaceted debates about the transformation of life forms were happening in the natural sciences in Europe.[16] One significant contribution to this debate was made by Jean-Baptiste de Lamarck (1744–1829), who argued that the forms and characteristics of organisms could change due to their external environment and that those acquired characteristics were inheritable. The French zoologist Isidore Geoffroy Saint-Hilaire (1805–1861) shared this view of malleability even though, unlike Lamarck, he did not consider the variability of forms to be unlimited. He further believed that this transformation process could be actively managed.[17] Thus, in 1854, he founded the first acclimatisation society in Paris, which sought a more organised and methodical approach to the transfer of plants and animals and their acclimatisation. For this purpose, in 1860, the French Society founded the Jardin Zoologique d'Acclimatation in Paris, which served both as a zoological garden and as a laboratory for acclimatisation. Aside from scientific interest, the society was driven by economic gain and colonial ambitions. It acted in an advisory capacity for the French government and French colonial officials.[18] After the founding of an associated acclimatisation society in Algiers in 1859, the society's garden there became an important laboratory for the French Society as well. Acclimatisation became a tool for the French colonisers in Algeria who had hopes of turning Algeria, through acclimatisation, into a replacement for Saint Domingue.[19]

14 Guerrini and Osborne, "Animals," 24.

15 "Acclimatisirung," in *Das große Conversations-Lexicon für die gebildeten Stände. Original-Ausgabe. 1. Band: A – Alexandreum* (Bibliographisches Institut, 1840), MDZ München, 191.

16 Pietro Corsi, "Before Darwin: Transformist Concepts in European Natural History," *Journal of the History of Biology* 38 (2005): 68, https://doi.org/10.1007/s10739-004-6510-5.

17 Guerrini and Osborne, "Animals," 24.

18 Borowy, "Bio-Invasion," 156.

19 Anderson, "Climates," 146; Osborne, "Acclimatizing," 150.

The short-lived British Society (1860–1866), while much less influential than the French Society, pursued similar economic and colonial aims. Much of its correspondence was with British colonial officials, and part of its declared objectives was the exchange of animals and plants between England and British Colonies.[20] It did not share the transformist or evolutionary ideas of the French Society, instead more concerned with identifying organisms that were well-suited for consumption.[21] Unlike the French Society, it was never able to secure the support of the government and was eventually absorbed into the Ornithological Society of London.[22] Similar to the British and Algerian societies inspired by the French example, acclimatisation societies were created all over Europe, for instance, in Madrid and Moscow, in the US, and in various colonies, such as Port Natal (now Durban, South Africa), India, Australia, New Zealand, and Ceylon (now Sri Lanka).[23]

At the same time, an entirely different discourse about acclimatisation was taking place. This discourse concerned human acclimatisation, particularly that of Europeans in the tropics and was a decisive question for colonial ambitions. Entries from two main German encyclopaedias, *Meyer's* and *Brockhaus,* from the second half of the nineteenth century, provide insight into this debate, which built upon Hippocratic notions of the importance of local geographical conditions and had been ongoing since the Enlightenment.[24] All editions of the encyclopaedias that discuss acclimatisation put a particular focus on the question of human acclimatisation. The entries reveal a racialised thinking, which posited the existence of biologically distinct human races with different areas of distribution and capacities to adapt. They also reflect the gradual strengthening of the notion that there were clear biological limits to where these human races could adapt that occurred in the second half of the nineteenth century.[25] While the 1840 *Meyer's* described the human capacity to acclimatise as relatively high, already in the 1860s, the *Brockhaus* instead underlined the limited human capacity for acclimatisation.[26] The 1864 edition exemplifies this. Whereas Europeans in North America apparently changed in appearance and became "real Yankees," Jews were, invoking antisemitic

20 Ritvo, *Animal Estate*, 240; Lever, *Eland*, 29.

21 Anderson, "Climates," 148; Osborne, "Acclimatizing," 140; Ritvo, *Animal Estate*, 240.

22 Anderson, "Climates," 147.

23 Lever, *Eland*, 10, 193–194.

24 Ruth A. Morgan, "Climate and Empire in the Nineteenth Century," in *The Palgrave Handbook of Climate History*, ed. Sam White, Christian Pfister, Franz Mauelshagen (Palgrave Macmillan, 2018), 591.

25 Eric T. Jennings, *Curing the Colonizers: Hydrotherapy, Climatology and French Colonial Spas* (Duke University Press, 2006), 11–12, 29–30.

26 "Acclimatisation," in *Allgemeine deutsche Real-Encyklopädie für die gebildeten Stände. Conversations-Lexikon. 1. Band: A – Arad*, 11th ed. (Brockhaus, 1864), Google Books, 130; "Acclimatisirung" (1840), 191.

stereotypes, described as being the only fully acclimatisable human race due to their "nature."[27] Further, it was claimed that Europeans in North Africa were incapable of surviving without relying on local populations.[28] This referenced a common trope that claimed that Europeans could not adapt to warmer, tropical climates, and thus the agricultural work in colonies had to be carried out by populations who were born in and used to these climates. This idea was used to justify slavery and the subjugation of populations.[29]

Towards the end of the nineteenth century interest in human and non-human acclimatisation, began to wane due to a growing awareness of the dangers that the introduction of plants and animals could pose to existing ecosystems, the rise of biological concepts that emphasised heredity over environmental factors, the adaptation of germ theory and greater knowledge on tropical diseases.[30]

Acclimatisation in Prussia

In July 1856, Ernst Kaufmann, likely inspired by the French Society, founded the KPAV in Berlin, intended as an "association of enlightened men of all estates" interested in promoting acclimatisation.[31] Its foundation came at a time of uncertainty over the foundation of a German state and of a rapidly growing Prussian population that needed to be fed, leading to changes and developments in agriculture.[32] Furthermore, there was a growing popular interest in the natural sciences, with the period after 1830 being described as the "heyday" of natural science associations in the German states.[33]

Membership in the society was offered to individuals within and outside Prussia, and to other societies, typically with agricultural aims. In 1859, some members broke away to establish the competing CIAD. The historian

27 "Acclimatisation" (1864), 130–131.

28 "Acclimatisation" (1864), 130.

29 Morgan, "Climate," 593. For further discussion of human acclimatisation with a focus on the medical discourse, see David Livingstone, *The Empire of Climate: A History of an Idea* (Princeton University Press, 2024), 76–121, ProQuest Ebook Central. For a discussion which puts acclimatisation in context with the concept of acculturation, see Eva Horn, *Klima: Eine Wahrnehmungsgeschichte* (S. Fischer Verlag, 2024), 171–192.

30 Anderson, "Climates," 151–153, Osborne, "Acclimatizing," 140.

31 Ernst Kaufmann, "Aufruf zur Bildung eines Acclimatisations-Vereins," in *Sammlung von den in genannter Druckerei gedruckten Edicten, Gesetzen und sonstigen amtlichen Erlassen. Band XLVIII.*, ed. Archiv der Deckerschen Geheimen Ober-Hofbuchdruckerei (1856), 14.

32 Borowy, "Akklimatisierung."

33 Andreas Daum, "Vereine und Gesellschaften im 19. Jahrhundert," in *Evolution: Ein interdisziplinäres Handbuch*, ed. Philipp Sarasin and Marianne Sommer (Springer Nature, 2010), 151.

Iris Borowy has argued that this split was mainly due to a perceived lack of a more practical approach to acclimatisation but might have been influenced by differing political stances as well. The CIAD, as its name—referring to Germany instead of Prussia—already suggests, had a more progressive, German-nationalist orientation than the KPAV.[34] German-nationalist orientation in this context primarily means the wish for a united German nation-state. This orientation is confirmed in the *ZfA*, which quoted Dr. Leopold Buvry, who was involved in the founding of the CIAD. According to the *ZfA*, he felt the split was necessary since the KPAV appeared to be merely a dependent of the French Society, which was against "the dignity of the German fatherland," a stark expression of support for a unified German nation-state.[35] Even though the split caused some resentment, the societies merged in 1863 to form the Acclimatisation Society in Berlin.[36]

Membership in the Berlin Society was more varied compared to the British Society, which was dominated by nobility and gentry. The Berlin Society did have some noble and even royal patrons, but most of its members were male academics, civil servants, tradesmen, or involved in agriculture and horticulture.[37] Despite Kaufmann's above-cited proclamation that it was to be a society for "men of all estates," no members were workers, and it was overall a bourgeois organisation. Throughout its existence, the Berlin Society never had more than 400 members, making it relatively niche. It remained active until at least 1874. After that, no publications have been found, although there are hints of the society's continued activity in some newspapers at least until 1877.[38]

Acclimatisation as Process, Method, and Science

The KPAV journal, the *ZfA*, remained the Berlin Society's main publication after the merger. The journal was used to inform members of the society's activities and news on acclimatisation efforts. Its contents included reports on the society's meetings, member activities, and other acclimatisation activities, detailed articles on different topics such as specific types of plants, and relevant correspondence. Authorship in the journal varied. There were some regular contributors, but all members could technically contribute.

34 Borowy, "Bio-Invasion," 157.

35 "Entgegnung," *ZfA* 3 (1860): 113, Original: *"Es sei nun der Würde des deutschen Vaterlandes unangemessen[…]."*

36 Borowy, "Akklimatisierung."

37 Borowy, "Akklimatisierung."

38 "Tagesgeschichte," *Weißeritz-Zeitung: Tageszeitung und Anzeiger für Dippoldiswalde, Schmiedeberg u. U.*, July 07, 1877, 2, https://www.deutsche-digitale-bibliothek.de/newspaper/item/GQGKC7R2IK6CVAEW26PMR5NMJZWAQO6W?issuepage=2.

Despite being a journal for acclimatisation, the *ZfA* did not focus heavily on defining acclimatisation; it rather adopted a more pragmatic approach. Most of its contents suggested or detailed attempts to acclimatise certain plants and animals without concerning itself with the precise meaning of said acclimatisation. Instead, authors tended to give extensive descriptions of the anatomy and behaviours of the suggested plants and animals. Still, over the course of the journal's publication, a clearer, yet often contradictory, idea of acclimatisation emerged. Historian Annelore Rieke-Müller and zoologist Lothar Dittrich argue that acclimatisation was seen as both a process and a method, and this assessment is reflected in the journal, where, I argue, acclimatisation was understood to be a process, a method, and a science.[39]

As a process, acclimatisation in the *ZfA* meant the adaptation of a plant or animal to a new climate. It becomes clear that, similarly to the French Society, the Berlin Society followed transformist ideas, as they believed that adjusting to a new climate could cause changes in the organism.[40] Acclimatisation as a method was understood to be the introduction of useful plants and animals to the "*Heimath*" or the native lands, meaning Prussia and/or Germany.[41] This meant teaching the introduced organisms to "defy the climate" and attempting to mitigate the impact of a changing climate and altered nutrition for the organisms.[42] The method of acclimatisation was also described as "making something native" ("*Heimischmachung*"), which points towards the quite blurry line between the concepts of acclimatisation and naturalisation in the Prussian context that were also present in the French and British contexts.[43] The members of the Berlin Society were aware of this similarity. They offered several explanations to distinguish the processes, with Kaufmann explaining that for animals, acclimatisation was akin to staying in a foreign place, whereas naturalisation was akin to gaining citizenship there.[44] A more concise explanation held that a naturalised organism could survive and reproduce on its own, unlike an acclimatised one, which relied on humans.[45] Some conceptual ambiguity remained, as the introductory quote shows, in which naturalised animals were seen as signs of the progress of acclimatisation.

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39 Rieke-Müller and Dittrich, *Löwe*, 117.

40 Ernst Kaufmann, "Die Acclimatisations-Vereine," *ZfA* 3 (1860): 76.

41 F. W. Voigt, "Ueber die Nothwendigkeit und den zweckmäßigsten Betrieb der Akklimatisation, Einleitende Betrachtungen bei der Gründung des Central-Instituts für Akklimatisation in Deutschland," (1859) [Auszüge], *Themenportal Europäische Geschichte*, 2009, www.europa.clio-online.de/quelle/id/q63-28384.

42 Carl Bolle, "Ueber die Acclimatisation der Pflanzen," *ZfA* 1 (1858): 30. Original: "*[…] dem Klima trotzen lehrt […].*"

43 Voigt, "Central-Institut"; "Verhandlungen," *ZfA* 1 (1858): 18; Osborne, "Acclimatizing," 137.

44 Kaufmann, "Acclimatisations-Vereine," 82.

45 Bolle, "Pflanzen," 30.

Acclimatisation, as a method, I argue, was supposed to be supported in its more practical approach by acclimatisation as a scientific discipline, which aimed to research the conditions under which it was possible. Here, some disagreement on the progress of acclimatisation becomes apparent. Some in the *ZfA* already proclaimed acclimatisation to be a science, whereas others, like the botanist Paul Sorauer in 1866, felt that acclimatisation had to move further away from empiricism and produce more universally applicable results to become a true science.[46]

The concept of acclimatisation held, as I have shown, three interrelated meanings for the Berlin Society. Despite this, the society took a not so theoretical approach, practicing acclimatisation mostly as a method, instead of concerning themselves with developing a coherent theory, as I show below.

Scientific Discourses: Climate and Biogeography

The concept of climate is key to defining the process of acclimatisation. Despite this, only two articles in the *ZfA* explicitly attempted to define climate. In an 1858 article, the naturalist Carl Bolle described climate as shaped by isotherms, a term coined by the famed naturalist Alexander von Humboldt to describe lines connecting areas of similar temperature.[47] Two years later, Kaufmann criticised this understanding of climate as too simplistic, arguing that climate should not be understood in its geographic meaning but rather as hygienic. This, for him, meant considering a multitude of factors to determine the climate of a specific location, including, among others, air temperature, humidity, altitude, and the chemical and hygrometric characteristics of the ground.[48] Both attempts at defining climate point to the paradigmatic shift that the concept had undergone. For centuries, climate had been understood as purely geographic and determined by latitudes. From the second half of the eighteenth century onward, though, climate began to be understood as being determined by a multitude of factors, including latitude, but also altitude, maritime circulation systems, and more. This conceptual change laid the groundwork for understanding climate not as a geographical concept, but as a

46 Paul Sorauer, "Die nächste Aufgabe der Akklimatisation," *Zeitschrift für Akklimatisation. Neue Folge* (from here on cited as *ZfA NF*) 4 (1866): 88. While Sorauer and his contemporaries understood acclimatisation as an "objective" science or hoped for it to be one, it is important to point out that it, of course, was not one. Through concepts such as nativity, it was highly influenced by the social and historical context in which it emerged, and through the discourses on human acclimatisation, deeply intertwined with racism. For a discussion on nativity and historic nature of concepts, see Subramaniam, "Tumbleweed," 10.

47 Bolle, "Pflanzen," 45–46.

48 Kaufmann, "Acclimatisations-Vereine," 75–76.

meteorological one.[49]

Interconnected with the concept of climate and key to acclimatisation was the question of the distribution of organisms. Plants and animals in the *ZfA* were understood to be either native to the German lands (and climate) or foreign, with specific areas of distribution determined by climate.[50] This points to their engagement with the burgeoning field of phytogeography, which would later evolve into biogeography, and dealt with the geographic distribution of plant species. This field of study was strongly influenced by Humboldt, who was admired by the Berlin Society and, to their delight, praised their efforts in 1858.[51] Curiously, despite the importance for the success of their efforts, there was no set understanding in the Berlin Society about which climates were suitable for a transfer. The *ZfA* primarily suggested that only transfers between analogue climates are possible, with those from warmer to colder climates potentially leading to the degeneration of organisms.[52] Still, there were dissenting voices that claim transfers from warmer climates are possible, citing historical examples such as the transfer of wheat to Europe and voicing hopes of introducing animals like the African ostrich and the zebu, which primarily inhabit tropical and steppe environments.[53]

Overall, these examples show that the Berlin Society actively engaged with and reflected contemporary debates and developments in the natural sciences, even as early as 1861, positively commenting on Darwin's idea of the "struggle for existence."[54] At the same time, it becomes clear that there was no coherent theory of how, or under what circumstances, acclimatisation was possible. This highlights the Berlin Society's practical approach, which was more concerned with introducing specific plants than with establishing clear definitions. Clearly, practising acclimatisation as a method was the central concern of the society.

Acclimatisation, Humans, and (Cheap) Nature

The primary purpose of the society was already clearly stated in the statutes of the KPAV. It was intended to introduce and acclimatise plants and animals that

49 Franz Mauelshagen, "Climate as a Scientific Paradigm—Early History of Climatology to 1800," in *The Palgrave Handbook of Climate History*, ed. Sam White, Christian Pfister, and Franz Mauelshagen (Palgrave Macmillan, 2018), 566, 573, 581.

50 Bolle, "Pflanzen," 45–46.

51 "Vereinsverhandlungen," *ZfA* 1 (1858): 108.

52 Kaufmann, "Aufruf"; Kaufmann, "Acclimatisations-Vereine," 76.

53 Sorauer, "Aufgabe," 83; L. Buvry, "Ueber den eigentlichen Zweck der Akklimatisation durch Einführung edler Nutzthiere," *ZfA NF* 2 (1864): 180–181.

54 Geysmer, "Ueber Race und Racenbildung," *ZfA* 4 (1861): 214–225.

could be useful, aesthetically pleasing, and contribute to the nation's wealth.[55] This, in practice, encompassed both edible organisms and those that could stimulate industry, such as the silkworm. Acclimatisation and the aims of the society were clearly seen as a patriotic activity that aimed to improve the "fatherland." In 1858 the journal wrote, "it is the soil of the fatherland, which we want to enrich, to beautify, which we more and more in all its part want to turn into a garden."[56] This again highlights the historical context in which the society emerged: a period preoccupied with defining and creating a German nation and establishing it as a power equal to other European states.[57] This becomes very clear when Leopold Buvry, in 1870, argued for the establishment of a garden, claiming that Berlin needed such an institution to be equal to other European capitals.[58] Although they also argued that their activities were "charitable" and served not only Prussian and German interests but also contributed to the welfare of humanity, the patriotic narrative remained the common thread throughout the journal.[59]

The idea of acclimatisation as a patriotic activity was interwoven with the idea that it constituted a marker of civilisation. While it was characterised as an ancient human activity, its systematic practice was seen as the practice of "*Kulturvölker*" (cultured people).[60] According to Paul Sorauer, its transformation into a method and science was only necessary "when a people on a high cultural level, with a growing population, are on a certain stretch of land, forced to extract more and more food from the soil."[61] Thus, according to him, despite acclimatisation being a long-standing activity, only people on a high cultural level pursued it systematically. Sorauer implied a supposed European superiority, as it was primarily in Europe and its colonies that acclimatisation societies aiming for a systematic approach formed, thereby supposedly proving their high cultural level. It further illustrates the extractivist thinking that underlies much of the discussions of nature in the *ZfA*. Organisms were either understood to be useful by providing nutrition,

55 "Statuten des Acclimatisations-Vereins für die Königlich-Preussischen Staaten," *ZfA* 1 (1858): 5.

56 Bolle, "Pflanzen," 49. Original: "*[…] dass es der Boden des Vaterlandes ist, den wir zu bereichern, zu verschönern, den wir mehr und mehr in allen seinen Theilen zu einem Garten umzuschaffen haben.*"

57 Borowy, "Bio-Invasion," 156.

58 Leopold Buvry, "An die Mitglieder des Akklimatisations-Vereins," *ZfA NF* 8 (1870): 93.

59 Leopold Buvry, "Bericht über die Thätigkeit des Akklimatisations-Vereins in Berlin im Jahre 1872," *ZfA NF* 11 (1873): 29; Kaufmann, "Aufruf"; Voigt, "Central-Institut"; Poselger, "Bericht über die Wirksamkeit des Vereins gehalten in der General-Versammlung am 25, Januar 1859 im Namen des Vorsitzenden," *ZfA* 2 (1859): 30.

60 "Vereinsverhandlungen," (1858), 108.

61 Sorauer, "Aufgabe," 83–84. Original: "*wenn ein Volk auf einer hohen Kulturstufe, bei immer grosser werdender Zahl der Einwohner auf einer bestiimmten Ländertrecke gezwungen wird, immer mehr Nahrungsmittel dem Boden abzugewinnen.*"

introducing new industries, or improving local species through crossbreeding or as "non-useful" and thus irrelevant to society. When one member, for example, suggested the society put effort into the acclimatisation of Angora cats, his request was rejected since "the animals neither catch mice nor have any other use."[62]

The Berlin Society had a dichotomous view of humans and nature, with humans clearly positioned outside of nature and having power over it.[63] Nature was not only understood as the entirety of all non-human organisms, but also, more often, used as a concept that could even be personified and described as agentive. There was some ambiguity, since nature was also described as an agent of acclimatisation, with one article claiming it could achieve better results than humans. The same article also described humans as capable of acclimatisation, implying a power of nature over humans. This was, however, the only mention of human acclimatisation in all volumes of the journal.[64] A reason for this could be that, in the discourse on human acclimatisation, the notion of its impossibility was gaining traction, which would also have an impact on the idea of acclimatisation as a whole and thus contradict the Berlin Society's efforts. Despite those ambiguities, overall, the journal presented a clear narrative of human mastery over nature. Already, the founding call of the KPAV argued that "nature offers us the richest treasures which are at the moment not being harnessed in the measure at which they offer themselves as exploits."[65]

In his book *Capitalism in the Web of Life*, Jason W. Moore argues against seeing capitalism and nature as separate, instead characterising capitalism as a "way of organizing nature."[66] He introduces the concept of Cheap Nature which he argues capital is always searching for and which is created when capital, science, and empire "succeed in releasing new sources of free or low-cost human and extra-human natures for capital."[67] In particular, capital is always seeking cheaper sources of food, energy, labour power, and raw materials.[68] The Berlin Society can be understood to be in search of such Cheap Nature, in particular, cheap food. By attempting to obtain suitable and useful plants and animals and adjusting them with the help of science,

62 "Vorstandssitzungen," *ZfA* 1 (1858): 136. Original: "*Da diese Thiere weder Mäuse fangen, noch sonst einen Nutzen haben.*"

63 "Vereinsverhandlungen," (1858), 109; Buvry, "Nutzthiere," 180.

64 Kaufmann, "Acclimatisations-Vereine," 78, 85.

65 Kaufmann, "Aufruf." Original: "*Die Natur bietet uns die reichsten Schätze, welche aber grad nicht in dem Maaße gehoben werden, wie sie sich der Ausbeute darbieten.*"

66 Moore, *Capitalism*, 14.

67 Moore, *Capitalism*, 63

68 Moore, *Capitalism*, 62–63.

in Moore's sense "appropriating them," they tried to more efficiently feed the growing population and ultimately increase their nation's wealth in a time of rapid industrialisation in Prussia and Germany.[69] This does not only become apparent in Sorauer's discussion of populations being forced to extract more resources from the soil, but also in a speech given by the chairman of the KPAV, Carl Dieterici, in 1858. Dieterici was not a naturalist but an economist, which he saw as a profession closely tied to acclimatisation, since they shared the same aim: "improving the nation's wealth."[70] In his speech, he calculated how much better the population of Prussia could be fed if, for example the yield of wheat per *morgen* were increased through the introduction of new varieties.[71]

Not only the Berlin Society's aims and activities, though, can be understood this way. France's aim to turn Algeria into a substitute for St. Domingue through acclimatisation can, for example, be characterised as an attempt to make up for the loss of a specific historical, Cheap Nature through a combination of science and empire. Thus, the European acclimatisation movement, can be understood as a quest for Cheap Nature amid growing populations, increasing industrialisation, and, in some cases, colonialism.

Putting Acclimatisation into Action: The Society's Activities

Apart from publishing the journal, the Berlin Society attempted to acclimatise plants and animals. Unlike the French and British societies, its attempts at introduction and acclimatisation were mainly limited to plants. It never possessed the space or resources to import big animals, so plans such as the introduction of alpacas could not be realised.[72] When the society owned larger animals, such as its Angora goat, it relied on members to provide the shelter and cover the costs.[73] Much of the reporting over the years focused on silkworms, bees, wild rice, and the numerous seeds the society acquired and distributed to its members. Seed distribution was one of their key activities. In 1870, for instance, they handed out 250 different types of seeds, with most seeds being different varieties of potatoes, peas, beans, and wheat. The members were asked to plant and grow them and report back to the society, which would then assemble the results to gain insight into the introduction and acclimatisation of certain plants in the local climate.[74] The reliance on reports from members was at least partly due to a lack of society ownership of

69 Moore, *Capitalism*, 63.

70 "Vereinsverhandlungen," (1858), 105. Original: "*Förderung des Nationalwohlstandes.*"

71 "Vereinsverhandlungen," (1858), 105. *Morgen* is a historic German measurement.

72 "Vereins-Verhandlungen," *ZfA* 4 (1861): 127.

73 "Ueber die Beschaffung zweier Angoraböcke und eines ägyptischen Ziegenpaares," *ZfA* 2 (1859): 228–235.

74 "Verzeichnis," *ZfA NF* 8 (1870): 19–24.

a suitable garden for extensive experimentation. Both the KPAV and the CIAD had small gardens, with the CIAD garden at the Moabit Prison in Berlin being kept after the merger. Plans of obtaining a larger garden, which had become more urgent after they had to give up the Moabit plot in 1868, repeatedly failed.[75] Instead, they had to rely on members and honorary members of the society to provide substitutes. However, these arrangements were never permanent, and the Berlin Society was never able to keep a garden comparable to Paris, which, among other animals, kept hippopotamuses.[76]

The Berlin Society also attempted to establish closer connections with the Prussian state to support their ventures, although they did not receive as much support as they had wished. In 1859, they requested that their interests be represented by a scientist during the Prussian East Asia Expedition, that led to unequal treaties between Prussia and Japan and China. The government did not heed this request, as the society only learned in 1861.[77] Still, they continued to seek closer ties with the government. In 1864, Bismarck notified the society that he would inform the missions and consulates abroad of the society and their activities and ask them to look for plants and animals suitable for introduction in Prussia.[78]

Diplomatic missions were only one part of the society's vast network of both personal and institutional connections spanning the globe, through which it acquired the seeds and animals. Apart from their ties to Prussian and later German diplomats, through whom they obtained seeds, for example, from Barcelona, Florence, and Cairo, they also maintained contact with foreign diplomats, receiving seeds from a Persian diplomat in 1858.[79] Key to maintaining the network were their members, who not only lived in Prussia or the German Empire but all over Europe and beyond.[80] As such, in 1870, the Berlin Society had members living in Paris, Moscow, Algiers, Hong Kong, and

75 Leopold Buvry, "Bericht über die Thätigkeit des Akklimatisations-Vereins in Berlin im Jahre 1873," *ZfA* 12 (1874): 30; Leopold Buvry, "Bericht über die Thätigkeit des Akklimatisations-Vereins in Berlin im Jahre 1871," *ZfA* 10 (1872): 29.

76 Anderson, "Climates," 144.

77 Geheimes Staatsarchiv Preußischer Kulturbesitz, III. HA MdA, II, Nr. 5065 – Handels- und Schifffahrtsverhältnisse mit China, B – Aug. 1859 – Sep. 1859, 66; "Vereins-Verhandlungen," (1861), 127–128.

78 "Verhandlungen des Akklimatisationsvereins in Berlin," *ZfA NF* 2 (1864): 16.

79 "Vereinsverhandlungen," *ZfA* 1 (1858): 43; "Vorstandssitzungen," 132–136.

80 In 1870, the Berlin Society had the following numbers of individual members: 173 living in what would be the German Empire, 75 living in other parts of Europe (including the Russian Empire), and 16 living outside of Europe (including those living in European colonies). Additionally, 93 societies were also members, with 88 of those being societies in what would be the German Empire and 5 from other places in Europe. These demographics were compiled by the author from "Verzeichnis der Mitglieder des Akklimatisations-Vereins in Berlin," *ZfA NF* 8 (1870): 4–16.

Chile, among other places, who often assisted the society by sending seeds.[81] Many of them worked for scientific institutions, and in their positions, most likely helped maintain ties to the Berlin Society. Among the members in 1870 were the director of an experimental garden in Algeria, the director of the Marseille Zoo, and the director of the botanical gardens in Tbilisi. From Tbilisi, for example, in that year, the society received a package of tree and legume seeds, which they distributed among their members.[82]

Further, they were in close contact with other acclimatisation societies and exchanged plants and animals with them. The closest ties were to the French Society, from which they, among other things, received potatoes and the highly coveted Angora goats.[83] Within this international network, not only animals and plants but also knowledge circulated. The Berlin Society regularly reported on acclimatisation efforts all over the world, used its connections to gather knowledge on unknown plants and animals, and exchanged publications with other scientific institutions, including the Smithsonian Institution in the US.[84] Considering the nationalist narrative, this international cooperation may seem surprising. Borowy describes this approach as a "pragmatic internationalism": International cooperation was essential to their project, and the society in 1869 even sought to expand its ties, so the nationalist aims had to coexist with it.[85] Even the Franco-Prussian War (1870–1871) did not change this approach. While there was some nationalist posturing both in the Berlin and the French societies, they kept close connections, continuing to circulate knowledge and items.[86] It is important here to point out, that while pragmatism fuelled this international exchange, the members' genuine scientific interest and their understandings of scientific practice also contributed to it. In fields like botany, international scientific exchange had for long been a common scientific practice and was part of the self-conception as scientists.[87] This practice of scientific exchange though, as historian Katja Kaiser points out, could of course be used in the pursuit of colonial-expansionist, economic and national aims, as this case study illustrates.[88]

81 "Verzeichnis der Mitglieder des Akklimatisations-Vereins in Berlin," 4–16.

82 L. Buvry, "Bericht über die Thätigkeit des Akklimatisations-Vereins in Berlin im Jahre 1869," *ZfA NF* 7 (1869): 27.

83 "Vereins-Verhandlungen," *ZfA* 2 (1859): 115.

84 "Vereins-Verhandlungen," *ZfA* 4 (1860): 124.

85 Borowy, "Akklimatisierung"; Borowy, "Bio-Invasion," 158.

86 Borowy, "Bio-Invasion," 161–162; "Verhandlungen des Akklimatisationsvereins in Berlin," *ZfA NF* 9 (1871): 94.

87 Katja Kaiser, *Wirtschaft, Wissenschaft und Weltgeltung: Die Botanische Zentralstelle für die deutschen Kolonien am Botanischen Garten und Museum Berlin (1891-1920)* (Peter Lang, 2021), 68.

88 Kaiser, *Zentralstelle*, 68.

Unlike the French and British societies, the Berlin Society was not involved in any Prussian or German colonial efforts. It existed before the period of formal German colonialism. No colonial ambitions were mentioned in the *ZfA*, and even the colonial holdings of other countries were rarely mentioned. Despite this, the Berlin Society was not detached from European colonialism. Through its international network, it directly profited from other countries' colonial holdings by receiving seeds from them. The Berlin Society was part of a broader European system of knowledge, science, and exchange that actively participated in and supported colonialism and imperialism.

Overall, however, the Berlin Society fell short of its relatively lofty ambitions. Neither it nor the broader acclimatisation movement in Europe brought significant changes to agriculture, nor did they alter the European landscape.[89] The Berlin Society also never managed to turn acclimatisation into a "mass-movement."[90] While encyclopaedia entries from the 1860s suggest that acclimatisation societies had some impact on the general discourse, their work was never described there as being as promising as it was in the *ZfA*.[91] A more sceptical entry from the late nineteenth century mentioned the introduction of Italian and Egyptian bees to Prussia, in which the Berlin Society was involved, as one of the few successful examples of acclimatisation, without referencing the Berlin Society itself at all.[92] Indeed, the only mention of it occurred in 1874 in *Meyer's* encyclopaedia, which specifically pointed out the society's financial limitations. At this time, the society was already in decline due to financial issues, stagnating membership, the high cost of their efforts, in addition to challenges posed by a lack of government support, a suitable garden, and discernible results.[93] The paucity of subsequent publications and mentions indicates that the society disbanded in the late 1870s.

Conclusion

In the second half of the nineteenth century, acclimatisation studies flourished in Europe, its colonies, and other parts of the world. Acclimatisation societies sought to introduce foreign plants and animals to their respective regions.

89 Borowy, "Akklimatisierung."

90 Borowy, "Akklimatisierung."

91 "Acclimatisation," in *Allgemeine deutsche Real-Encyklopädie für die gebildeten Stände. Conversations- Lexikon. 1. Band: A – Arad*, 11th ed. (Brockhaus, 1864), Google Books, 130–132.

92 "Akklimatisation," in *Meyers Konversations-Lexikon. Ein Nachschlagewerk des allgemeinen Wissens. 1. Band: A – Aslang*, 5th ed. (Bibliographische Institut, 1893), Internet Archive, 266.

93 "Akklimatisation," in *Meyers Konversations-Lexikon. Eine Encyklopädie des allgemeinen Wissens. 1. Band: A– Asiatische Türkei.*, 3rd ed. Bibliographisches Institut, 1874. Google Books, 294; Borowy, "Akklimatisierung"; Borowy, "Bio-Invasion," 162.

The contexts in which the specific societies emerged, their understanding of acclimatisation, and their aims differed. In Prussia, such a society existed in Berlin, including its predecessors, from 1856 to at least 1874. My analysis of the Berlin Society's publication has shown that it understood acclimatisation to be a process, a method, and a science. As a process, it was understood to mean the introduction of an organism into a new climate and its subsequent adjustment, which could lead to changes in the organism. The Berlin Society, like its French counterpart to which it maintained close ties, adhered to a transformist understanding of acclimatisation, meaning that they believed that the introduction of an organism into a new climate and its subsequent adjustment could lead to changes in the organism. While the society did engage in contemporary scientific debates on climate and biogeography, it never developed a coherent theory of acclimatisation, and in its practical approach was more concerned with acclimatisation as a method.

The Berlin Society emerged in the context of rising German nationalism and a quest for defining and creating a unified German nation, increasing industrialisation, growing population, and a rising interest in the natural sciences. While acclimatisation was portrayed as a charitable pursuit, the society viewed it mostly as a patriotic activity and a marker of civilisation. The aim of their efforts was primarily to improve the nation's wealth. Contrary to its French and British counterparts, it was not involved in any (settler) colonial projects, nor did it voice colonial ambitions. Indirectly, though, the Berlin Society was connected to colonialism and other countries' colonial efforts through an interpersonal and interinstitutional international network of knowledge and exchange, which enabled its activities. Further, this network itself, and many of the ideas that circulated within it, were conditioned by colonialism. Thus, while the Prussian case study necessitates some qualifiers in Osborne's argument that acclimatisation studies were tied to the pan-European phenomenon of settler colonialism, it does not invalidate it.

A complementary framing of acclimatisation to Osborne's, I have argued, can be Jason W. Moore's Cheap Nature. The activities of the Berlin Society and the acclimatisation movement as a whole—at least within Europe—can be understood as a quest for Cheap Nature. Humans were clearly seen as mastering nature, from which resources had to be extracted. Through the means of science, and in some cases, empire, the societies tried to obtain a cheaper source of food for their growing populations, appropriating free, extra-human natures in the form of plants and animals. In what way this framing also applies to societies outside of Europe, which, as pointed out in the introduction, had differing aims, requires further study.

This case study thus provides insight into nineteenth-century European understandings of nature and the networks of science and knowledge that formed. It also adds to the growing literature on the history of the concept of climate and other related concepts, such as David Livingstone's *Empire of Climate* or Eva Horn's *Klima: Eine Wahrnehmungsgeschichte* which while they discuss acclimatisation, focus only on human acclimatisation.[94] Future research could try to bring the discourses on human acclimatisation and plant and animal acclimatisation together to look for commonalities and differences between the two. Further fruitful research avenues could focus particularly on the transnational aspect of acclimatisation and on the interconnections between the societies as well as on the decline of acclimatisation and the evolution of the concept until today.

94 Livingstone, *Climate*, 76–121; Horn, *Klima*, 171–192.