

**Losing the Field:
Franz Thorbecke and (Post-)Colonial Climatology in Germany**

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In the introduction to an edited volume on the “Morphology of Climate Zones” from 1927, the German geographer and former expedition leader Franz Thorbecke (1875-1945) described the goal of the collection of essays as follows:

The contributors have agreed to refrain from providing a systematic edifice of their respective climate types on a general level; they do not strive for completeness across the entire surface of the earth; rather everyone will report primarily about their own observations and draw conclusions from them.¹

The volume was certainly not limited geographically: participants reported on environments from the polar regions to tropical forests and deserts. Rather than reaching generalized and generalizable rules or laws, however, Thorbecke and his fellow authors strove for detailed analyses of particular regions with their particular climatological and morphological characteristics. In itself, this focus of the volume may not be all too surprising: it did, after all, fit in well with the goals of regional geography, or *Länderkunde*, which continued to be a popular methodology at least among Germanophone practitioners in the 1920s.² Thorbecke, however,

¹ Franz Thorbecke, “Klima und Oberflächenformen: Die Stellung des Problems,” in *Morphologie der Klimazonen*, ed. Franz Thorbecke (Breslau: F. Hirt, 1927), 3.

² On the significance of the concept of regional geography by Alfred Hettner, see: Ute Wardenga, “Defining Geography: The Structure and Development of Alfred Hettner’s Methodological Construct,” in *Struggles over Geography: Violence, Freedom and Development*, ed. M. J. Watts (Heidelberg: University of Heidelberg, 2000),

took pains to defend the approach of the book in his introduction, revealing a certain insecurity about the limited scope of the work, which not only focused on the particulars of the selected climatic zones, but also dealt exclusively with present climatic conditions and their effects on the extant – and thus directly observable – morphological phenomena.

It is difficult to pinpoint what exactly drove Thorbecke to write and publish the three-page preface. He had first delivered a version of it as a short introductory speech at the *Naturforschertag*, a conference bringing together scientists from various disciplines. The speech-turned-preface reads more like a preemptive defense than either an introduction to the essays to follow or even the “positing of the problem” that the title promises. Against the backdrop of his own work and the wider context of German science in the 1920s, however, Thorbecke may have felt the need to uphold a particular way of thinking about climates and climatology that he had learned and practiced in the field or, more concretely, that he had experienced in the German colony of Cameroon. After the First World War, the kind of work that Thorbecke and his co-authors had done to establish and maintain their respective careers was no longer possible. The Treaty of Versailles had codified the loss of the German overseas colonies during the war, while the political isolation of post-war Germany also entailed the isolation of German science from its international networks of knowledge production and exchange.³ At the same time, climatological work had been moving from its nineteenth-century home in geography to the physical and chemical sciences and thus also from the earth to the atmosphere. In the first decades of the twentieth century, the study of weather and climate underwent far-reaching changes, with both the use of new technologies, such as aeroplanes, and new dynamic atmospheric approaches in meteorology and, ultimately, also in climatology.⁴ All of these political, academic, and disciplinary developments, however, were absent in Thorbecke’s vision. In his short introduction

113–26; Ute Wardenga, *Geographie als Chorologie: zur Genese und Struktur von Alfred Hettners Konstrukt der Geographie* (Stuttgart: Franz Steiner, 1995); on the persistence and development of the concept, see: Ute Wardenga, “German Geographical Thought and the Development of *Länderkunde*,” *Inforgeo* 18, no. 19 (2006): 135–155.

³ See: Bernd Widdig, *Culture and Inflation in Weimar Germany* (Berkeley: University of California Press, 2001), 169–95; on the issue of scientific isolation and the search for alternative research sites, see also Penelope Hardy’s contribution to this issue: “Meteorology as Nationalism on the German Atlantic Expedition,” *History of Meteorology* 8 (2017): 124–144.

⁴ See: Robert Marc Friedman, *Appropriating the Weather: Vilhelm Bjerknes and the Construction of a Modern Meteorology* (Ithaca: Cornell University Press, 1989); Frederik Nebeker, *Calculating the Weather: Meteorology in the 20th Century*, International Geophysics Series 60 (San Diego: Academic Press, 1995); Sabine Höhler, *Luftfahrtforschung und Luftfahrtmythos: wissenschaftliche Ballonfahrt in Deutschland, 1880–1910* (Frankfurt: Campus, 2001); James Rodger Fleming, *Inventing Atmospheric Science: Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology*, 2016; Gabriele Gramelsberger, “Calculating the Weather: Emerging Cultures of Prediction in Late Nineteenth- and Early Twentieth-Century Europe,” in *Cultures of Prediction in Atmospheric and Climate Science: Epistemic and Cultural Shifts in Computer-Based Modelling and Simulation*, ed. Matthias Heymann, Gabriele Gramelsberger, and Martin Mahony (New York: Routledge, 2017); on the early development of a “dynamic climatology,” see also: Philipp N. Lehmann, “Whither Climatology? Brückner’s Climate Oscillations, Data Debates, and Dynamic Climatology,” *History of Meteorology* 7 (2015): 49–70.

and with the edited volume in general, he seems to have been intent to hold on to a way of practicing climatology that was tightly bound up to the short-lived overseas colonial endeavors of his home country. While the colonial empire had quickly become but a distant memory in the crisis-ridden early years of the Weimar Republic, it was still very present in scientific output and, particularly, in geographical writing.

This article will take Franz Thorbecke's work in Africa to illuminate the significance of scientific work in the colonial field to the shape and content of climatological practice.⁵ Germany, which transitioned rapidly and involuntarily from a colonial power with global reach to a smaller and internationally isolated postcolonial state during the First World War, serves as a fascinating case study to examine the effects of both the construction and the subsequent loss of that colonial field among scientists, who shaped their methods and made their names overseas. Climatology, as a multivalent discipline with a past in both geography and the physical (and chemical) sciences, was one of the most global disciplines of the turn of the twentieth century, relying on data from around the world.⁶ It was thus perhaps no surprise that Thorbecke chose to focus on climatology in many of his publications in the interwar period to present and develop his vision of a science dependent on colonial landscapes in need of careful and detailed study.

Thorbecke's field

Franz Thorbecke was born in Heidelberg in 1875.⁷ He studied natural sciences at Göttingen, before transferring to the University of Heidelberg to work with Alfred Hettner, one of the foremost geographers of his time who was serving as the editor of the renowned *Geographische Zeitschrift*.⁸ After the completion of his studies, Thorbecke worked as an editorial assistant at Hettner's journal and, in 1905, he took on a teaching position at a girls' secondary school in Mannheim. Only two years later he left his post again, when the opportunity arose to join an expedition to the German colony of Cameroon in Central Africa, organized by the geographer

⁵ On the importance of imperial or colonial meteorology, see: Martin Mahony, "For an Empire of 'All Types of Climate': Meteorology as an Imperial Science," *Journal of Historical Geography* 51 (2016): 29–39; see also other contributions in this volume.

⁶ For a short overview of the development of climatology in Europe and North America, see: Matthias Heymann, "The Evolution of Climate Ideas and Knowledge," *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 4 (2010): 581–597.

⁷ For a short biographical sketch, see: Andreas Freitäger, "Franz Thorbecke (1875–1945)," in *Gelehrte, Diplomaten, Unternehmer: Kölner Sammler Und Ihre Bücherkollektionen in Der Universitäts- Und Stadtbibliothek Köln*, ed. Gernot Gabel (Cologne: Universitäts- und Stadtbibliothek Köln, 2003), 150–59.

⁸ Together with *Petermanns Mitteilungen*, the *Geographische Zeitschrift* was one of the most important and widely-read Germanophone geographical journals of its time; on *Petermanns Mitteilungen*, see: Sebastian Lentz and Ferjan Ormeling, eds., *Die Verräumlichung des Welt-Bildes: Petermanns geographische Mitteilungen zwischen "explorativer Geographie" und der "Vermessenheit" europäischer Raumphantasien*. (Stuttgart: F. Steiner, 2008).

Kurt Hassert.⁹ Upon his return to Germany a year later, Thorbecke used material he collected on his journey to write a dissertation in geography on the Manengouba Highlands, which he published in 1911.¹⁰

In the same year, Thorbecke was chosen to lead another expedition to Cameroon alongside his assistant Leo Waibel (1888-1951). The expedition was organized and financed by the private German Colonial Society, but also supported by the German Colonial Office.¹¹ In 1913, Thorbecke returned to Germany and started to write his major oeuvre *Im Hochland von Mittel-Kamerun* (“In the highlands of central Cameroon”), based on his extensive travel journals. *Im Hochland* was published in four volumes between 1914 and 1951, thus spanning four different political regimes in Germany. The last part of the final volume appeared posthumously and was edited by Thorbecke’s wife.¹² Marie Pauline Thorbecke had accompanied her husband on the second journey to Cameroon, and had contributed to the expedition in various ways – most enduringly by writing her own journal and by recording the scientific work in photographs, drawings, and paintings.¹³ She also became the center of public attention surrounding the expedition, when she was injured during a nighttime spear attack in Cameroon. The spear had probably been aimed at her husband, but the exact circumstances of the attack remained unclear. Marie-Pauline survived the confrontation with only minor superficial wounds, which did not stop her husband from using the attack to complain about insufficient protection by the colonial government for scientific endeavors.¹⁴

⁹ For a short report on the expedition, see: Kurt Hassert, *Forschungs-Expedition ins Kamerun-Gebirge und ins Hinterland von Nordwest-Kamerun* (Berlin: Gesellschaft für Erdkunde zu Berlin, 1910); on the history of the German colony of Cameroon, see: Alexandre Kum’a N’dumbe, *Das Deutsche Kaiserreich in Kamerun: wie Deutschland in Kamerun seine Kolonialmacht aufbauen konnte, 1840-1910* (Douala: AfricAvenir, 2009); Albert Gouaffo, *Wissens- und Kulturtransfer im kolonialen Kontext: das Beispiel Kamerun-Deutschland (1884-1919)* (Würzburg: Königshausen und Neumann, 2007); for an English introduction to the German overseas empire, see: Sebastian Conrad, *German Colonialism: A Short History*, trans. Sorch O’Hagan (Cambridge, UK: Cambridge University Press, 2012).

¹⁰ Franz Thorbecke, *Das Manengouba-Hochland: Ein Beitrag zur Landeskunde Kameruns* (Berlin: E. S. Mittler, 1911).

¹¹ Carsten Gräbel, *Die Erforschung der Kolonien: Expeditionen und koloniale Wissenskultur deutscher Geographen, 1884-1919* (Bielefeld: Transcript, 2015), 185–90.

¹² Franz Thorbecke, *Im Hochland von Mittel-Kamerun: Physische Geographie des Ost-Mbamlandes*, ed. Marie Pauline Thorbecke, vol. 4, pt. 2, 4 vols. (Hamburg: Cram, de Gruyter & Co., 1951).

¹³ See: Christraud M. Geary, “‘On the Savannah’: Marie Pauline Thorbecke’s Images from Cameroon, West Africa (1911–12),” *Art Journal* 49, no. 2 (June 1, 1990): 150–58; Anne-Kathrin Horstmann, “Koloniale Geographie - das Ehepaar Marie Pauline und Franz Thorbecke,” in *Köln und der deutsche Kolonialismus. Eine Spurensuche*, ed. Marianne Bechhaus-Gerst and Anne-Kathrin Horstmann (Cologne: Böhlau, 2013), 101–6.

¹⁴ Bundesarchiv Berlin-Lichterfelde (BArch) Reichskolonialamt (R1001), Folder 3344, 46-7: Colonial Government of Cameroon to Colonial Office, 14 October 1912; Franz Thorbecke, *Im Hochland von Mittel-Kamerun: Die Reise: Eindrücke und Beobachtungen*, vol. 1 (Hamburg: Friederichsen, 1914), 72–74; Marie Pauline Thorbecke, *Auf der Savanne: Tagebuch einer Kamerunreise* (Berlin: Mittler, 1914), 174–80; see also: Gräbel, *Die Erforschung der Kolonien*, 167.

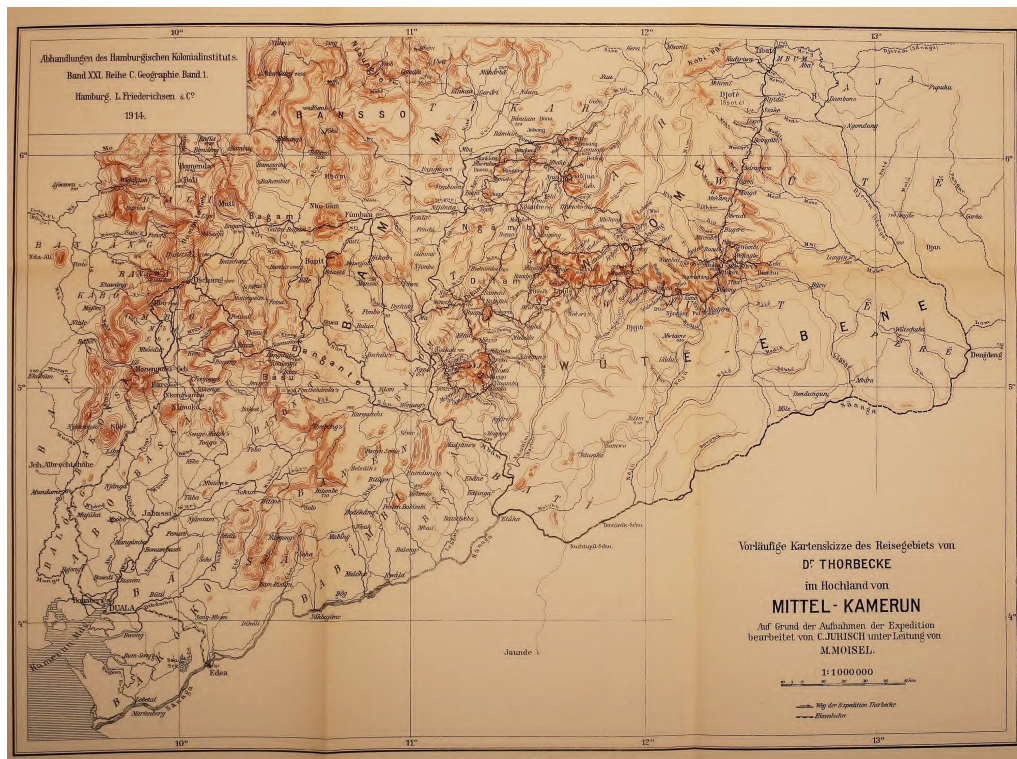


Fig. 1. “Middle Cameroon”; map of the area of Thorbecke’s expedition (*Abhandlungen des Hamburgischen Kolonialinstituts*, 1914)

As Thorbecke’s second expedition had concluded immediately before the First World War, he could not return to Cameroon to develop his studies further: after the onset of hostilities in 1914, Germany swiftly lost control over its African colonies on the battlefield, and lost them for good in the Treaty of Versailles, whose twenty-second article transformed the colonies into League of Nations mandates.¹⁵ Along with the nascent scientific infrastructure that the colonial governments and scientists had built up, the entire territory of Cameroon was partitioned between France and Britain, with France gaining the lion’s share. Thorbecke, who first took up a teaching post in Mannheim and then became the successor of his erstwhile travel companion Kurt Hassert at the University of Cologne, never got over the loss of the colonial possessions. To him, the collapse of the German overseas empire meant not only a loss of national prestige, but also a loss of his primary field of research. In his interwar writings, he frequently highlighted the contribution of German science to the exploration, mapping, and development of its former African colonies and lamented the present conditions under new colonial management – a strategy Thorbecke used to legitimate the colonial revisionism he shared with a number of his

¹⁵ See: Nele Matz, “Civilization and the Mandate System under the League of Nations as Origin of Trusteeship,” ed. A. von Bogdandy and R. Wolfrum, *Max Planck Yearbook of United Nations Law* 9 (2005): 47–95 (the article includes the full text of Article 22 of the Versailles Treaty as an annex).

geographical colleagues.¹⁶ Leo Waibel, Thorbecke's assistant on the second Cameroon expedition, even had first-hand knowledge of the loss of the colonial empire, as he was caught off-guard by the onset of hostilities while on a research mission in German Southwest Africa (today Namibia) with his colleague and fellow geographer Fritz Jaeger. Both Waibel and Jaeger were drafted into the colonial army and fought in some encounters against the South African army, which was under the command of the British Imperial Government. The fighting in Southwest Africa ended before it had really begun, when the outnumbered German forces surrendered in July 1915 after having retreated and regrouped various times.¹⁷ Ultimately, both Waibel and Jaeger were allowed to continue with some of their studies, while they were stuck in Africa unable to return to Europe during wartime. In their post-war account, however, the two geographers showed little appreciation for their situation and complained about travel restrictions into some parts of the territory, which had not allowed them to stick to their original research plans.¹⁸

The Weimar years were difficult for many of the German researchers who had built their career around fieldwork in the colonies. Most of them were not allowed, or did not have the financial means, to return to their field sites. Some, like Thorbecke's first expedition companion Kurt Hassert, turned to other topics, while many of the geographers active in the German colonies just before the First World War continued to publish on the territories or regions they had become acquainted with during their expeditions, drawing on data they had collected in the prewar years.¹⁹ And most of the former colonial scientists openly mourned the loss of the German overseas empire, which had presented them not only with new opportunities for research, but also with new funding prospects from organizations like the German Colonial Association and from government agencies like the Colonial Office.²⁰ All of these opportunities had vanished with the war and its aftermath.

The situation changed when Hitler and the National Socialists assumed power in 1933. Many of the geographers who had been active in the colonies were well-disposed toward the new regime. This was not only due to a general preponderance of conservative to *völkisch* outlooks among the majority of colonial scientists, but was also founded in the shared hope that the new

¹⁶ See, for example: F. Thorbecke, "Die Karte von Kamerun in 1:300000," *Geographische Zeitschrift* 24, no. 2/3 (1918): 81–84.

¹⁷ See: Hew Strachan, *The First World War*, vol. 1 (Oxford: Oxford University Press, 2001), 550–65.

¹⁸ Fritz Jaeger and Leo Waibel, *Beiträge zur Landeskunde von Südwestafrika* (Berlin: E. S. Mittler und Sohn, 1920).

¹⁹ See, for instance: Fritz Jaeger, "Die Landeskundliche Erforschung Südwest-Afrikas Während Der Deutschen Herrschaft," *Geographische Zeitschrift* 31, no. 5 (1925): 280–89; Hans Meyer, "Geopolitische Betrachtungen über Deutsch-Ostafrika (Tanganyika Territory) einst und jetzt," *Zeitschrift für Geopolitik* 3, no. 1 (1926): 161–74.

²⁰ On the development of Germanophone geography, see: Bruno Schelhaas and Ingrid Hönsch, "History of German Geography: Worldwide Reputation and Strategies of Nationalisation and Institutionalisation," in *Geography: Discipline, Profession and Subject since 1870*, ed. Gary S. Dunbar, 62 (Springer Netherlands, 2001), 9–44; Hans-Dietrich Schultz, *Die deutschsprachige Geographie von 1800 bis 1970: Ein Beitrag zur Geschichte ihrer Methodologie* (Berlin: Selbstverlag des Geographischen Instituts der Freien Universität Berlin, 1980).

political situation would mean a renewed interest in colonial revisionism in Africa and beyond.²¹ In the early years of the Third Reich, some of the former colonial scientists published glowing articles about their work overseas, attempting to revive public interest in the colonial empire.²²

Thorbecke, as well, drew new hope from the openly imperialist tone of National Socialist propaganda. While he did not join the NSDAP, he showed his positive stance towards the new regime by actively participating in the purges at the University of Cologne.²³ In his work, he was particularly interested in the *Lebensraum* rhetoric of the Nazis, which fit neatly with his ideas of the necessity of colonial spaces for both economic and scientific survival and development.²⁴ Once he realized that the imperial plans of Hitler's regime were focused on the east rather than the south, Thorbecke attempted to emphasize the importance of tropical colonies for a new German Empire and began to lay out plans for a new German political and scientific presence in Africa himself, describing "geography as the trailblazer for colonization."²⁵ While his pleas never made an impression on the political leadership of the Third Reich, Thorbecke never tired of upholding his vision of scientific work from the Wilhelmine colonial period, when he was one among a group of geographers sent out to the colonies to gather information and data on the "German land overseas."

Colonial climatology as auxiliary science

Back in his expedition days, Thorbecke had been tasked with answering questions ranging from "are there lions in the colony" to "how far has the cultivation of European vegetables and tropical crops progressed in the highlands."²⁶ As different and wide-ranging as these questions were, they also shared some implicit commonalities. After all, in order to find answers to both of

²¹ See: Gräbel, *Die Erforschung der Kolonien*, 355–56.

²² See, for instance: Carl Uhlig, "Neue deutsche Kolonialpolitik," *Aus Unterricht und Forschung: Wissenschaftliche Zeitschrift auf nationalsozialistischer Grundlage* 4 (1934): 168–80; Fritz Jaeger, "Die geographische Bedeutung der deutschen Kolonialarbeit Zum 50. Geburtstag des deutschen Kolonialreiches," *Petermanns geographische Mitteilungen* 80 (1934): 105–7.

²³ See: Frank Golczewski, *Kölner Universitätslehrer und der Nationalsozialismus: personengeschichtliche Ansätze* (Cologne: Böhlau, 1988), 64.

²⁴ See: Franz Thorbecke, "Deutsche Kolonien und deutsche Geographie," *Geographische Zeitschrift* 40, no. 5/6 (January 1, 1934): 181–90; Franz Thorbecke, "Das deutsche Kolonialproblem," *Geographische Zeitschrift* 42, no. 11 (1936): 417–19.

²⁵ See: Franz Thorbecke, "Die Geographie als Wegbereiterin der Kolonisation: Rückblick und Ausblick," in *Lebensraumfragen europäischer Völker. Europas koloniale Ergänzungsräume*, ed. Heinrich Schmitthenner, Oskar Schmieder, and Karl Dietzel, vol. 2 (Leipzig: Quelle & Meyer, 1941), 28–47; Franz Thorbecke, "Das tropische Westafrika," in *Afrika: Beiträge zu einer praktische Kolonialkunde*, ed. Paul Rohrbach (Berlin: Werner & Co., 1943), 29–60.

²⁶ BArch R1001/3342, 3-14: "Aufgaben der Expedition ins Kamerun- und Manenguba-Gebirge samt Hinterland."

these questions – and for the determination of economic possibilities in general – knowledge of the climatic conditions in the colonies was paramount. And, thus, meteorological observations and the collection of climatological data series became some of the most important day-to-day tasks of the expeditions.

While Thorbecke had shared the duties of leading the first expedition to Cameroon in 1907/08 with Kurt Hassert, he was clearly the man in charge during the second journey. He devised the plans for the research to be undertaken and negotiated with the Colonial Office in Berlin about the travel route and finances.²⁷ First and foremost, Thorbecke was following governmental directives to explore the economic potential of German Cameroon and was answerable to the German Colonial Society. He nevertheless retained the right to make the decisions on how to approach the tasks given to the expedition and to set his own research priorities in the field.²⁸ Throughout his time in Africa, he stayed true to the wide-ranging tasks of a colonial geographer, including everything from ethnographic studies to altitude measurements. The daily work of the expedition also comprised daily meteorological observations and larger-scale climatological studies, which Thorbecke pursued with unwavering energy. And even after his return to Germany, he spent a large share of his time – and a large share of his publications – dealing with climatological issues.

The most direct testimony of Thorbecke's work on the weather and climate in Cameroon is supplied by his "climatological-meteorological journal," which he updated daily for almost an entire year in 1912. It was published – probably with only minor editorial changes – in the last volume of *Im Hochland von Mittel-Kamerun*.²⁹ The journal gives temperature and barometric pressure readings for usually three times each day – conducted at varying times in the morning, early afternoon, and evening. Besides these numerical data, however, the journal also includes extensive – sometimes multiple-paragraph-long – discursive entries about the weather conditions and direct sensory perceptions, as in the following example from Yoko (or Joko) in central Cameroon:

Then it turns very humid, the sun stings, thick black cumulus clouds cover the sky, especially from the east and south-east; from 13:30 onwards, thunderstorms in the distance, we hear violent rolls of thunder, which get evermore intense around 14:00, thus seeming to draw nearer. The cool wind increases, the corrugated sheet roof rattles beneath the sun, which is now moving behind the clouds.³⁰

²⁷ BArch R1001/3344, 29: Thorbecke to Friedrich von Lindequist (Head of the Colonial Office), 8 October 1911.

²⁸ See, for instance: BArch R1001/3344, 52-64: Report by Thorbecke, "Wirtschafts- u. verkehrsgeographische Beobachtungen der Expedition der Deutschen Kolonialgesellschaft nach Kamerun," n.d.

²⁹ Thorbecke, *Im Hochland von Mittel-Kamerun: Physische Geographie des Ost-Mbamlandes*, 4, pt. 2:115–285.

³⁰ Thorbecke, 4, pt. 2:156 [my translation].

Other than the narrative depiction of extraordinary weather events like heavy thunderstorms or rainbows, Thorbecke also spent many lines describing the observation and experience of the atmospheric phenomena accompanying sunsets, as in the following example:

Sunset with afterglow, the sun itself remains behind clouds, almost full moon with a small, yellow corona against the cloudless sky, which is covered only by a few vapor clouds above the valley. Despite the intense moonlight casting shadows, some stars pierce through fully with their silver light, as intensely as I have never observed at home.³¹

In these almost lyrical passages, Thorbecke added qualitative information to the quantitative information of the instrument readings, such as the auditory effects of incoming thunderstorms and the light quality of the moon and the stars. He also put his experience into a comparative context to observations in Germany and ascribed a singularity and uniqueness to the phenomena observed in Cameroon. It seems almost as if Thorbecke was consciously attempting to fill the quantitative numerical data he recorded with place-specific qualifiers, expressed through descriptions of his own sensory perception. In one of the most strikingly expressive passages, Thorbecke wrote about a particularly remarkable sunset he experienced:

The twilight was especially beautiful and magnificent today; the sun must have set behind grey clouds in the west with an almost blood-red tinge, or so I deduced from the grey-violet silhouette of the Njua [an inselberg or island mountain in Central Cameroon] being set sharply – almost hauntingly – against the red glowing evening sky.³²

To some degree, Thorbecke's penchant for qualitative descriptions can be ascribed to the difficult conditions of instrument-based work during the expedition. He commented on the material problems with thermometers and barometers, some of which had broken or been misplaced very early on his travels.³³ Thorbecke, however, also seemed to have a more theoretical interest in adding qualitative addenda to the numerical data he recorded on his journey through Cameroon. He was trained in Hettner's school of regional geography, which valued narrative descriptions as a tool to understand and communicate the particular

³¹ Thorbecke, 4, pt. 2:160 [my translation].

³² Thorbecke, 4, pt. 2:168 [my translation].

³³ Thorbecke, 4, pt. 2:6–8.

characteristics of a landscape. This training showed throughout all of Thorbecke's multi-volume expedition report and – somewhat more surprisingly – was even very prominent in the meteorological-climatological journal he kept with great regularity. Colonial climatology, in Thorbecke's work, was thus less a discipline to feed data tables on atmospheric conditions, but rather an auxiliary science to regional geography, aiding its task to identify the full range of characteristics of a particular and possibly even unique landscape.

Climatology as telluric science

Thorbecke concluded his second expedition to Cameroon merely a year before the onset of hostilities of the First World War. On his journey, he had collected a vast amount of data and information, but had not yet synthesized nor published most of his material by 1914. This work was left for the years of the war and, subsequently, the postwar period, when Thorbecke had to witness first the military defeat of the German colonial forces and, then, the definitive loss of the colonies in the Treaty of Versailles. The first volume of Thorbecke's major oeuvre *Im Hochland* appeared just before the onset of the war. Containing a description of the travels and ruminations about the colonial future of the colony, it is the most narrative of the volumes.³⁴ The second volume on the “anthropogeography of East Mbama-Land” was published during wartime in 1916.³⁵ In the short preface, Thorbecke acknowledged the war and the *de facto* loss of the colonies, but he did not alter his manuscript to mirror the political changes due to his “faith in the recovery of the colonies.”³⁶

After the war, Thorbecke published the third volume of *Im Hochland* comprising his ethnographic studies (including the transcriptions of Cameroonian songs), and the fourth volume containing a detailed map of his area of study in Cameroon with detailed annotations.³⁷ These volumes, however, were not Thorbecke's only publications on Cameroon during the time. In articles, essays, and edited volumes, Thorbecke drew on his wealth of data from his expeditions. Possibly defending his choice to stick with his research subject, he tried to make a virtue out of necessity: “Only when we have brought order to today's store of knowledge,” Thorbecke wrote in 1927, “can science progress further.”³⁸ What he did to bring order to the information he had gathered in Africa, however, was not guided by an interest in finding the overarching laws or

³⁴ Thorbecke, *Im Hochland von Mittel-Kamerun: Die Reise: Eindrücke und Beobachtungen*.

³⁵ Franz Thorbecke, *Im Hochland von Mittel-Kamerun: Anthropogeographie des Ost-Mbamlandes*, vol. 2, 4 vols. (Hamburg: Friederichsen, 1916).

³⁶ Thorbecke, 2:vii.

³⁷ Franz Thorbecke, *Im Hochland von Mittel-Kamerun: Beiträge zur Völkerkunde des Ost-Mbamlandes*, vol. 3, 4 vols. (Hamburg: Friederichsen, 1919); Franz Thorbecke, *Im Hochland von Mittel-Kamerun: Die Karte des Ost-Mbamlandes nach den Aufnahmen der Expedition*, vol. 4, pt. 1, 4 vols. (Hamburg: Friederichsen, 1924).

³⁸ Thorbecke, “Klima und Oberflächenformen: Die Stellung des Problems,” 1.

regularities behind the recorded phenomena and data, but rather in line with the main approach of German regional geography of the time, described by Ute Wardenga as “attempt[ing] to record even the smallest areas as unique and unmistakeable [sic!] entities.”³⁹

Thorbecke, however, did not simply call for a narrow focus on the particular region and its characteristics. Instead, he argued that only knowledge of many different regions and climate zones could lead to the recognition of the particular characteristics that made a landscape singular and unique. In Thorbecke’s view, colonial – and thus geographically expansive – science was thus necessary for identifying the ontological extent of distinct, small-scale landscapes. This was a different take on *Kleinklimatologie* than Deborah Coen has described in her work on interwar Austria, as Thorbecke was not content to view the now smaller Germany as a sufficient field for climatology, but argued for the necessity of the overseas field and hoped for a return to colonial glory.⁴⁰ In his own words:

If today there are still vast areas of tropical Africa that await geographical investigation, both official and private initiatives in the German colonies in Africa have provided us with such an expansion and consolidation of geographical knowledge, that from the infinity of enormous spaces we can separate an ever-larger number of singular landscapes, which, after all – and notwithstanding their obvious classification as part of a major geographic region [*Großlandschaft*] – exhibit only their own particular characteristics, which mark them as special geographic areas [*länderkundliche Sondergebiete*], as geographic individuals in the spirit of [Carl] Ritter, which remains valid today.⁴¹

Together with Alexander von Humboldt, Carl Ritter (1779-1859), whom Thorbecke referred to approvingly, was one of the almost mythical progenitors of academic geography.⁴² He became the first professor of geography in Germany in 1820 and influenced the direction of the field through his 21-volume *magnum opus*, in which he described his vision of a unifying

³⁹ Wardenga, “Defining Geography,” 143.

⁴⁰ Deborah R. Coen, “Scaling Down: The ‘Austrian’ Climate Between Empire and Republic,” in *Intimate Universality: Local and Global Themes in the History of Weather and Climate*, ed. James Rodger Fleming, Vladimir Jankovic, and Deborah R. Coen (Sagamore Beach, MA: Science History Publications, 2006), 115–40.

⁴¹ Franz Thorbecke, “Die Inselberg-Landschaft von Nord-Tikar,” in *Zwölf länderkundliche Studien von Schülern Alfred Hettners ihrem Lehrer zum 60. Geburtstag* (Breslau: F. Hirt, 1921), 215 [my translation].

⁴² On Ritter, see: Andreas Schach, *Carl Ritter (1779-1859): Naturphilosophie und Geographie: erkenntnistheoretische Überlegungen, Reform der Geographie und mögliche heutige Implikationen* (Münster: Lit, 1996); Walter E. Boettcher, “Carl Ritter’s Early Geographic Thought, 1779-1817” (University College London, 1991); Manfred Büttner, *Carl Ritter: zur europäisch-amerikanischen Geographie an der Wende vom 18. zum 19. Jahrhundert* (Paderborn: Schöningh, 1980).

methodology.⁴³ While this is not the place to expound on Ritter's system, Thorbecke picked up on his predecessor's emphasis on both an anthropocentric vision of geography that put humans at the center of geographical investigation, and the importance of studying each particular region of the earth in its own right.

For Thorbecke's treatment of climate, this meant that the emphasis was not on the borderless atmosphere, but rather on the surface of the earth, structured and divided by physical configurations, such as streams, mountains, and deserts. Thorbecke was thus clearly not in tune with the emergent field of dynamic meteorology and its emphasis of physical-mathematical models of the atmosphere. Indeed, he never showed any awareness of these new approaches and instead continued to see climatology as a subfield of geography. But Thorbecke's approach was still "dynamic" in its own right. Contrary to the caricature of nineteenth-century climatology as a purely statistical endeavor obsessed with averages and means, Thorbecke's approach assumed that atmospheric phenomena could alter physical conditions and vice versa. In his work on the morphological effects of the climate, Thorbecke listed actions from "mechanical weathering" to "chemical decomposition" that could alter the morphology of a landscape.⁴⁴ This dynamic dimension of climate in Thorbecke's writings, however, always remained telluric, or earthbound and grounded. It remained connected to the particular, regional *Landschaft*, or landscape, while at the same time requiring knowledge of landscapes all around the globe as vital points of reference.

Concluding remarks

In his recent study on field science in the American West around the turn of the twentieth century, Jeremy Vetter argues that in contrast to the laboratory, which derived significant scientific authority from its claim to place- and time-less universality, the field tended to remain entrenched in its particular geographical context. By and large, field scientists were thus not aiming to discover the universal laws of nature, but rather sought to explore, examine, and record a specific place with all its particularities in great detail – using not only instruments and numerical data tables, but also direct sensory experience and qualitative descriptions.⁴⁵ Thorbecke's climate studies during the interwar years fit this mold quite well: rather than looking for the general mechanisms behind meteorological phenomena and their effects, he focused on

⁴³ The rather unwieldy title of the work is *Erdkunde im Verhältniß zur Natur und zur Geschichte des Menschen, oder allgemeine, vergleichende Geographie, als sichere Grundlage des Studiums und Unterrichts in physikalischen und historischen Wissenschaften*.

⁴⁴ Franz Thorbecke, "Der Formenschatz im periodisch trocknen Tropenklima mit überwiegender Regenzeit," in *Morphologie der Klimazonen*, ed. Franz Thorbecke (Breslau: F. Hirt, 1927), 10–19.

⁴⁵ Jeremy Vetter, *Field Life: Science in the American West during the Railroad Era* (Pittsburgh: University of Pittsburgh Press, 2016).

particular climatic conditions and their reciprocal interactions with the physical features of a particular place to identify singular landscapes and regions.

And yet, Thorbecke's emphasis on the uniqueness of particular places was not simply a "local," but also a "global" endeavor: only by the painstaking work of taking stock and identifying all the singular landscapes around the world could each landscape's uniqueness be determined conclusively against a comparative framework. With each new landscape explored, described, and analyzed, the comparative framework would expand and thus lead to the growth of geographic knowledge in general. While the ultimate end product of this process could conceivably be an inductively produced theory (and Thorbecke hinted at that in his writings), the time had not yet come, as knowledge about many parts of the earth was still incomplete and insufficient.

Here, Thorbecke remained one step shy of his Austrian contemporary and colleague Heinrich von Ficker, who – with a similar background in geography and an analogous predilection for particular places – was open to careful generalizations and even considered the implications of his findings in the context of the general circulation of the atmosphere.⁴⁶ For Thorbecke, in contrast, the focus of climatology had to remain on collecting both quantitative and qualitative information from around the world to classify landscapes and identify new and possibly unique phenomena. And yet, by putting the single region into a comparative framework containing, in the best of cases, the whole assembly of regions around the globe, Thorbecke avoided another iteration of what the geographer David Livingstone calls the "regionalizing ritual" prevalent among German geographers around the turn of the century, which could so easily result in an unscientific regional impressionism.⁴⁷

It is difficult and possibly misleading, however, to neatly separate Thorbecke's scientific endeavors from his political motivations. Both his approach to climatology and meteorology as auxiliary disciplines to the overarching and multifaceted discipline of colonial geography, and his conception of a regional, comparative geography, also harmonized nicely with his view of the need for colonies, which could be studied as well-defined units of analysis. Rather than using or even addressing new approaches in meteorology that relied more on physical-mathematical models of the borderless atmosphere than the observations of field scientists, Thorbecke defended the importance of the single colonial region whose borders were clear and geographically demarcated. The field whose loss he so lamented was thus scientific and political at the same time.

As Thorbecke's case also shows, scientific work in the colonies, which extended the scientific field beyond Europe, did not automatically or necessarily lead to a more global vision, or more concretely, a vision that transcended borders and increased the scale to larger

⁴⁶ See: Deborah R. Coen, "Imperial Climatographies From Tyrol to Turkestan," *Osiris* 26 (2011): 45–65.

⁴⁷ David N. Livingstone, *The Geographical Tradition: Episodes in the History of a Contested Enterprise* (Oxford, UK: Blackwell Publishers, 1993), 260–303.

geographical entities.⁴⁸ While the data collected in the colonial field surely aided in global visions and visualizations of natural phenomena such as weather systems or concepts of global circulation, colonial fieldwork and postcolonial longing to regain the overseas field could also lead to a strengthening of the regionalist impulse in meteorology and climatology as practiced by Thorbecke and many of his German colleagues.

⁴⁸ Cf.: Paul N. Edwards, "Meteorology as Infrastructural Globalism," *Osiris*, 2nd Series, 21 (January 1, 2006): 229–50; Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge: MIT Press, 2010).