CHAPTER THREE

National museum, national expeditions

The concept of a national museum

Temminck proposed the idea of a National Museum of Natural History for the first time in 1814 to Anton R. Falck, at that time state secretary. Before his appointment at 's Lands Kabinet, Temminck had dreams of a museum that would serve to put the Netherlands, still in the process of solidifying its independence and sovereignty, on the European map. Temminck's proposal seemed to be fueled mainly by his patriotic feelings and by his ambition of becoming the museum's director, which he tried to achieve by using as a carrot the distinction of his own cabinet, offered as part of his envisioned museum. As a matter of fact, systematics also played a role in Temminck's motivation.

The concept was, of course, not an original one. National history museums were appearing all over Europe during the first decades of the nineteenth century. A few years before Temminck's suggestion to Falck, in 1809 or 1810, Count Hoffmannsegg had recommended the establishment of a collection of natural history to the German State Councilor Wilhelm von Humboldt, proposing Karl Illiger as its curator. Hoffmannsegg's collection would serve to support this proposition. The King accepted and Illiger became the first director of the Zoological Museum of Berlin in March 1810—the Museum für Naturkunde or Humboldt-Museum. It was part of the University of Berlin, and Illiger also became professor of natural history.[1] Temminck had been in touch with both German gentlemen since 1810 and it is therefore possible that the foundation of the Berlin Museum inspired Temminck with the idea of a Dutch national museum, with himself as its director. Similarly, in 1819 Baron Gustaf Paykull, entomologist, ornithologist and marshal of the Court, convinced the King of Sweden to found a national natural history museum in Stockholm, the Naturhistoriska Riksmuseet, with the donation of his private zoological collection as part of the deal. It is not too far-fetched to assume that the foundation of this museum also fed Temminck's vision.

[1] Stresemann, *Ornithology from Aristotle to the Present*, 103.

Temminck's first suggestion was not accepted at the time, for the simple reason that Falck saw 's Lands Kabinet, under Reinwardt's direction, as the national collection of natural history. Although Temminck acknowledged Reinwardt's position, he did not share Falck's vision of 's Lands Kabinet. After a few years of working with the collection—and arguing with Van Marum—and after being commissioned to build collections for the southern universities, Temminck saw so many shortcomings in the organization of the Dutch academic cabinets that his belief in the need of a central museum grew stronger. Between 1814 and 1816, his arguments shifted from a patriotic sentiment to a deeper understanding of the function a national museum should have in the natural sciences and, particularly, in systematics.

Around 1816 Temminck had formed a clear idea of what such a national museum would look like and described it in a letter to Reinwardt. Temminck saw how the university professors were competing with each other for specimens chosen to illustrate lessons in anatomy and pathology. Temminck even went so far as to declare that some professors were just taking advantage of the favorable situation they were enjoying in the Netherlands and were using the specimens for "ostentation."[2] What universities should do instead, he claimed, was to build collections with examples of genera of European animals, either fresh or kept in denatured alcohol (also called methylated spirit or *spiritus* in Dutch), to be used for dissections and comparative anatomy. Some other non-European genera could be added to this basic setting. However, Temminck believed that, complementing the didactic collections, there should be a National Museum to function as a reference collection:

> Also, a National Museum could be founded, which, with its duplicate specimens and as a result of the care of its directors, could serve to enlarge the University collections. It should be built in such a manner as to serve as a source of information for those who desire to increase their knowledge in the different subjects of Natural Science, by means of comparison.[3]

As the focus of the academic cabinets lay mostly in comparative anatomy and physiology, rich in preparations of organs and pathological specimens, these collections were unsuited for systematics. Temminck imagined a new kind of institution, separate from academic management, that would serve as a repository for universities, independent researchers and the general public. As examples, Temminck referred to the

[2] Temminck was referring here to the reform of the Dutch education system of August 1815 (*Besluit regelende het hooger onderwijs in het koningrijk der Nederlanden: 2 Augustus 1815*), introduced in the previous chapter. With this reform, the King was giving the Universities the means to have their own cabinets of natural history.

[3] Temminck to Reinwardt, 25 November 1816, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr. 4032B.

Muséum in Paris and the Egyptian Hall in London.[4] This time, however, Temminck did not put himself forward as a candidate to direct such a museum, at least, not directly. In charge of this National Museum, there would be "directors"—in plural.[5] Temminck may have had the Paris Muséum in mind, where twelve professors of equal rank worked on different subjects. After all, Temminck did try to steer Reinwardt towards studying comparative anatomy, as an area research complementary to Temminck's own systematics.

Although Temminck sent this description of the ideal national museum to Reinwardt, he also made sure to send a copy of this particular letter—all sixteen pages of it—to the commissioner-general of Education, Arts and Sciences, Ocker Repelaer van Driel. Temminck's main reason for sending this copy was, he wrote, to dismiss the circulating rumors about his wish to replace Reinwardt. Temminck hoped that his letter to Reinwardt would thus prove to the commissioner the falsehood of the accusation that Temminck was seeking to dethrone Reinwardt as director of 's Lands Kabinet.[6]

That particular letter for Reinwardt included, besides his ideas for a new national museum, details on his ichthyological research, accounts of his quarrels with Van Marum and Apostool, instructions on how to collect fishes and marine invertebrates, and some news about the collections for the southern universities. He also counselled Reinwardt about how to proceed if he wished to study zoology, as he should focus on comparative anatomy. This long missive, unusually chaotic for Temminck, was ready to be sent to Batavia as a proof of Temminck's commitment and loyalty to Reinwardt. However, rather conveniently, it also helped convey his ideal plan for a national museum indirectly to Repelaer van Driel. At that time, just as in 1814, Temminck's proposal fell on deaf ears.

There was yet another advocate of a national museum for natural history. In March 1817, Brugmans wrote to Falck suggesting the creation of a central, academic museum, open to the public. By reorganizing and expanding the existing collection at Leiden University they could create, without too much expense, a museum "in accordance with the value of our collection, the splendor of our University and with the current state of science."[7] Apparently, Brugmans' expansion plans were well received, and although there was no intention yet to transform the Leiden collection into a national museum,

[4] Commissioned by William Bullock as a museum for his private collection, it was erected in Piccadilly, London, in 1812.

[5] Temminck to Reinwardt, 25 November 1816, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr. 4032B.

[6] Temminck to the commissioner-general of Education, Art and Science, exh. 4 December 1816, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr. 4032B.

[7] Sebald J. Brugmans to Anton R. Falck, 31 March 1817, UBL-AC2, 70; Dreier, "Voor Museum en Vaderland," 19-20.

the government paid the generous amount of *f*57,390 guilders to expand the University cabinet—a small fortune, the equivalent of roughly €415,000 in today's money.[8] The University of Leiden had already been favored in 1815, when it was chosen to house the Stadhouders Cabinet (the cabinet of the Stadholder) when Brugmans brought part of it back from Paris. This collection had been gathered during the second half of the eighteenth century by William V, Prince of Orange and last Stadholder of the Dutch Republic. The French confiscated the Cabinet and took it to Paris, to be stored at the Muséum d'Histoire Naturelle. After the downfall of Napoleon, the son of the Stadholder became King Willem I, and he requested Brugmans to travel to France and retrieve it.[9] Although the mission was not without its difficulties—Cuvier and Lamarck opposed it and Alexander von Humboldt ended up as mediator between the parties—Brugmans succeeded in taking back at least part of the original material.[10] Once it had arrived in the Netherlands, the King ordered that the Cabinet was to be given to the University of Leiden, as testimony of his ambition to let science grow and thrive.[11] The fact that Willem I did not use his father's Cabinet to enlarge the collection of 's Lands Kabinet may be an indication of the King's sympathies and gratitude towards Brugmans, for his efforts in Paris.

Somehow, the idea of a central, national museum started to take root. The King was, after all, determined to raise the prestige of his new country by boosting its cultural institutions. During the summer of 1819, Falck—now minister of Education, Industry and Colonies—was considering the future of the collection at the University of Leiden and asked Temminck's advice on the matter. After a few initial conversations, Temminck wrote to Falck, upset and expressing opposition to Brugmans' ambitious plans of turning the Leiden University cabinet into a national museum. His arguments revolved about three main points. First, Temminck believed that "qui trop embrasse mal étreint."[12] The Leiden cabinet was acceptable for didactic purposes, but to convert it into a national museum required whoever was in charge to master all the different fields of natural history, give lectures, manage the collections, have taxidermy and curatorial

[8] Trustees Policy note, 23 May 1818, UBL-AC2, 71 II; Dreier, "Voor Museum en Vaderland," 20. The purchasing power of the guilder in today's euros has been calculated with the online tool of the International Institute of Social History, "Value of the guilder / euro. Comparing the purchasing power of the guilder from 1450 to any other year," http://www.iisg.nl/hpw/calculate.php.

[9] Florence F. J. M. Pieters, "Het schatrijke naturaliënkabinet van Stadhouder Willem V onder directoraat van topverzamelaar Arnout Vosmaer," in *Het verdwenen museum*, ed. Bert C. Sliggers and Marijke H. Besselink.

[10] Pieters, "Naturaliënkabinet van Stadhouder Willem V," 39-40; Raat, "Humboldt and Temminck," 21.

[11] Copy of the Royal Decree of 3 November 1815, UBL-AC2, 69 I.

[12] Temminck to Falck, 17 July 1819, NL-HaNA, Collectie 048 Falck, 2.21.006.48, inv.nr. 85; H. T. Colenbrander, ed. *Gedenkschriften van Anton Reinhardt Falck* ('s Gravenhage: Martinus Nijhoff, 1913), 413.

skills and fulfill all the official duties. Put like that, it was nothing short of an herculean task. Second, giving more prominence to the University of Leiden would only exacerbate the rivalry with other universities, as all were required by law to have their own collections. The competition between the professors and the lack of skills amongst them were such that Temminck called these academic collections "towers of Babel." Third, and perhaps more importantly, Temminck argued that a national museum—or, as he always put it, a "national monument"—should be centralized and independent of academic management.[13] Only then could such a museum be of service to all universities and to "the learned practitioner of diverse fields." For this, even the city chosen as the location for the museum, Brussels or Amsterdam, should reflect the national character of the institution.[14] In other words, if the academic museum of the University of Leiden should become the new national museum, it would be to the detriment of the other universities, the practitioners of natural history, and the quality of the collection itself.

Regarding the directorship of his ideal national museum, Temminck did not explicitly propose anyone in that particular letter, not even himself. Temminck suspected that Brugmans intended to merge the Leiden cabinet with 's Lands Kabinet, which would put in peril Reinwardt's position. By stating that "Reinwardt was in no way to be employed as a subordinate or substitute after his return from Java," Temminck implied Reinwardt should remain director.[15]

Concerning Brugmans, Temminck criticized his skills as a collection manager, arguing that the Leiden cabinet was poorly curated and that Brugmans did not have the necessary knowledge or experience to keep it in top form. Temminck did not put himself forward, but he clearly stated he had plans for himself and his collection, because he added, resolutely, that "if a national museum is not founded, or if its establishment seems altogether defective, no one can blame me if I decide to pursue my passion for expanding my knowledge in another country."[16] Temminck thus threatened that he would leave the Netherlands, collection and all, if a national museum was not realized, or if it was unsatisfactory. He was wary of further discussions and competition with both Brugmans and Van Marum who, Temminck suspected, would stop at nothing to get him out of the way.[17]

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[13] Temminck to Reinwardt, 25 November 1816, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr. 4032B; Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.
[14] Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.
[15] Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.
[16] Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.
[17] Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.

Temminck sensed that, as he lacked both an academic education and a good relation with Brugmans and Van Marum, there would be no place for him in a national museum based at the University of Leiden. He was worried about the future of his private cabinet: he would not let it become a part of Brugmans' museum, even if it meant that he had to move to another country.

Neither Brugmans nor Temminck considered 's Lands Kabinet suitable to become the national museum, as it was too small and incomplete, and contained mostly invertebrates and minerals. Even after the purchase of Reinwardt's private collection—which consisted mainly of anatomical samples and skeletons, but also insects, minerals and a few other specimens—it would remain fragmentary and lack the grand character that both gentlemen deemed necessary for a national institute.[18] Besides, the Trippenhuis, where the Kabinet was housed, did not allow for expansion: it also housed the ever-growing art collection of Apolstool's Kunst Museum and the instrument collection of the Koninklijk Instituut. Therefore, the most logical thing seemed to be to merge 's Lands Kabinet with other existing collections. For Brugmans, that should be the Leiden University cabinet, already enlarged with the old Stadholder's Cabinet and at that moment one of the biggest academic cabinets in the country. Temminck objected to 's Lands Kabinet becoming an academic collection: it should be part of an independent institution under ministerial administration. The role reserved for Reinwardt, still the director of 's Lands Kabinet and professor at the Athenaeum Illustre in Amsterdam, was another matter for debate. In any case, Temminck felt the obligation, as director *ad interim* of 's Lands Kabinet and because of his friendship with Reinwardt, to strongly oppose Brugmans' plan to unite 's Lands Museum with the academic cabinet in Leiden.[19]

Fate, however, intervened. The day after Temminck finished his letter to Falck, Brugmans felt unwell after a long day working in the garden. Unexpectedly, he passed away four days later, on July 22, 1819. He was only fifty-six years old. His death was attributed to a colic—according to Brugmans' colleagues, it was the result of drinking too much beer after eating fruit.[20] Brugmans' sudden death was immediately followed by conjectures about a successor. Reinwardt seemed to be the most likely man for the job. Although Reinwardt was still in Java, Van Marum wasted no time and informed him of Brugmans death and told him—in the same paragraph—that an invitation for

[18] Temminck and Van Marum were commissioned to produce a catalogue and a valuation of the collection of Reinwardt, who sold it to the government because, in his view, a director of a national collection should not also own one privately; Gijzen, " 's Rijks museum," 31.

[19] Temminck to Falck, 17 July 1819, NL-HaNA, Falck, 2.21.006.48, inv.nr. 85.

[20] Van Marum to Reinwardt, 15 August 1819; NHA, 529 Archive Martinus van Marum, nr. 20b; van Heiningen, *Correspondence of C. G. C. Reinwardt*, 325.

him to accept the professorship in Leiden was on its way to Java.[21] For Reinwardt, this was not only unexpected, but also unwanted. His own plans were altogether different. He wished to stay longer in Java, to finish his writings and publish the results of his research. He was perfectly satisfied with his current position in Amsterdam and saw a professorship in Leiden as a daunting prospect.[22] After a few months and several letters from an insistent Van Marum, he accepted the position in Leiden and became professor at the University of Leiden and director of the Botanical Garden. With Reinwardt's new appointments, the proposals on the table for a national museum changed.[23]

By the end of 1819 the need for a national museum was no longer questioned, but it seems that Temminck's objections to Brugmans persisted in Falck's mind. He kept the letter Temminck sent him in July 1819, which Falck noted should be taken "cum grano salis," but it had been "the seed encapsulating the now fulfilled ideal for the great museum of natural history."[24] Ultimately, Falck gave preference to a National Museum instead of an academic collection, although in the end it would not be completely independent of the Universities, as Temminck wished.

Falck's plans included the fusion of the cabinets from the University of Leiden and 's Lands Kabinet, as well as Temminck's private collection, which Temminck himself had offered five years before, in 1814. Although Falck conceded a divorce of the museum directorship from the university professorship, he wished to entrust a final say in the management to the University Board of Trustees (de Heren Curatoren). The board would act as supervisors as well as intermediaries between the Ministry and the director of the museum. This was not a satisfactory arrangement for Temminck, who predicted problems whenever there was a disagreement, or regarding budgetary questions, not to mention, heaven forbid, risking unsupervised professors using the collection for didactic purposes.[25]

At this point, Reinwardt and Temminck were both candidates for the directorship of the museum. Not surprisingly, Temminck—although he thought more highly of Reinwardt than he did of Brugmans—still argued that the burden of the museum management was incompatible with a full professorship: "It seems to me that a Director of the Botanical Gardens, charged with the professorship of chemistry, botany, mineralogy, comparative anatomy and all subjects of zoology, has an infinite amount of

[21] Van Marum to Reinwardt, 15 August 1819; NHA, 529 Archive Martinus van Marum nr. 20b.
[22] Reinwardt to Van Marum, June 3, 1820, NHA, 529 Archive Martinus van Marum nr 20b; see also Weber, "Hybrid Ambitions," 166-17.
[23] Van Heiningen, *Correspondence of C. G. C. Reinwardt*.
[24] Colenbrander, *Gedenkschriften van Anton Reinhardt Falck*, 277.
[25] Gijzen, " 's Rijks museum," 6-7.

work to do."[26] Besides, Temminck insisted that an independent director would prevent competition with professors of other universities. Putting himself forward as the best candidate, Temminck added that "twenty years of experience" had taught him that a wide network of collectors and museums was much more effective than funds when it came to expanding a collection.[27] On top of this, Temminck assured Falck that he could never part with his collection, which was the basis of his research and the fruit of many years of work and worries.[28] In other words, if Temminck did not get the job, he would not donate his collection to the national museum.

Six months later, Falck announced his final proposal to the King, having reached an agreement with Temminck: his private collection ("the richest of Europe") would be part of the new museum provided that he—or his widow after him—receive a life annuity of three thousand guilders per year plus a modest yearly salary of another two thousand as Director of the museum, the equivalent of about €45,000 per year.[29] Falck's arguments in favor of this proposition were in fact exactly the same as Temminck's. Firstly, neither the Leiden University collection, 's Lands Kabinet, nor the merger of both could match other European museums, like those in Paris and Vienna. Secondly, it was impossible for a university professor to take on the amount of work the direction of the museum required. Thirdly and finally, a new museum would serve as a central repository to provide the universities with didactic material, thus preventing rivalry between universities. As the King was very keen to match France, Austria, and every other country in Europe in all possible domains, Falck insisted on the attractive nature of Temminck's proposition and its benefits for the country, its King, its commercial interests and its colonies. For financial and practical reasons, Falck suggested Leiden as the place to establish the new museum.[30] Five days later, 's Rijks Museum van Natuurlijke Historie was born by royal decree. It met almost all of Temminck's conditions—all but two.

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[26] Temminck to Falck, 29 October 1819, NL-HaNA, Algemeen Rijksarchief (ARA), nummer toegang 2.14.03, inventarisnummer 5; Gijzen, " 's Rijks museum," 8.

[27] Temminck to Falck, 29 October 1819, NL-HaNA, ARA, 2.14.03, inv.nr. 5.

[28] Temminck to Falck, 7 January 1820, NL-HaNA, ARA, 2.14.03, inv.nr. 5; Gijzen, " 's Rijks museum," 8-9.

[29] Falck to King Willem I, 4 Augustus 1820, NL-HaNA, ARA, 2.14.03, inv.nr. 5; Gijzen, " 's Rijks museum," 10. For comparison, Caspar G. C. Reinwardt received €24,000 per year while working in Java, which, according to Andreas Weber, "far exceeded his salary as professor at the Athenaeum Illustre in Amsterdam." (Weber, "Hybrid Ambitions," 122). The purchasing power of the guilder in today's Euros has been calculated with the online tool of the International Institute of Social History, "Value of the guilder / euro."

[30] Falck to King Willem I, 4 Augustus 1820, NL-HaNA, ARA, 2.14.03, inv.nr. 5.

The birth of 's Rijks Museum van Natuurlijke Historie

The Royal Decree no. 75 of Augustus 9, 1820, ordained the foundation of 's Rijks Museum van Natuurlijke Historie with Temminck as its director. The collection should consist of Temminck's cabinet, 's Lands Kabinet and that of the University of Leiden, and it should be used for academic education and to provide specimens for the universities.[31] With this decree, the new museum was placed under the responsibility of the Leiden University trustees and its role was determined to be mainly for educational purposes—two measures Temminck had explicitly disapproved of.

The decree was very short and left many delicate issues open to discussion. The trustees, for example, were alarmed by the thought of the dispersal of Brugmans' collection over other universities. When the University of Leiden acquired the professor's collection it was stipulated that under no circumstance should it be given, partly or entirely, to another university.[32] Furthermore, their own role and that of Temminck's were also left undefined. After four months of negotiations, Falck issued a ministerial decree in December 1820 clarifying the composition and role of the collections, as well as the relation of the director and the trustees. With this decree, Falck found a formula to please—or at least, appease—both Temminck and the trustees.

One of the most striking rulings of the decree entailed a divorce of the comparative anatomy collections from the rest of the natural history specimens. 's Rijks Museum collection consisted of zoological specimens (excluding human remains), skeletons, fossils and minerals, but "no pathological nor physiological preparations of animal organs should be part of it."[33] These anatomical and pathological preparations were to be donated to the cabinet of Physiology of the University of Leiden, under the care of Gerard Sandifort, a former student of Brugmans and professor of anatomy and medicine in Leiden. Other objects originally from Brugmans' collection, like the skeletons and stuffed animals, were placed in 's Rijks Museum and the director was not allowed to hand them out to any other institution.[34] Falck gave special directions to the professors in *Anatomia Comparata*: although they would have free access to the museum objects, they were not allowed to take them outside the museum rooms. Any specimen needed for their lessons should be retrieved and placed back only by Museum staff. Those

[31] Royal Decree no. 75, 9 August 1820, NL-HaNA, ARA, 2.14.03, Naturalis Biodiversity Center Archives; Gijzen, " 's Rijks museum," 12-14.
[32] C. M. van Dam to the Leiden University, 14 October 1819, UBL-AC2, 70; Gijzen, " 's Rijks museum," 34.
[33] "Extract uit het Register der Handelingen en Resolutien van den Minister, voor het Publieke Onderwijs, de Nationale Nijverheid en de Kolonien, No. 30 Den 31 December 1820", in Gijzen, " 's Rijks museum," 17.
[34] Temminck, "Uit het Kabinet van Wijlen Professor Brugmans," a catalogue of the specimens transferred from the Brugmans collection to 's Rijks Museum, Naturalis Biodiversity Archives, Archive C. J. Temminck, NAT_ARC_TEM_02460, NAT_ARC_TEM_02460-64.

professors who wished to study specimens for a longer period of time, could borrow them. Similarly, students of natural history were granted access to the objects.[35] There were, therefore, actual restrictions when it came to using the collection for teaching comparative anatomy but not to research. In this way, Temminck was reassured that the museum collection was not to be used for lessons of comparative anatomy.

Regarding the relation of the director with the trustees, Temminck found himself in a position he did not relish. The director was in charge of the finances, the curation and the redistribution of duplicate specimens, but the final responsibility lay with the trustees. This meant he had to answer to them and to consult them if he wanted to introduce any relevant change in management. Temminck had to report back to the trustees regarding staff, funding and changes in the collection. The Ministry of Education was also to receive a copy of these reports and other documents.[36] Temminck's relation with the University would prove a challenging one in the coming years.

In the Netherlands, the reactions to the new museum varied, depending on people's interests. The Koninklijk Instituut van Wetenschappen, for instance, wrote a letter to the King reminding him that 's Lands Kabinet had been created for the Institute's First Class members interested in natural sciences and mathematics. With the move of the collection out of Amsterdam to Leiden, the Koninklijk Instituut feared losing access to the natural history specimens.[37] As their objections remained unanswered, Gerardus Vrolik, secretary and Member of the First Class—and also a former pupil of Brugmans—even tried to stop the impending transfer of 's Lands Kabinet from the Trippenhuis to Leiden in September 1820.[38]

The University of Leiden was satisfied. Its collection was to remain in Leiden and to become a national museum, under the supervision of their trustees, very much like Brugmans had envisioned.[39] However, after Brugmans' death, there was yet another contender in Leiden for the position of director. Paulus Godfried van Hoorn had been Brugmans' student and, later on, his friend and housemate. He had a doctorate in

[35] "Extract uit het Register der Handelingen en Resolutien van den Minister, voor het Publieke Onderwijs, de Nationale Nijverheid en de Kolonien, No. 30 Den 31 December 1820," in Gijzen, " 's Rijks museum," 17; Huistra, *Afterlife of the Leiden Anatomical Collections*, 63.

[36] Gijzen, " 's Rijks museum," 17-20.

[37] Secretaris Eerste Klasse van het Koninklijk Nedederlands Instituut to the minister of Public Education, National Industry and Colonies, 15 September 1820, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr. 4100; Koolmees, "Reinwardt," 50.

[38] Van Marum to Reinwardt, 17 September 1820, NHA, 529 Archive Martinus van Marum nr. 20b; Van Heiningen, *Correspondence of C. G. C. Reinwardt*, 444.

[39] Curatoren van Hogeschool Leiden to the minister of Public Education, National Industry and Colonies, 2 September 1820, NL-HaNA, BiZa 1813–1848, 2.04.01, inv.nr 4100; Koolmees, "Reinwardt," 50.

medicine and became assistant director of Brugmans at the Leiden University cabinet.[40] Van Hoorn specialized in geology and mineralogy. As Brugmans' assistant, he had expected to succeed him at the University Cabinet. When this cabinet was to be merged with the Temminck and Amsterdam collections, Van Hoorn was offered work under Temminck as assistant director, just as he had been under Brugmans. However, Van Hoorn would not agree. He claimed the position as Director of the Mineralogy department, and stated that "my doctorate, and the position I have otherwise enjoyed in Society, prevent me from accepting a subordinate position."[41] Van Hoorn's doctorate was, in his view, proof of his abilities and the passport to a higher status in an official institution. The fact that Temminck had an honorary doctorate from Groningen University was seemingly not enough. Temminck was challenged again for not having an academic background, which apparently was regarded as a handicap in Dutch scientific circles around 1820. Van Hoorn threatened to resign. After deliberation with the minister and the Board of Trustees, he accepted the position of curator of the Mineralogy department.[42] Unfortunately, Van Hoorn's position at 's Rijks Museum turned out to be the most unsatisfactory arrangement for everyone.

Van Marum, who had initially wished the director's post to go to Reinwardt, changed his mind from the moment Reinwardt accepted the position of successor to Brugmans in Leiden. Although Van Marum could not help noting that Temminck had been very selfish, he recognized the impossible burden for Reinwardt of a double assignment, as professor and director.[43] Both Van Marum and Reinwardt did see the advantages of merging 's Lands Kabinet with the cabinet of the University of Leiden. In the end, Van Marum wrote to Minister Falck, acknowledging the positive role of a national museum of natural history for the Netherlands, a museum that would equal or surpass the most important museums in Europe, and conveyed his wish to contribute in any way possible.[44]

Despite Van Marum's positive attitude, the creation of a centralized museum was potentially detrimental to the collection of the Hollandsche Maatschappij in Haarlem, still under Van Marum's rule. He realized that, as the new Rijks Museum had the funds and facilities for expansion, it would soon surpass the collection in Haarlem so that

[40] P. F. van Hoorn, "Levensberigten der in dit jaar afgestorvene medeleden. Levensberigt van Dr. Paulus Godfried van Hoorn," *Jaarboek van de Maatschappij der Nederlandse Letterkunde*, no. 1-9 (1851).
[41] Godfried van Hoorn to Temminck, 24 Augustus 1821, Naturalis Biodiversity Center Archives, Archive C. J. Temminck; Holthuis, *Rijksmuseum*, 27.
[42] Holthuis, *Rijksmuseum*, 27.
[43] Van Marum to Reinwardt, 8 September 1820, and 7 July 1821, NHA, 529 Archive Martinus van Marum nr. 20b; Van Heiningen, *Correspondence of C. G. C. Reinwardt*, 341, 434.
[44] Van Marum to Falck, 8 September 1820, NHA, 529 Archive Martinus van Marum nr. 7; Weiss, "The Masses and the Muses," 22.

visitors who had seen the Leiden museum would not consider it worth their time to visit the Haarlem collection as well.[45] Van Marum decided not to compete with Leiden. Instead, he thought of giving the Haarlem cabinet a new focus that would make it useful as well as unique. He suggested the cabinet concentrate its efforts on the indigenous fauna of the Netherlands, a subject that had always interested the Hollandsche Maatschappij. The collection would be reorganized and expanded with a collection of Dutch fish—prepared by none other than Temminck's pupil and former concierge, Reindert Draak—and a collection of insects, a generous donation from professor Van Swinderen.[46] The new policy, even though it was a clever move, was not implemented with enough energy to achieve Van Marum's goals and the cabinet remained fragmentary.[47]

While everyone was pulling and campaigning for the post of director of 's Rijks Museum, Reinwardt was in Java, depending for information on the arrival of letters from friends and officials, and he remained on the sideline of the discussions regarding both his professorship in Leiden and the foundation of the new museum. Reinwardt professed he was satisfied with the outcome: "It is a true pleasure to me that Mr. Temminck has been appointed museum director and that I can stay out of the war against moths and larder beetles."[48] The director of the museum was not only head of the institution, but he was also charged with the safety and curation of the objects, fulfilling the double role of administrator and collection manager. Reinwardt was not willing to take on these roles on top of the professorship at university. He surely did not desire to be a collection manager, but he did resent Temminck's negligence when it came to informing him regarding his new appointment and the purchase of Temminck's collection for the museum.[49] Although Reinwardt accepted the professorship in Leiden, he was worried about leaving unfinished his research and publications, the results of his stay in the colonies.[50] He was allowed to remain longer in the Dutch East Indies to complete his projects, and he finally returned to the Netherlands in 1822.

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[45] Sliggers, "Het Naturaliënkabinet van de Hollandsche Maatschappij."

[46] Sliggers, "Het Naturaliënkabinet van de Hollandsche Maatschappij," 67.

[47] Bierens de Haan, *De geschiedenis van een verdwenen Haarlemsch museum*, 50-52; Sliggers, "Het Naturaliënkabinet van de Hollandsche Maatschappij," 68.

[48] Reinwardt to Van Marum, 1 January 1822, NHA, 529 Archive Martinus van Marum nr. 20b; Koolmees, "Reinwardt," 50. Reinwardt referred here to common pests of natural history specimens, the larvae of moths and larder beetles that can cause great damage to the collections.

[49] Reinwardt to Van Marum, 25 March 1822, NHA, 529 Archive Martinus van Marum nr. 20b; Van Heiningen, *Correspondence of C. G. C. Reinwardt*, 448.

[50] Reinwardt to G. A. G. Ph. Baron van der Capellen tot Berkenwoude, 6 January 1820, in Willem Hendrik de Vriese, *Ons streven naar waren roem. Eenige woorden van dankbare herinnering bij het afsterven van den Hoogleeraar C. G. C. Reinwardt, gericht tot de kweekelingen van Leydens Hoogeschool, op 13 Maart 1854* (Leiden: C. C. van der Hoek, 1854), chap. 5.

By the end of 1820, Temminck was settled as director of the ’s Rijks Museum van Natuurlijke Historie, a wish he had harbored for more than six years. He was forty-two years old and finally holding an official position, one that he had created for himself over the course of a decade.

The Natuurkundige Commissie

A national museum of stature needed a collection of stature. The three original collections that were to form the basis of the Leiden museum (the Leiden University cabinet, ’s Lands Kabinet and Temminck’s private collection) were impressive, but nowhere near what was needed to catapult the museum to the heights of those in the neighboring countries. The Dutch government was painfully aware of this, and the very first attempts at remedying this were made by Reinwardt. But although he had collected natural history objects from the Dutch East Indies for ’s Lands Kabinet, his role was not supposed to be that of a collector.

Reinwardt had been sent to Java in 1815 as Director of Agriculture, Arts and Science in Java and Neighboring Islands. He had been handed a list of detailed instructions, including a never-ending list of questions to which the government needed answers, and promptly. Reinwardt was supposed to calculate the extension of cultivated land, forests and wilderness; survey waterbodies; make an inventory of the different peoples in the region, including locals, Chinese, Europeans and their offspring; survey the existence of coal, iron, tin and sulphur mines; investigate whether it was possible to produce wood for ship-building; find out how much rice, coffee, sugar, pepper, cardamom and other spices were produced in a an average year; whether coconuts were used for food, for producing oil or for distilling alcoholic drinks; find out what animals were edible; check if animal horns were of good quality; and inquire what children learned at school, to list but a few. It was a mind-boggling list of questions. It was also an uncomfortable reflection of how little the Dutch government knew about these territories at that time.

Reinwardt, undaunted, took it on all the same. He advised the colonial government, undertook survey explorations throughout the archipelago, collected all kinds of natural history objects, conducted botanical investigations, cultivated various potentially beneficial plants, organized the school system, set up a medical committee, and founded ’s Lands Plantentuin (the National Botanical Garden) in Buitenzorg in 1817, among other things. Despite all this resolute activity, it was no more than a drop in the ocean. On top of everything, by a series of most unfortunate coincidences four of Reinwardt’s

precious shipments with specimens were lost at sea.[51] The material that did reach the Netherlands was to be kept at *'s* Lands Kabinet, under the care of Temminck and Van Marum, as instructed by Falck. Incidentally, in 1817, with the issue of a national museum still unresolved, Brugmans protested against this arrangement, arguing that the University of Leiden should also benefit from the material arriving from Java.[52]

Soon it became obvious that Reinwardt could never comply on his own with all the instructions he received. Sending reinforcements to Java for scientific research in the field of natural history seemed a sensible idea, especially since France and Britain had been able to explore and describe the archipelago just a few years before—this was an arms race. During the French and British interregnum (between 1806 and the Treaty of London in 1815) the archipelago had been explored by naturalists like Alfred Duvaucel (Georges Cuvier's stepson) and Louis Theodore Leschenault de la Tour. Thomas Horsfield, Alexander Hare and Joseph Arnold had also been active during the lieutenant-governorship of Sir Thomas Bingley Stamford Raffles in Java, between 1811 and 1816. The collected specimens were mostly sent to the Muséum in Paris and to Joseph Banks in London. The results of their efforts were splendid, both in terms of the gathered collections and in the description of many new species. For instance, some of Leschenault's birds collected in Java were described by Georges Cuvier, and Horsfield published his *Zoological Researches in Java and the Neighbouring Islands* in 1824 using these collections.[53]

When the Netherlands regained control of the East Indies, the King wished to catch up with the neighboring countries, and it is not inconceivable that Temminck played a role in emphasizing the need for more natural history objects via the agency of his friend Falck. According to Holthuis, the idea of formally organizing an expedition to Java was mainly instigated by Temminck.[54] Either way, at the beginning of 1819 the Dutch government had not only decided to send more explorers to Java, it had also chosen the men for the job: Heinrich Kuhl, from Hanau, and Johan Conrad van Hasselt, a student of Van Swinderen in Groningen. Temminck knew them both well. Kuhl, while in Amsterdam with Temminck, received a letter from Minister Falck to inform him that he

[51] Willem Hendrik de Vriese, *Reis naar het oostelijk gedeelte van den Indischen Archipel in het jaar 1821 door Caspar Georg Carl Reinwardt* (Amsterdam: Frederik Muller, 1858); Weber, "Hybrid Ambitions"; Smit, "Rijksherbarium." Lists of some the objects collected and sent by Reinwardt to 's Lands Cabinet—and later, to 's Rijks Museum—are kept in the Naturalis Biodiversity Archives, NAT_ARC_TEM_02275, NAT_ARC_TEM_02306.

[52] Brugmans to the Trustees of the Leiden University, 26 September 1817, UBL-AC2, 70; Dreier, "Voor Museum en Vaderland," 41.

[53] Smit, "Rijksherbarium," 8; Justin J. F. J. Jansen, "The Ornithology of the Baudin Expedition (1800–1804)." (PhD dissertation, Leiden University, 2018), 186.

[54] Holthuis, *Rijksmuseum*, 21.

had been chosen to travel to the East Indies by order of the Dutch government. Kuhl was thrilled, the message felt "like an electric shock." He had been recommended for the job to the King, most likely, by Van Swinderen and Temminck.[55]

FIGURE 3.1. Engraved portrait of Heinrich Kuhl (1797–1821), by Friedrich Fleischmann.

Temminck and Kuhl had met a few years earlier in Berlin, while both were visiting Lichtenstein. Kuhl had also met Van Swinderen in Hanau, and made such a good impression that Van Swinderen invited him to study in Groningen. Kuhl gladly accepted the offer and Kuhl and Van Hasselt started work with Van Swinderen and Temminck. The gentlemen were dazzled by the young naturalists' skills and intelligence, so they recommended them to the King.[56] For their new adventure, they would be trained in Paris, London, Groningen and Leiden, all paid for by the Dutch government and under Temminck's wing. This was a once-in-a-lifetime opportunity,

[55] Sirks, "Indisch natuuronderzoek," 101-02.
[56] Klaver, *Inseparable Friends*, 9; M. Greshoff, "Kuhl en Van Hasselt. Eene episode in het Nederlandsch-Indisch natuuronderzoek," *Album der natuur* 52, no. 1 (1903).

one that made their peers quite envious. Boie wrote to Naumann: "At the moment Kuhl is receiving money from the Dutch Government, to last for a year from Michaelmas, so that he can go to Paris and London and then leave for the East Indies—lucky man! If only Heaven will preserve his cheerfulness and his health his name will be eternally celebrated!"[57] Alas, Heaven did not, and Kuhl died after only nine months in Java.

By Royal Decree, Kuhl, Van Hasselt, the artist Gerrit Laurentius Keultjes and the taxidermist and illustrator Gerrit van Raalten became officially the first four members of the Natuurkundige Commissie voor Nederlands Indië in May 1819. The royal decree stated that, after Reinwardt's return, the King "wished to promote more and more the knowledge of the natural composition of the products of our possessions in the East Indies," and accordingly, Kuhl and Van Hasselt were "to expand the scientific knowledge of the products of Nature in those countries."[58]

Compared with Reinwardt's instructions, this was deceptively simple. The Commission was not meant to succeed Reinwardt, nor to aid him in his duties. In fact, it was to succeed Horsfield, Diard and Leschenault de la Tour: it was conceived for the specific purpose of collecting, describing and studying the natural history of the Indies. The Royal Decree clearly instructed that all collected material should be deposited in 's Rijks Museum, the creation of which had already been decided, although it had not yet been established (in July, Temminck and Falck were still discussing the terms).[59]

The museum finally came into being in August 1820, less than four months after the Commission was instituted. Although the explorers were employed by the minister of Public Education, National Industry and Colonies—and the material was collected under his management—Temminck from the very beginning played a decisive role in all the events, including the instructions given to the naturalists, their appointments and the policies regarding the Commission. He steered it, as far as he could, making it an instrument for the museum and for the practice of systematics—at least, during its first decade. But the material from the commission, the specimens as well as the manuscripts, arrived in the Netherlands only intermittently and with great difficulties, as material was lost in shipwrecks and often shipped with years, even decades, of delay.[60] Most naturalists kept their field notes in Java and passed them on to their successors. But Java was not a safe place for precious manuscripts. Aware of this, the governor-general at the

[57] Heinrich Boie to Naumann, 6 March 1819; Naumann-Museum Archives; Stresemann and Thomsen, "Ornithologen-Briefe aus den Jahren 1816 bis 1820," 15; translated in Stresemann, *Ornithology from Aristotle to the Present*, 128.
[58] Royal Decree no. 10, 2 May 1820, NL-HaNA, Rijksmuseum van Natuurlijke Historie te Leiden (RMNH), nummer toegang 3.12.17, inv.nr. 1; Veth, "Overzicht van hetgeen," 21.
[59] Royal Decree nr 10, 2 May 1820, NL-HaNA, RMNH, 3.12.17, inv.nr. 1.
[60] Greshoff, "Kuhl en Van Hasselt," 86; Veth, "Overzicht van hetgeen," chap. 8.

time, Baron Godert A. Gerard Philip van der Capellen, ordered Van Raalten to make copies of Kuhl and Van Hasselt's field notes and drawings. These copies also remained in Java and were only found in 1838 when the house where Diard had lived was demolished, more than fifteen years after Van Hasselt's death.[61] The specimens, on the other hand, had been sent to Temminck, but arrived at the Leiden museum with hardly any accompanying written information.

In 1827, in order to centralize the management of the whole enterprise, a second Commission was established. The minister appointed Carl Ludwig Blume, who had been Reinwardt's student, Reinwardt and Temminck as supervisors. Amongst other things, they were in charge of the appointments and travel schedules. More importantly, they should make sure that material was being shipped to the Netherlands on time, and, if the explorers were able to return home, the three gentlemen were to organize the publication of any discoveries they made.[62]

In view of the slow progress made in the 1820s in processing the materials from the Dutch East Indies, the three men instigated the publication of a work in which at least some of the results would be finally presented, aided by the curators of the Leiden museum. However, in order to accomplish this, they needed government support, which they received in the form of a Royal Decree no. 101, on February 10, 1839.[63] The decree made the work possible, but it also limited its range, determined the language in which it was to be written and put a limit to the available funds. So while the government funded this new enterprise, it also specified that it should consist of twenty-six parts, and no more.[64] Temminck was designated chief editor, while Reinwardt, Blume and zoologist Jan van der Hoeven became members of the editorial board. Both the funding available and the number of parts proved to be insufficient, so Temminck, with some creativity, managed to get three extra issues published on top of the planned twenty-six, naming them 24 *bis*, 24 *bis* continued, and 26 *bis*.[65] The full title became V*erhandelingen over de Natuurlijke Geschiedenis der Nederlandsche Overzeesche Bezittingen. Uitgegeven op last van den Koning door C. J. Temminck* (Dissertations on the Natural History of the Netherlands Overseas Possessions. Published by order of the King, by C. J. Temminck). It took nine years to complete the project. By 1844, three volumes had

[61] Greshoff, "Kuhl en Van Hasselt," 86.

[62] Veth, "Overzicht van hetgeen," 90-91.

[63] A. M. Husson and Lipke Bijdeley Holthuis, "The dates of publication of 'Verhandelingen over de natuurlijke Geschiedenis der Nederlandsche overzeesche Bezittingen' edited by C. J. Temminck," *Zoologische Mededelingen* 34, no. 2 (1955).

[64] Royal Decree no. 101, 10 February 1839, NL-HaNA, RMNH, 3.12.17, inv.nr. 1; Veth, "Overzicht van hetgeen," 72; Husson and Holthuis, "The dates of publication of 'Verhandelingen'," 18.

[65] Royal Decree no. 57, 15 April 1843, NL-HaNA, RMNH, 3.12.17, inv.nr. 1; Husson and Holthuis, "The dates of publication of 'Verhandelingen'," 20-21.

been published: *Zoologie* by Salomon Müller, Hermann Schlegel and Willem de Haan, *Botanie* by Pieter Willem Korthals, and *Land- en Volkenkunde* by Salomon Müller (dealing with geography and ethnography). In all, the twenty-nine issues appeared between 1839 and 1847.

Although the Natuurkundige Commissie had been founded independently from 's Rijks Museum and fell directly under government control, its budget, the training of its members and the reports of its progress were in fact managed by Temminck, as appears from his annual reports of the museum addressed to the Ministry of Education, and after 1827, by the second commission. Nevertheless, once in Java, the explorers depended on the governor-general of the colonies, a post, it seems, not easy to hold for a long period of time. The first governor-general the commission encountered was Godert Alexander Gerard Philip van der Capellen, who after ten years in office was replaced in 1826 by Hendrik Merkus de Kock. Kock left after just a few months, and was succeeded by Leonard P. J. du Bus de Gisignies until 1830. The following governors lasted an average of three years in the post, with the exception of Jan Jacob Rochussen, who stayed for six years.

During the thirty years of activity of the commission, ten different governors succeeded each other, most of them in the post for less than four years, and each with his own views and different levels of influence. But then, the members of the commission themselves were on average on the job for even shorter periods of time. Most died in the field from disease, accident or even murder, resulting in an equally high rate of succession. The first party was one of the most unfortunate. Kuhl lasted only nine months in the tropics until he died of a liver infection, Keultjes followed him two days later and Van Hasselt died of dysentery two years after.[66] Van Raalten died in 1829 of tropical fevers, malaria took Boie after two years and Heinrich Christian Macklot, who proved more resistant to tropical diseases than his colleagues, traveled and worked for eight years until he was killed in a Chinese insurrection in Krawang, during which Macklot's and Boie's manuscripts were burned.[67] Either the young naturalists suffered from particularly weak constitutions or were ill-prepared for staying in the tropics. Some were simply unlucky. In any case, this relay race in the colonial government and in the commission led to many misunderstandings, and to lack of support, lack of money, and at some point, accommodation.[68] To complicate matters even more, war broke out. During the Java War (or the Diponegoro War, which raged between 1825 and 1830), things really became unpleasant for the colonial government, and the

[66] Klaver, *Inseparable Friends*; Veth, "Overzicht van hetgeen," chap. 3-4.
[67] Veth, "Overzicht van hetgeen," 56, 72.
[68] Sirks, "Indisch natuuronderzoek," chap. 4; Veth, "Overzicht van hetgeen," p. 3-13.

Natuurkundige Commissie was, understandably, relegated to a very low position in the scale of official priorities. Du Bus de Gisignies, who had taken over the post of governor-general in 1826, not only denied payment and facilities to the commission but even, at some point, advised its members to pack and go home.[69]

A decade after the commission's establishment, the colonial government began to interfere not only in the finances and practicalities of daily life, but also in the subjects it should be concerned with. In 1830, the Dutch botanist Pieter Willem Korthals was selected to be the next member. He had been employed in 's Rijks Herbarium, under the direction of Blume. After a long period of living and working in the Dutch East Indies, Blume possessed a huge plant collection, including many specimens from the commission.[70] The herbarium, located in Brussels, was established in 1829 at Blume's urging, who then donated his collection to the new institute. Korthals' appointment had much more to do with the colonial government's desire to better exploit Javanese resources than with the museum or the herbarium.

After the Java War, the Dutch government abandoned its liberal policies and with a new governor at the helm, Johannes van den Bosch, the colony had to become a more profitable—and more docile—dominion of the Dutch Empire. Among other things, a new cultivation system (*Cultuurstelsel*) was officially put into place, designed to increase the export of crops to Europe and with it, the economic profit for the Netherlands. Naturally, the colonial authorities were eager to evaluate the system's efficiency and to explore how to implement it in remote areas.[71] It is in this context that Korthals was appointed a member of the commission. Daniel Jacob van Ewijck, civil servant of Education, Art and Science at the Ministry of Home Affairs, interfered by providing direct instructions for Korthals.[72] He conveyed in no uncertain terms that Korthals' botanical work should not be concerned solely with systematic research:

> His botanical investigations shall not, in any way, be restricted to the description of their morphology, nor to the determination and distinction of genera and species of plants, but, as Mr. Korthals' mission is meant to be of immediate use for the region, for the Netherlands, and for the relation between the two, they

[69] Heinrich Boie to Temminck, 11 November 1826, quoted in Veth, "Overzicht van hetgeen," 115.
[70] Smit, "Rijksherbarium," 5-11; Weber, "Hybrid Ambitions," 195-200.
[71] Maarten Manse, "Kennis is macht: de veelzijdige expedities van botanicus Pieter Willem Korthals (1807–1892)," *Studium* 6, no. 1 (2013): 42; H. W. van den Doel, *Het rijk van Insulinde. Opkomst en ondergang van een Nederlandse kolonie* (Amsterdam: Prometheus, 1996), 48-50.
[72] Daniel J. van Ewijck to Temminck, 20 Augustus 1830, NL-HaNA, RMNH, 3.12.17, inv.nr. 4; Dreier, "Voor Museum en Vaderland," 56.

> shall have as their goal to achieve a more general, useful and fruitful knowledge of plants. [73]

Not a word about the museum, the herbarium or their collections. Not surprisingly, Temminck resented this. Amongst Temminck's papers there is a bundle of seven pages with his thoughts and questions on these instructions, and he was clearly not pleased about the meddling of the colonial government. He scribbled: "Why is Korthals not allowed to work according to his instructions? Why are his reports concerning Economy or Agriculture still unanswered? Why the deliberate burden to engage in anything other than collecting? Are [they] to be of service to the Indian Government?"[74]

Towards 1830, things began to change. All the setbacks, loss of lives, lack of funds, and changes in the political stage had weakened the initial drive of the enterprise. The Natuurkundige Commissie as Temminck had envisioned it, in the spirit of the French and British earlier explorations of their colonies, was being transformed into an instrument for the colonial government, which was pushing it towards a role not unlike Reinwardt's in 1815 as Director of Agriculture, Arts and Science. Nonetheless, in its thirty years of activity, the Commission amassed a wealth of specimens, drawings, maps and field notes for the museum and the herbarium—and more than one headache for Temminck. Of the eighteen members of the Commission, only six survived. Infections, diseases, rhinoceroses, Chinese revolts... all took their toll. Specimens were lost in shipwrecks, manuscripts were burnt in disturbances, and most of the young men's ambitions were never realized. In 1850, the commission was dissolved.[75] The relation between colonial policies, the Natuurkundige Commissie, and the Leiden museum and its collections needs to be studied more in depth, but the material advanced here already suggests a growing tension between the colonial government's goals—mainly, to make the colonies as profitable as possible—and the museum's goals. Similarly, the situation concerning the native, Chinese and Dutch communities in Java (their role in the activities of the commission and their relation with the colonial government) are conspicuously absent from most official documents and manuscripts concerning the

[73] Van Ewijck to Temminck, 10 November 1830, NL-HaNA, RMNH, 3.12.17, inv.nr. 4; Dreier, "Voor Museum en Vaderland," 56.

[74] Temminck's notes, Naturalis Biodiversity Center Archives, Archive C. J. Temminck, NAT_ARC_TEM_00453.

[75] For more information on the Natuurkundige Commissie, see Fransen, Holthuis, and Adema, "Type-catalogue of Decapod Crustacea," app. II; Gerlof Fokko Mees, "Vogelkundig onderzoek op Nieuw-Guinea in 1828. Terugblik op de ornithologische resultaten van de reis van Zr. Ms. Korvet Triton naar de zuid-west kust van Nieuw-Guinea," *Zoologische Bijdragen* 40, no. 1-64 (1994); Mörzer Bruyns, *Met de Triton en Iris naar de zuidwestkust van Nieuw Guinea*; Sirks, "Indisch natuuronderzoek," chap. 4; Stresemann, *Ornithology from Aristotle to the Present*, chap. 8; Veth, "Overzicht van hetgeen," p. 3-13.

commission and the Leiden museum. But then again, a more comprehensive history of the Natuurkundige Commissie has yet to be written.

FIGURE 3.2. Original drawing by Gerrit van Raalten, made between 1820 and 1823 in Timor.

Temminck's directorate

The relatively short period between 1815 and 1820 had been a critical and agitated one for Temminck, but once the museum had been established things seemed to settle down for a few years. But his bliss was short-lived. Soon, an economic crisis and a change in policy slowed down the growth of 's Rijks Museum and as a result it hindered Temminck's work, that of his curators, and the advance and status of systematics in the Netherlands. A shift in the priorities of the government translated immediately into a lack of funds for the museum, and it threatened the status and even the *raison d'être* of both the museum and systematics. Similarly, the awkward relation between the museum and Leiden University did not particularly help the museum. From the very beginning and despite the fact that the royal decree of August 1820 stated that the museum was to be part of Leiden University and that it was chiefly meant for

educational purposes, Temminck soon found ways to bypass or even ignore these restrictions. He now finally had the prestige, means and collections at his disposal to put natural history collections into the service of systematics, but his stiff opposition to letting third parties into the museum management did nothing but isolate 's Rijks Museum. In fact, little had changed in Temminck's big picture since 1814: his goals and ambitions for the museum and his focus on the collection as a means to practice systematics remained the same. His directorship reflected his views on science in general, on systematics in particular, and was inevitably intertwined with the struggles of national politics. Temminck's directorate is best understood when all three of these factors are considered.

After its establishment, the museum was housed at the Hof van Zessen, between the Rapenburg and the Papengracht in Leiden, sharing space with the Museum of Antiquities and the Physisch Cabinet. Part of the Stadholder's collection was already there (brought back from Paris to the Netherlands by Brugmans), as well as other collections from the Museum of Antiquities. Despite Temminck's continuous complaints to the Ministry about the lack of space and the inadequacy of the building, it took eighty-five years and two consecutive directors for 's Rijks Museum to have its own building, in the Raamsteeg, which opened in 1905. Even Temminck's private collection remained in his house in Amsterdam for a decade, and after that, it remained unpacked in the cellar of the building at the Hof van Zessen. It was Temminck's way of pushing the Ministry to give the museum more space, but it did, understandably, irritate Falck.[76] But the museum expanded and the buildings became crammed and insufficient. When the collections outgrew the building, a series of renovations and expansions took place between 1824 and 1855. A second floor was added and a whole row of houses were bought and demolished to make place for a new wing to house the collections. Temminck's magnificent collection of birds did not find a place to his satisfaction in the museum until 1838.[77]

The collection remained in the now expanded Hof van Zessen, open to the public on Mondays and Wednesdays between eleven 'o clock in the morning till two in the afternoon. Judging from an advertisement in the newspapers for the opening of the museum to the general public, Temminck thought it was too early and too inconvenient to let the public in. The note in the paper read: "The Director of 's Rijks Museum van Natuurlijk Historie in Leijden, announces that, although the galleries are not yet

[76] Colenbrander, *Gedenkschriften van Anton Reinhardt Falck*, 227.

[77] Gijzen, " 's Rijks museum," 249-56; C. J. Kortenbach, "Het Hof van Zessen, thans Rijksmuseum van Oudheden," *Jaarboekje van de Historische Vereniging Oud Leiden* 37 (1945); Susanna, "Levensschets van Temminck," 58.

completed, and that not all the objects in store can be displayed, those who wish to visit it *in this condition* will be given the opportunity, and entrance tickets will be available at the Papengracht."[78] The advertisement suggests that Temminck had a very clear image of what made a museum "complete" and when a museum was ready for opening to the public.

FIGURE 3.3. 's Rijks Museum van Natuurlijke Historie in the Hof van Zessen, Rapenburg, Leiden, ca. 1898.

*** De DIRECTEUR van 's RIJKS MUSEUM van NATUURLIJKE HISTORIE te LEIJDEN, adverteert bij deze, dat, hoezeer de galerijen nog niet zijn voltooid, en al de voorhanden zijnde voorwerpen niet kunnen geplaatst worden, er echter, aan diegenen, welke verlangen mogten hetzelve *in dien staat* te bezigtigen, daartoe gelegenheid zal worden verschaft, door het afgeven van toegangbilletten, welke te bekomen zijn op de Papengracht, wijk IV, n°. 366, binnen deze stad.

De dagen ter bezigtiging van het Museum zullen zijn *Maandag* en *Woensdag*, des voormiddags van 11 tot 2 uren, doch op andere, als ook op *Zon-* en *Feestdagen*, zal er geen toegang tot hetzelve verleend worden.

Leyden, den 2 Mei 1822. *De Directeur voornoemd*, J. C. TEMMINCK.

FIGURE 3.4. Advertisement of the opening of 's Rijks Museum for the general public, published in 's *Gravenhaagsche Courant* on May, 5, 1822.

[78] Coenraad Jacob Temminck, "Van de Directeur van 's Rijks Museum," 's *Gravenhaagsche Courant*, May 5 1822.

In any case, by 1822 ’s Rijks Museum was not yet ready and Temminck preferred to make this clear to the public, so that they would not come to visit with all too high expectations. Interested and curious naturalists were, on the other hand, most welcome to work in the collections, at any time.[79] In contrast, students from Leiden University could get access to the museum’s collections only after obtaining a ticket from the museum administrator. They could visit the museum four days a week, three hours a day. Fortunately, students had access to the anatomical collection of the university every day except Sundays, at any time without announcing themselves first.[80]

The royal decree of 1819 did not regulate the organization of the museum—it only appointed its director. The scientific and technical staff were therefore selected by Temminck and later approved by the Board of Trustees of the University. Temminck surrounded himself with like-minded naturalists. The administration of ’s Rijks Museum was entrusted to Leonardus Franciscus Thijssen, who had travelled to Paris with Brugmans to reclaim the Stadholder’s cabinet. Thijssen passed away in Augustus 1824 and was succeeded by his friend, Joannes Andreas Susanna, a clerk at the Leiden Court.[81] He worked at the museum with Temminck for thirty-three years. The museum records and correspondence suggest that Susanna was an influential figure. Susanna took the helm every time Temminck travelled abroad, and during the last years of his life, Temminck asked Susanna and the curator of vertebrates, Hermann Schlegel to act as directors of the museum. Susanna’s life was strongly entwined with the museum: he married Thijssen’s widow and one of his daughters married the museum curator Jan Adrianus Herklots.[82]

The scientific staff was organized in three departments: Vertebrates, Invertebrates, and Mineralogy (without the fossils, as those were regarded as zoological objects). After more than twenty years, a department of Entomology was added. Each of the departments was led by a curator, who was assisted by technical staff. The scientific staff consisted of men Temminck had personally met or men recommended to him by his acquaintances. The curation of the department of Vertebrates was entrusted to Heinrich Boie, Temminck’s correspondent ever since Boie had published some sharp remarks on the *Manuel d’ornithologie*. Boie left his post at the zoological collection of the

[79] Vrolik, “Levensbericht van Coenraad Jacob Temminck,” 75.
[80] Hieke Huistra, "Preparations on the Move: the Leiden Anatomical Collections in the Nineteenth Century." (PhD dissertation, Leiden University, 2013), 17.
[81] Most of the following details of the administration of the Rijks Museum under Temminck’s directorship can be found in Gijzen, “ ’s Rijks museum”; and Holthuis, *Rijksmuseum*. Biographical details of the staff members of the Leiden Museum can be found in Holthuis, *Rijksmuseum,* 18-38.
[82] Holthuis, *Rijksmuseum*, 26.

University of Heidelberg to come to Leiden. Working at 's Rijks Museum was apparently a very appealing prospect for a young zoologist.[83]

The collection of vertebrates was the most impressive of all, and the biggest. Besides the mounted specimens, it also contained a substantial collection of skulls and skeletons. Reinforcements came in 1822: Heinrich Christian Macklot was appointed curator of the osteological collection, which had grown dramatically in just two years.[84] Of German origin, Macklot was trained as a pharmacist and had also studied physics and medicine from 1818 to 1822 in Heidelberg, Boie's *alma mater,* where he obtained his doctorate in 1822. He came to Leiden on Boie's recommendation.[85] With Macklot, the department of Vertebrates included two curators, but only for a very short period of time. Both Boie and Macklot were appointed members of the Natuurkundige Commissie in 1823, so that Temminck had to look for replacements once more. He turned to his network of acquaintances and colleagues. The director of the Naturhistorisches Museum in Vienna, Carl Freiherr von Schreiber, had a suggestion for him: the amateur naturalist and bird-lover Hermann Schlegel. He had been in contact with—and learning from—ornithologists Christian Ludwig Brehm and Johann F. Naumann for years. By the time Temminck wrote to Schreiber looking for an assistant to replace Boie, Schlegel had been working at the Vienna museum for a year.[86] Satisfied with Schlegel's references, Temminck appointed him curator of the Vertebrate department in 1825. He eventually became Temminck's successor as director of 's Rijks Museum in 1858. Schlegel was the only member of Temminck's curatorial staff without an university degree.

The Invertebrate collection remained without a captain until 1823, when Temminck succeeded in creating a much needed position for a curator.[87] For the post, he chose Jan van der Hoeven, a young naturalist with a doctorate from Leiden University. His dissertation bore the promising title *Dissertatio philosophica inauguralis de sceleto piscium*. In the end, Van der Hoeven's appointment proved to be a misstep. He left the museum after only one year to study medicine. A versatile and accomplished man, Van der Hoeven worked on comparative anatomy, medicine, entomology, anthropology,

[83] Joannes Andreas Susanna, *Levensschets van Hendrik Boie, en hulde aan zijne deugden en verdiensten, benevens eenige door hem geschrevene brieven, gedurende zijne reis en verblijf in Oost-Indië* (Amsterdam: P. Meijer Warnars, 1834).
[84] Temminck, Report to the Ministry of Public Education, National Industry and the Colonies, 29 Augustus 1822, Naturalis Biodiversity Center Archives, Jaarverslagen.
[85] Holthuis, *Rijksmuseum*, 29.
[86] Gustav Schlegel, "Levensschets van Hermann Schlegel," *Jaarboek Koninklijke Akademie Wetenschappen*, 1884, 539–40.
[87] Holthuis, *Rijksmuseum van Natuurlijke Historie 1820-1958*, 29.

education and even politics.[88] He would become a professor at the University of Leiden in 1826, and became Reinwardt's colleague.

Temminck found a replacement for Van der Hoeven in the paleontologist Willem de Haan, also with doctorate from Leiden University, who would quickly become an authority on insects and crustaceans. Unfortunately, a spinal disease left him partially paralyzed and he had to retire in 1846. Jan Adrianus Herklots (Susanna's son-in-law) took over the invertebrates department. He was also a former student from Leiden University, and had written a thesis on the crustaceans from the African Gold Coast.

The realm of insects, at the time also coming under the invertebrate department, was first taken care of by Anthony Johannes d'Ailly, the chemist from Amsterdam who had assisted at 's Lands Kabinet and continued to do so at 's Rijks Museum, but without being officially appointed as curator. In 1854, a separate department for Entomology was established. The curator for the new department did not have a university degree in science, but in law.[89] Samuel Constantinus Snellen van Vollenhoven was a lawyer by occupation and an entomologist by avocation, and an excellent one at that. A frequent visitor to 's Rijks Museum's insect collection, Snellen van Vollenhoven was the president of the Dutch Entomological Society and the founder of the Society's journal, dedicated exclusively to insects: the *Tijdschrift voor Entomologie*. An excellent draftsman, he also provided many of the beautiful illustrations included in the journal. By the time he was appointed curator, his name was already very well-known in the entomological world—and it still is.[90]

Paulus Godfried van Hoorn (Brugman's former assistant director at the Leiden University cabinet) settled for a position as curator of Mineralogy. He did so grudgingly, however. He had unsuccessfully contended for the directorship of the museum, and after his appointment as curator he was nowhere to be seen for weeks at a time. He was finally—and rather shamefully—forced to resign in 1837. He was replaced by Elte Martens Beima, an astronomer with a degree from Leiden University.

The technical staff was chosen by Temminck too, as carefully as he chose the curators. Cornelius Overdijk prepared the invertebrates, supervised by De Haan, until he too was appointed member of the Natuurkundige Commissie in 1838. Oddly, it

[88] See, for example, Bert Theunissen, "Biologie en Bildung: Jan van der Hoeven (1802–1868)," *Gewina* 21 (1998); Bert Theunissen, *'Nut en nog eens nut': wetenschapsbeelden van Nederlandse natuuronderzoekers, 1800–1900* (Hilversum: Verloren, 2000), chap. 2.

[89] Temminck rewarded d'Ailly for his efforts and assistance with a gift, a collection of insects from Java made of duplicates from the Leiden collection (Holthuis, *Rijksmuseum*, 31).

[90] Jan Krikken, Cees van Achterberg, Piet H. van Doesburg et al., "Samuel Constant Snellen van Vollenhoven (1816–1880) and his Entomological Work," *Tijdschrift voor Entomologie* 124 (1981); Menno Schilthuizen, "Early Entomological Art: The Colour Plates of Snellen van Vollenhoven," *Tijdschrift voor Entomologie* 150, no. 2 (2007).

seems he was not replaced until much later. The museum also benefitted from the craftsmanship of Hendrik Verstraten, who took care of the osteological preparations, and of the taxidermist Jacobus Thomas ter Meer. He had learned the art from his father, Hermanus Hendrikus ter Meer, an adaptable man who besides making mechanical puppets, also worked as an art teacher, firefighter and watchman in Leiden, doing some taxidermy work on the side. There are a few specimens prepared by him in the Leiden museum collection, including a mandrill and a few baboon species.[91] His son Jacobus was truly gifted. So much so, that he soon forged himself quite a reputation, with lifelike mounts of birds and mammals. He worked for fifty seven years for 's Rijks Museum and passed his artistic and technical knowledge on to his sons Franciscus Hendrikus and Hermanus Hendrikus, both also employed at the Leiden museum for decades. Hermanus Hendrikus, in turn, taught the art of taxidermy to his son Herman Hendrik ter Meer, who became one of the best in his trade. Herman left the Leiden museum in 1907 to work at the Zoologisches Institut of the University of Leipzig, frustrated because only a handful of his excellent products were ever seen on display by the general public.[92]

For Temminck, aesthetics was pleasing, but quality was critical. We know that Temminck was an expert taxidermist himself. He had learned the techniques first from Levaillant and from Naumann (his friend and author of a well-known manual on taxidermy) and had later, by experimentation, constantly refined the way specimens were mounted.[93] He even developed a new way to mount fish, which were traditionally clean ed through a cut in their belly. This procedure damaged the underside of the fish and its fins, important for classification. Temminck proposed to cut the fish on one side only, from head to tail, gutted and mounted so that one side and the ventral aspect remained intact. The procedure became known as "Temminck's method."[94]

Life-like mounts, however gratifying, were not meant to please the eye, but to preserve the main characteristics needed to classify the animal. In 1829, Temminck

[91] J. A. M. A. Grondhout, "De Ter Meer's," *Jaarboekje voor Geschiedenis en Oudheidkunde van Leiden en Rijnland* 9 (1912).

[92] R. W. Shufeldt, "Taxidermical Methods in the Leyden Museum, Holland," *Report of the U.S. National Museum for 1895* (1897); Hans Völkel, *Herman H. ter Meer. Ein Leben als Dermoplastiker und Kuñstler* (Leipzig: Leipziger Universitätsverlag, 2004).

[93] Johann Friedrich Naumann, *Taxidermie, oder, Die Lehre Thiere aller Klassen am einfachsten und zweckmässigsten für Kabinette auszustopfen und aufzubewahren* (Halle: Hemmerde und Schwetschke, 1815).

[94] Coenraad Jacob Temminck, *Voorschrift, hoedanig te handelen met voorwerpen van Natuurlijke Historie, ten einde dezelve behoorlijk te verzenden en voor bederf te bewaren: ten gebruike van het 's Rijks Museum van Natuurlijke Historie te Leyden* (Leiden: printed by the author, 1825), 13; see also Gijzen, " 's Rijks museum," 195.

FIGURE 3.5. An example of Temminck's method to prepare fish: cut at one side, head to tail.

reported to the Ministry of Home Affairs how the museum staff were making progress in the art of taxidermy. The Ter Meers had stopped stuffing the skins with hay and hemp, and started making mannequins of wood or bundles of tied-up hay that mimicked the original form of the animal in question, making a frame over which the skin was stretched. This was no trivial matter. These were the first steps towards the development of the modern technique known as *dermoplasty*, which involves making a customized frame that is exactly the right size and form to shape the animal skin. One of the first wooden models of Ter Meer made the news: in November 1835, the newspapers reported that the museum had a *charpente* ready for the recently acquired skin of an African elephant. Temminck was so pleased with the model that it was exhibited for the general public, as proof of the extraordinary proficiency of the museum's first taxidermist, Jacob ter Meer.[95] These advances in taxidermy were important for the museum and for systematics, and Temminck therefore reported them to the Ministry of Home Affairs:

> Because of this [use of wooden models], one can better restore the natural shape of the animal; every superficial muscle and bone can be made visible and, furthermore, in this way it is not necessary to pierce the skin; as the skin can be

[95] Coenraad Jacob Temminck, "Nieuwstijdingen. Nederland," *Middelburgsche Courant*, November 7, 1835; Coenraad Jacob Temminck, "Binnenlandsche berigten. 's Gravenhage, den 3den November," *Nederlandsche Staatscourant*, November 4, 1835.

> wrapped like a robe around the accurately built shape. The splendid final result justifies all the effort that goes into this process.[96]

Temminck kept the talented Ter Meers—four generations of them—employed at the museum, not to please the visiting public, but mainly because their excellent mounts facilitated the morphological study of the specimens, so vital for systematics.

In short, Temminck made sure the museum was full of capable people, all with a keen interest in the collections under their care, in natural history and particularly, in systematics. Remarkably enough, eight of his nine curators had studied at a university, six of them had a Doctor of Philosophy degree, and almost half of his crew had studied at Leiden University. Susannah Gibson points out that anyone interested in pursuing a career in natural history in the period 1790–1830 had either a medical degree, enough wealth to own his own cabinet, or became a collector and dealer of natural specimens.[97] Indeed, two curators had a degree in medicine and five of them had a doctorate in natural sciences. Two of Temminck's curators had been plucked from German institutes: Boie from the Heidelberg University Museum and Schlegel from the Naturhistorisches Museum in Vienna. In the end, the most productive of them became members of the Natuurkundige Commissie (Boie and Macklot) or remained at the museum until the end of their careers—or their lives, whichever came first: Beima, Schlegel, De Haan, Herklots and Snellen van Vollenhoven. All of them ended up specializing in systematics, except Beima, naturally, as he was in charge of the geological collections. Nevertheless, as the collection grew, the technical staff grew accordingly.

By 1830 no fewer than eight taxidermists and technical assistants were employed, feverishly working on the material sent to Leiden from all corners of the world. After all, Temminck's main goal as director was to boost 's Rijks Museum into one of the most important museums in Europe in the shortest possible time, and at the lowest cost.[98] This short-term objective was, actually, nothing more than an extension of what he had been doing for his own private cabinet ever since he inherited it from his father around 1800. In the long run, however, Temminck was itching to work on his own projects, the second edition of his *Manuel d'ornithologie* and the *Nouveau recueil*. He therefore made sure of having a team around him of men he trusted to take care of the collections and to publish as many discoveries as possible. Temminck proved up to the challenge, and 's Rijks Museum van Natuurlijke Historie soon enjoyed great prestige in Europe.

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[96] Temminck, Report to the Ministry of Home Affairs, 10 May 1829, Naturalis Biodiversity Center Archives, Jaarverslagen, no. 8/341.

[97] Gibson, "Careering Naturalists," 210-211.

[98] Temminck, Report to the Ministry of Public Education, National Industry and the Colonies, 29 Augustus 1822, Naturalis Biodiversity Center Archives, Jaarverslagen.

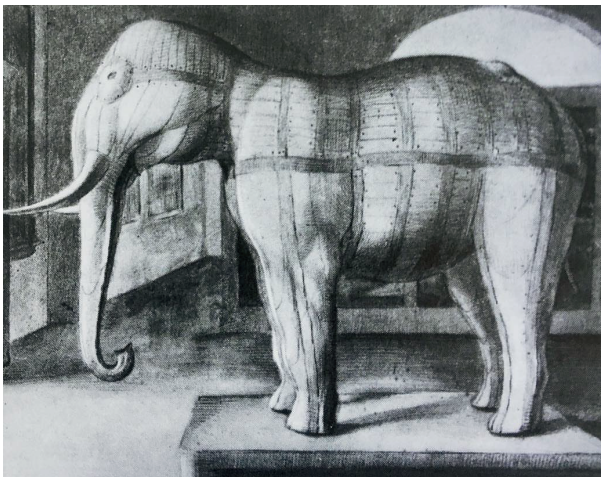

FIGURE 3.6. Jacob ter Meer's wooden frame or *charpente* for an African elephant skin, exhibited in the Leiden museum in 1835.

FIGURE 3.7. *Left*: The African elephant prepared by Jacob ter Meer in 1835. *Right*: Detail of the wooden frame underneath the skin, as seen from a hole in the elephant's belly. The panel now inside the specimen was probably accompanying the *charpente* while on dispay and placed inside it afterwards, before the elephant's skin was mounted.

The growth of the collection was an immediate concern for Temminck. The first annual reports he wrote to the Ministry reflect his constant preoccupation with acquisition. It made sense in the context of the political reasons for the establishment of the museum: putting the Netherlands on the European map and competing with museums like those in London and Paris. But also, advances in natural history and especially in systematics depended directly on the natural history collections. For these two reasons, increasing the quantity and quality of the collections was the very first item on Temminck's to-do list. Besides, 's Rijks Museum was required to fill the cabinets of the universities and academies, which increased the need for acquiring more specimens. In order to do this, Temminck divided the collection into two lots: one for the museum and one with duplicates for the universities and for exchange with other institutes.

Temminck diligently reported to the Ministry on the acquisitions for the universities in Utrecht, Groningen, Ghent, Liège and Leuven, even though he had received limited financial means to do so.[99] The museum was to keep the newly discovered species and those that were needed to fill gaps in the museum series, while the academic collections received objects that represented the "higher divisions" and the known genera.[100] This arrangement was a direct reflection of Temminck's conception of the different collections, and it suggests that universities were mostly concerned with the main groupings of organisms (that is, with studying fundamental body plans), while the museum was the place to study the whole natural system, its variations, its general organization and the arrangement of the species. Therefore, ensuring the growth of the collection became Temminck's main task. And he certainly succeeded.

Most of the material pouring in was sent from the colonies by Reinwardt and the Natuurkundige Commissie, but Temminck also needed specimens from other parts of the world. Thus as soon as he took office, he put everyone to work. He relied on two sources: other institutes and individual collectors. He even asked the Ministry to instruct anyone abroad in service of the government to collect for the museum: ship commanders, medical officers, anyone posted to interesting places like Japan, Makassar or China. They were to be paid according to the value of the collected objects—very much like his father had done in the old VOC times.[101] But Temminck did not remain idle while leaving it to the government to put civil servants at work. Besides keeping an eye on the Natuurkundige Commissie, he actively corresponded with anyone willing to

[99] Temminck, Report to the Ministry of Public Education, National Industry and the Colonies, 1 Augustus 1821, Naturalis Biodiversity Center Archives, Jaarverslagen.
[100] Temminck, Report to the Ministry of Public Education, National Industry and the Colonies, 1 Augustus 1821, Naturalis Biodiversity Center Archives, Jaarverslagen.
[101] Temminck, Report to the Ministry of Public Education, National Industry and the Colonies, 29 Augustus 1822, Naturalis Biodiversity Center Archives, Jaarverslagen.

shoot, stab, skin, pin, put in jars and otherwise kill and preserve specimens for the Leiden museum.

In order to ensure the quality of the specimens, and to guide those who had the spirit but not the knowledge, Temminck wrote a short manual on taxidermy and preservation, focusing mostly on the techniques needed to transport specimens and prevent them from decaying. These were not instructions for aesthetically pleasing displays. The booklet was small and could easily fit into a pocket or travel-bag, and its title left no room for mistake: "Instructions on how to handle Natural History objects, with the purpose of sending them and preserving them from decay: for the benefit of 's Rijks Museum van Natuurlijke Historie in Leiden." In twenty-seven pages, Temminck summarized the basic techniques for the preservation of any kind of natural object, from mammals to worms, and even gave directions regarding the desired size of minerals. The closing remarks noted: "It is always useful in science to have more than one natural history specimen; moreover, all well-preserved objects are of equal importance for the museum's collection, independently of their degree of beauty of color or shape."[102] Knowing Temminck's policy of relegating the less perfect or complete specimens for didactic collections, this curious final remark may have been meant to make sure that *all* available specimens were sent to Leiden, leaving the final judgement of their scientific value to him. After all, the chances that an ugly or discolored tropical fish, for example, might be new to science were reasonably high.

Soon, Temminck had an extensive and occasionally distinguished network of collectors at his disposal. It included merchants, medical doctors like Philipp Franz von Siebold in Japan or Hubertus Benedictus van Horstok in South Africa, pharmacists like Hendrik Haagen Dieperink in Surinam, civil servants like Hendrik Severinus Pel in Ghana, and even consuls, like Samuel Willem Ruyssenaers in Egypt or Reinhard Frans Cornelis van Lansberge in Venezuela.[103] Temminck never missed a chance to direct these men's efforts towards his own goals and interests. Pel, for example, had started working for Temminck in 1832 as a thirteen-year old boy, at the taxidermy department of the musem. Temminck, knowing of Pel's desire to travel, requested the minister to send the boy along with an expedition to Ashanti (nowadays a region in Ghana) planned for 1839. The petition was rejected, possibly in the light of the death-toll the expeditions to the Dutch East Indies were taking and the inflammable political situation in the region. But Temminck and Pel insisted, and devised a way to allow Pel to travel to West Africa. He was finally sent to St. George d'Elmina in 1840, partly to fulfill his job as a civil

[102] Temminck, *Voorschrift*, 28.

[103] Temminck, Report to the Ministry of Home Affairs, 26 November 1851, Naturalis Biodiversity Center Archives, Jaarverslagen, no. 37/409; Gijzen, " 's Rijks museum," 97-114.

servant (working on the lucrative slave and gold trades), and partly to collect for the museum.[104]

These are just a few examples of Temminck's legion of contacts. Agatha Gijzen listed over four hundred correspondents with the Leiden museum's director and the curators during Temminck's directorship. Most of them sold or exchanged specimens and a few of them only provided information and scientific facts. The list is not exhaustive, but is does give an impression of the museum's long tentacles around the globe.[105] There are few records of local collectors working for the Leiden museum, and although the Natuurkundige Commissie did have local helpers, hunters and assistants, they were almost never mentioned in their field notes or letters by name. Korthals' diaries, however, were different. He recorded details of the villages, their inhabitants, their customs and administration systems, and did note the names of those who travelled with him and assisted him.[106] Whether this was the result of his instructions or of an idiosyncrasy on his part, is by now unclear.

Occasionally, professional dealers got news of Temminck's hunt for specimens, and seeing a chance for their business to expand, they contacted him directly to offer their services. There are records of a particularly avid collector, Joachim Brehm, a pharmacist stationed at the Cape of Good Hope, approaching Temminck for a transaction. Brehm had a botanical garden in Uitenhage, collected plants and carried out experiments on their medicinal properties.[107] When he heard of Temminck's wish-list from a certain Mr. Kachelhoff, also living in the Cape of Good Hope and already sending material to 's Rijks Museum, he wrote to Temminck informing him that he was able to provide some of the specimens on that list. Brehm asked for the price Temminck normally paid for "Birds, four-legged Animals, Insects, Butterflies, fishes and snakes, and perhaps also Flower seeds and dried Plants."[108] The collector already had some specimens ready and nicely prepared: the birds were treated with arsenic soap, the four-legged animals with "grass and salt," snakes placed in spirit and butterflies pinned or papered. Brehm made sure to mention that he also had a lion, the head of a sea cow, and soon, he would also have a young elephant available.[109] That was an offer Temminck could not resist and so

[104] Lipke Bijdeley Holthuis, "Biografische notities betreffende verzamelaars voor het Rijksmuseum van Natuurlijke Historie te Leiden. I. Hendrik Severinus Pel (1818–1876)," *Zoologische Bijdragen* 10, no. 1 (1968).
[105] Gijzen, " 's Rijks museum," 300-05.
[106] Manse, "Kennis is macht," 46.
[107] Hugh F. Glen and Gerrit Germishuizen, "Brehm, Joachim," in *Botanical Exploration of Southern Africa*, 2 ed. (Pretoria: South African National Biodiversity Institute, 2010), 107-08.
[108] Joachim Brehm to Temminck, 15 October 1821, Naturalis Biodiversity Center Archives, Archive C. J. Temminck, NAT_ARC_TEM_00179.
[109] Brehm to Temminck, 15 October 1821, Naturalis Biodiversity Center Archives, Archive C. J. Temminck, NAT_ARC_TEM_00179.

it was that Brehm became one of the many museum's collectors, although he proved to be a rather unreliable one – his prices were often too high, and the quality too low.[110]

In addition to people who worked individually for him, such as Brehm and Pel, Temminck also acquired collections from professional dealers like the Deyrolle family (still going strong today), the firm of Frank in Lepzig and Amsterdam, or the Verreaux family. Sometimes, collections put up for sale at auctions or through other channels were interesting enough to set Temminck in motion. For any purchase, though, he needed to ask permission from the Board of Trustees and the Ministry, and more often than not, extra funds too, something that frustrated Temminck to no end, especially, when he received a negative answer while he was convinced of the value of the collection he happened to have his eye on. Occasionally, Temminck bought a collection without waiting for authorization, as he did in 1822 with the collection of the French naturalist Pierre Antoine Delalande (sometimes written as De Lalande, or De LaLande). Delalande had collected a large number of specimens while travelling in South Africa from 1818 until 1820, together with his nephew, Jules Verreaux, the oldest of the Verreaux brothers, who was only eleven years old when they set off.[111] Temminck simply went ahead and wrote to Theyssens: "While waiting for an answer, I have already bought and received the specimens, but do not speak to anyone about what has happened but to Boie."[112]

On the other hand, Temminck did not need the trustees' permission to exchange specimens, either with other museums, societies, universities and academies, or with private collectors. It was a cheap and convenient way to obtain whatever species he thought was missing, so exchange became the museum's main source of specimens. When scanning potential acquisitions, Temminck looked for quality, not just for quantity.[113] As we shall see, for his pursuit of a *natural system*—a zoological system arranged in such a manner that one could discern the general laws of nature from studying it—Temminck needed a global view of the diversity of animal species, and for that, he needed a collection as complete as possible, in the sense of covering the whole range of extant species. Although this hunt for missing specimens has often been portrayed—and ridiculed—as mere "stamp collecting," it was in fact a means to an

[110] Gijzen, " 's Rijks museum," 176.
[111] Miquel Molina, "More Notes on the Verreaux brothers," *Pula: Botswana Journal of African Studies* 16, no. 1 (2002): 31.
[112] Temminck to Leonardus F. Thijssen, 13 May 1822, Naturalis Biodiversity Center Archives, Archive C. J. Temminck.
[113] Gijzen, " 's Rijks museum," 41.

end.[114] As we will see later on, it was Temminck's tool to answer the pressing issues of systematics at that time. The main source of this misinterpretation of Temminck's goals can be found in the account of his curator, and later successor, Hermann Schlegel. In his autobiography, published by his son Gustave, Schlegel bitterly accused Temminck of not having an eye for a scientifically assembled collection, picturing him as a collector of curiosities more than a systematist.[115] Stresemann accepted Schlegel's vision and incorporated it in his book *Die Entwicklung der Ornithologie* and, with that, it went into the annals of the history of ornithology.[116] Holthuis has repeatedly tried to dismantle this image, which is, as he succinctly put it, "a myth."[117]

Being responsible to both the Ministry and the Board of Trustees was for Temminck very tiresome. Every decision, from the purchase of new specimens to the appointment of new staff, the management of the museum and of the Natuurkundige Commissie, needed to be sanctioned by both. But in April 1822, Minister Falck signed a Royal Decree granting 's Rijks Museum the management of its own budget, effectively making it independent from the Leiden University budget and somewhat freeing Temminck's hand. He still had to report to the Ministry and the Board of Trustees, which always had the last say in the decision-making processes.[118] The reason for this break may very well have been Temminck's complaining—perhaps aided by his long friendship with Falck. At that point, however, Temminck was already acting quite autonomously and informed only Falck about his plans. He had appointed Macklot before informing the University, he planned to purchase a collection of African animals without permission and he had ordered new cabinets without informing the Trustees, for which he received a fairly mild letter from Falck inviting him to send his propositions to the trustees.[119] After 1823, Temminck stopped altogether sending his annual reports of the museum to the Board of Trustees and answered only to the minister.[120]

Temminck's opinion about the interference by third parties in the management of scientific institutions becomes very clear in his report to the Ministry over the year 1824.

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[114] For a discussion on the meaning of the phrase "stamp collecting" applied to natural history, see Kristin Johnson, "Natural History as Stamp Collecting: a Brief History," *Archives of Natural History* 34, no. 2 (2007).

[115] Schlegel, "Levensschets van Hermann Schlegel."

[116] Stresemann, *Ornithology from Aristotle to the Present*.

[117] Holthuis, "Dutch Authors of von Siebold's Fauna Japonica," 696-99; Holthuis, *Rijksmuseum*, 45-49.

[118] Royal Decree no. 110, 12 April 1821, NL-HaNA, RMNH 3.12.17, inv.nr. 1; Hans de Jonge, "Macht, machinaties en musea. Jan van der Hoeven, Hermann Schlegel en hun strijd om het Rijksmuseum van natuurlijke historie te Leiden," *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden* 120 (2005): 194.

[119] Falck to Temminck, 4 April 1822, NL-HaNA, RMNH 3.12.17, inv.nr. 1.

[120] Dreier, "Voor Museum en Vaderland," 85.

In it, Temminck lamented that the British, having expanded their empire as they had, had contributed so little to natural history:

> One should expect that the natural sciences in the British Kingdom would bring forth the most splendid results. But far from profiting from such a favorable period, during which they reigned over the seas, they have achieved nothing significant. Old crippled institutions, futile customs, inept people and useless societies enveloped in old privileges were always an obstacle, and are now still in place hindering good institutions. Nothing significant can be done and accomplished in England for the natural sciences, as long as an Archbishop of Canterbury, the Lord Mayor of London, and the Speaker of the House of Commons occupy the highest ranks at the British Museum; and the president of the Royal Society has the right to appoint a chemist as Director of the Zoology.[121]

He could not understand—it is almost as if he was offended by the fact—that the British Museum's trustees were politicians and ecclesiastics. Temminck was at least partly right, judging by a report of the trustees from 1823: "In short, the whole Zoological and Botanical department of the Museum is disgraceful to the nation, and very discreditable to the Trustees, to whose charge it has been consigned."[122] For Temminck, the situation across the Channel served him well in warning the Ministry of Home Affairs about what might happen if the management of zoological institutions, including the Natuurkundige Commissie, should be entrusted to the wrong persons.

What most affected Temminck's directorate was the economic crisis that sent the Netherlands into near bankruptcy, forcing the country to reshuffle its political and economic priorities. The financial problems started just a few years after the foundation of the Museum. The country's finances had been severely damaged by three simultaneous conflicts: the Java War between 1825 and 1830, the Dutch intervention in the Padri Wars in West Sumatra between 1821 and 1837, and the Belgian Revolution in 1830 and its nine-year aftermath. In the midst of these serious economic and territorial challenges, 's Rijks Museum suffered budgetary cuts, as did 's Rijks Herbarium and other scientific institutes. At the beginning of 1824, for example, the museum had already missed several payments, as Temminck complained in his most sarcastic style:

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[121] Temminck, Report to the Ministry of Home Affairs, 3 October 1824, Naturalis Biodiversity Center Archives, Jaarverslagen. Temminck referred to the three principal trustees of the British Museum: the Archbishop of Canterbury Dr. Charles Manners Sutton; the Lord Chancellor, or Lord Keeper, John Earl of Eldon and the Speaker of the House of Commons, a position also occupied by Charles Manners Sutton. The total number of Trustees was forty-one.

[122] Trustees of the British Museum, "Annual Report of the Trustees of the British Museum, 1822," *The Edinburgh Review or Critical Journal for Feb. 1823–May 1823* 38, no. 76, V (1823): 390.

> Why does the government always leave us in January, February and March without a penny? Do they believe that we, like wild […] animals, hibernate or live from our hoarded supplies like hamsters? No advances and no payments on time, fine housekeeping is that! Now, every man for himself.[123]

A few months later, when Macklot was preparing for his journey to Java as the newest member of the Natuurkundige Commissie, the government did not send the funds needed for equipment and supplies. Temminck decided to resolve this single-handedly, as he was used to do. He asked Macklot, in the face of the government's "indécision flegmatique," to acquire whatever equipment he thought he might need without waiting for approval, and offered to pay for it himself if the government failed to do so.[124]

The lean times had only just started. Despite the new wing to house the collections and the annual subsidies, the investments never seemed to keep up with the museum's growth. Temminck's annual report of 1825 is more a reckoning of the lack of funds than a report of activities. Although he kept the costs of acquisition of new specimens at a minimum by resorting to the exchange with other museums and private collectors, bills were piling up. The museum could not cover the costs of the staff, the smith, the carpenter, raw material like alcohol, labels, ink, heating and lighting. The most basic needs seemed to have become a luxury. The financial support from the Ministry was simply not enough to keep the museum running, let alone growing.[125] The situation never really changed much after 1825. From the mid-1820s to the end of Temminck's life, he was constantly struggling for funds. We find traces of his frustration in nearly all the documents related to the management of the museum from this period. For example, in 1826 Susanna explained that Temminck had been forced to economize by not buying any new material for the collection.[126]

To make matters worse, the 1840s brought a political change that made things really difficult for Temminck, and for that matter, for all museums in the Netherlands. The new difficulties were not just economical, for there was a palpable change in the attitude towards cultural and scientific institutions, partly fueled—or embodied—by the liberal minister of Home Affairs and later, prime minister, Johan Rudolph Thorbecke. This

[123] Temminck to Thijssen, 14 Februari 1824, Naturalis Biodiversity Center Archives, Archive C. J. Temminck.
[124] Temminck to Heinrich C. Macklot, 14 July 1824, Naturalis Biodiversity Center Archives, Archive C. J. Temminck.
[125] Temminck, Report to the Ministry of Home Affairs, 31 December 1825, Naturalis Biodiversity Center Archives, Jaarverslagen.
[126] Johannes A. Susanna to Fr. Moldenhauer, n.d. [1826], Naturalis Biodiversity Center Archives, Archive C. J. Temminck, NAT_ARC_TEM_01975.

chapter of the history of the Leiden museum deserves a great deal more attention than it receives here, but for the moment, it can be very well summarized by Thorbecke's biting nicknames for 's Rijks Museum van Natuurlijke Historie and 's Rijks Herbarium, to which he referred as the "monkey house" and the "hayloft."[127] Thorbecke's view of the Leiden museum was nowhere near Temminck's "national monument." The annual subsidy from the government had shrunk from ƒ5000 in 1830 to ƒ3600 in 1850, and by then, the persistent financial drought had brought Temminck to the brink of a nervous breakdown:

> 's Rijks Museum van Natuurlijke Historie still splendidly maintains its well-earned fame, a fame magnified by the deterioration of similar institutes, even those of great empires. As long as Heaven gives me life and strength, I hope to spare from such a sad fate the object to which I have devoted all my time and diligence for more than thirty years, and I will succeed in that effort as long as my strength is reinforced by the protection and support of the Government, which I have enjoyed, as I gratefully acknowledge, to the present day, and which I will surely not lack in future under the strong direction of Your Excellency.[128]

Besides the headaches brought by the administration of the museum, Temminck faced another, more alarming problem: his hands started shaking. Around 1840, he suffered from tremors that made writing very difficult. In the spring of 1842 he wrote from Paris to his wife complaining about his shaking hands, the result of his sixty-four years, but celebrating his otherwise healthy body and mind.[129] Notwithstanding the optimistic note, his handwriting deteriorated further, until it was virtually illegible. He was forced to stop using ink and use pencils instead. In 1846, he sadly confessed his lack of strength and confidence to his friend Lichtenstein: "Work is not so quickly accomplished as it once was, and yet there are more things to do. One demands as much of oneself as before, but one does not satisfy these expectations as well as formerly. Many outlines for articles are lying about unfinished and will die off quietly."[130] But he was not yet ready to retire. In 1851, the ornithologist and nephew of Emperor Napoleon I, Charles Lucien Bonaparte complimented Temminck in the most charming way: "Telling you that I am working on the gallinaceous and water birds, equals telling you how much I am thinking of you, because, if you are the Papa (not the Pope) of all birds,

[127] Schlegel, "Levensschets van Hermann Schlegel," 69.
[128] Temminck, Report to the Ministry of Home Affairs, 26 November 1851, Naturalis Biodiversity Center Archives, Jaarverslagen, no. 37/409.
[129] Temminck to Anna A. Smissaert, 2 April 1842. Temminck Family archives, A. M. van Lynden-de Bruïne private collection, no. 6.
[130] Temminck to Lichtenstein, 27 July 1846, Museum für Naturkunde Berlin Archives; translated in Stresemann, *Ornithology from Aristotle to the Present*, 150.

you are the Genius of the fowl and the gulls, whose cock-a-doodle-doos suffocate the Lafayettes, will carry us, you and me, hopefully, on the white wings of the latter down to the remotest posterity."[131] Temminck replied: "And long live the Gallinaceous birds, the pigeons and the water birds! They return an old man to the time of his youth, and rejuvenate me a quarter of a century."[132] Despite this rejuvenating effect, Temminck was well aware of his waning strength. He wrote to Prince Max von Wied-Neuwied in 1854, when he was seventy-six, that he felt he was a "veteran in the decline of his career, but one that still has hopes of dying weapon in hand."[133] In the summer of 1857, Temminck passed the scepter on to Schlegel and left the direction of the museum to both Schlegel and Susanna. Half a year later, on January, 30, 1858, Temminck passed away, a few weeks before turning eighty.[134]

Despite all the problems, drawbacks, arguments and disappointments, Temminck had achieved his main goal for the museum: to put the Netherlands on the map with an institute that could compete with those of other countries. Indeed, Temminck managed to build a collection that ranked amongst the best in Europe. As William Swainson put it in 1840: "The most celebrated [national museum] in the world is that of France: next may be ranked the museums of Berlin, Vienna, Holland, Bavaria, Denmark, and Florence."[135] Charles Bonaparte went even further:

> The superiority of the Leyden Museum over any other is unquestionable, not perhaps so much on account of its containing a greater number of species than those of London, Paris, Philadelphia and Berlin, but for the freshness and perfection of the specimens, for the quantity of skeletons, and above all for the never-sufficiently-praised series of individuals of the various species of both sexes, in different ages, and from different localities and countries, which facilitate one's judgement, and show at once in most cases, especially with Mammalia, what is or is not a good species.[136]

[131] Charles L. Bonaparte to Temminck, 8 January 1851. Temminck Family archives, A. M. van Lynden-de Bruïne private collection, no. 47; de Beaufort, "Coenraad Jacob Temminck, uit zijne brieven geschetst," 38.
[132] Bonaparte to Temminck, 8 January 1851. Temminck Family archives, A. M. van Lynden-de Bruïne private collection, no. 47.
[133] Temminck to Prins Max von Wied-Neuwied, March 1854. Temminck Family archives, A. M. van Lynden-de Bruïne private collection, no. 48.
[134] Susanna, "Levensschets van Temminck," 77.
[135] William Swainson, *Taxidermy, with the Biography of Zoologists and Notices of their Works*, The Cabinet Cyclopædia. Natural History (London: Longman, Orme, Brown, Green & Longmans, 1840), 73.
[136] Charles Lucien Bonaparte, "On the Lorine genus of Parrots, Eclectus, with the Description of a New Species, Eclectus Cornelia," *Proceedings of the Zoological Society of London* 17 (1849): 142-46.

This had been Temminck's goal all the way, at least, when it came to the quality and fame of its collections. The scientific output of the museum, on the other hand, has been a matter of debate ever since Schlegel succeeded Temminck as director.

FIGURE 3.8. Portrait van Coenraad Jacob Temminck (1778–1858), lithograph by Johannes Christiaan d'Arnaud Gerkens, 1856 or somewhat earlier (1850–1856).

The museum's scientific output

There has been quite some disagreement amongst historians and biographers concerning the scientific output of the museum during Temminck's directorship. Veth, Gijzen and Stresemann, for example, look at the number of publications that appeared in the period, and mostly only those by Temminck's hand, while Holthuis and Farber focus more on the quality of the publications in terms of material discovered and described. Inevitably, they all reached different conclusions. But any measure of

scientific success, both in terms of quality and quantity, needs to take into account, besides the number and the content of the publications, their reception abroad, the scientific debates, the authors' status and perspectives, and the social and political circumstances under which all was made possible—or difficult, depending on the moment. Such an analysis has yet to be made for the Leiden museum. What follows here is not such an analysis, but a brief and necessarily limited overview of the museum's scientific activity during Temminck's directorship. The content and reception of his works will be discussed in more detail in the following chapters.

Concerning Temminck's zoological works, at first glance one might think that he produced little more than a few titles scattered over the years. Besides a few minor publications, such as a preparation and taxonomy manual or his collection *Catalogue*, Temminck wrote five books on birds and three on mammals (eighteen volumes in total), a three-volume treatise on the Indian archipelago, and sixteen short articles.[137] Also, from 1839 to 1844 Temminck acted as editor of the *Verhandelingen over de natuurlijke geschiedenis*. However, a closer look reveals that he was working non-stop, investing a considerable amount of time in any particular publication. For example, during the decade of the 1830s he worked simultaneously on the second edition of the *Manuel d'ornithologie*, completed in 1840 (twenty years after the first volume appeared), on the *Nouveau recueil de planches coloriées d'Oiseaux* together with Laugier de Chartrouse (for nineteen years), on the *Monographies de mammalogie*, issued between 1827 and 1842, and on the volume on mammals for Philipp Franz von Siebold's *Fauna Japonica.* Published in five volumes between 1833 and 1850, this splendid work was based on the zoological collections made by Siebold and Heinrich Bürger in Japan, a country at the time hermetically closed and virtually unknown to Europeans. The volume on the vertebrates was authored by Temminck and Schlegel, while Willem de Haan wrote that on the crustaceans.[138]

Temminck based part of his *Nouveau recueil* and the *Monographies de mammalogie* on descriptions, drawings and specimens of the Natuurkundige Commissie, as well as those from his vast network of collectors, and considerably less on the specimens deposited in other museums. He was after all now director of the national museum and could not freely roam through Europe visiting cabinets for months, as he had done for the *Manuel d'ornithologie*. He was aware of this shortcoming, and noted it in the

[137] See Appendix II, Bibliography of Coenraad Jacob Temminck.

[138] For Philipp F. von Siebold and his collections, see Matthi Forrer and Arlette Kouwenhoven, *Siebold en Japan; zijn leven en werk* (Leiden: Hotei, 2000); Lipke Bijdeley Holthuis and Tsune Sakai, *Ph. F. von Siebold and Fauna Japonica; a History of Early Japanese Zoology*, 1 ed. (Tokyo: Academic Press of Japan, 1970); Masuzō Ueno, "The Western Influence on Natural History in Japan," *Monumenta Nipponica* 19, no. 3/4 (1964).

introduction of the *Monographies de Mammalogie*. He "provisionally" classified the species he had been unable to examine in supplementary articles, a method Temminck was not particularly happy with, and rightly so.[139] These works are less comprehensive than the previous ones and, more importantly, they included many descriptions of species that Temminck labeled as new, but that had already been described by others before him. It tainted his reputation, which never recovered. Also, there is a marked shift in Temminck's interests in the 1830s and 1840s. Perhaps because of his *Monographies de mammalogie* or because he finally had access to a wider range of specimens, Temminck wrote more on mammals (especially on bats), and a lot less on birds. This is rather inexplicable, especially if it is taken into account that Temminck had repeatedly stated that monographs and specialization were the way forward in natural history, as new discoveries were piling up at an increasing rate. Whatever his reasons, he was right when he stated that "qui trop embrasse mal étrient," and his work on mammals was his weakest. It was criticized mostly in Britain because of the descriptions of many species that had been described previously by others. Why Temminck did so, will be explained in the next chapter.

In addition to these books, Temminck wrote fifteen short notes and articles: ten about mammals, three about the geographical distribution of animals, and only two on birds. Those treating the geographical distribution are of special interest because, as we will see in the following chapter, they mark the only occasion when Temminck took a step back and looked globally at what he knew to formulate a general law governing the natural world. But apart from this detour, Temminck wrote mostly specialized and exhaustive monographs: "How can anyone dare to claim that a single man can embrace the study of the whole creation? To describe with precision and accuracy a single class of the animal kingdom, the life of the most active man would barely be enough. The best means that naturalists can choose to disseminate the results of large numbers of facts seems to be by publishing *Monographs*."[140] Temminck's work was specialized, descriptive, bulky and above all, meticulous:

> What this work contains [the *Manuel d'ornithologie* and its system] is based on the most rigorous examination of nature, without any kind of compilation; all species have been examined and often compared between them in all the cabinets in Europe; these may be the only merits of my work, and the only

[139] Coenraad Jacob Temminck, "Discours préliminaire," in *Monographies de mammalogie, ou Description de quelques genres de mammifères, dont les espèces ont été observées dans les différens musées de l'Europe*, vol. 1 (Paris: G. Dufour et Edmond d'Ocagne, 1827), ix.

[140] Temminck, "Discours préliminaire," *Monographies de mammalogie*, vol. 1, viii-ix.

> difference that will distinguish it from the works of sedentary and library naturalists.[141]

Travelling through Europe, from cabinet to cabinet, examining all the specimens he thought he needed is not only a conscientious way of working, it is also an exceedingly slow one. After taking up the directorship of the museum, Temminck could no longer keep up this methodology.

There is a title among Temminck's publications that seems out of place. Joannes Susanna, in his biography of Temminck, remarked: "in 1846, we meet him on a path where we did not expect to find him."[142] For reasons that had more to do with politics than with science, he decided to make a compilation of *everything* known about the Dutch colonies of the East Indies. It included descriptions of geography, local history, civil administration, population, agriculture, horticulture, cattle breeding, and of course, natural history. Temminck used information from a wealth of other sources, including the reports from the Natuurkundige Commissie (especially those of Korthals), government archives and published books. He wrote about geology, geography, botany, ethnography and zoology as well as on economically important products like tobacco, sugar, rattan cane, nutmeg, gold and copper mines, coffee or granite quarries.

This eclectic encyclopedia was written with two purposes. Firstly, he claimed, it was intended to make information about the region available to other countries and naturalists, and for this reason he wrote it in French instead of Dutch.[143] Temminck wanted to prove wrong those who had accused the Dutch nation of keeping all this valuable knowledge to themselves. Sir Thomas Stamford Raffles, who—among a great deal of other things—had been lieutenant-governor of British Java from 1811 until 1816, had been extremely critical of the Dutch colonial government in his *History of Java*.[144] So had been John Crawfurd, resident governor at the Court of Yogyakarta from 1811 to 1815. Temminck rebutted their accusations of cruelty and secrecy: "The Dutch nation and its government have often been accused of a *supposed* reserve in everything concerning our overseas possessions. I am commited to proving that this imputation has no foundation whatsoever."[145] And secondly, by publishing the *Coup-d'oeil* Temminck wanted to draw the attention of the Dutch government to the value of all the riches yet to be discovered in the colonies. It was an unveiled plea to resurrect the Natuurkundige Commissie. He repeatedly stressed the need to organize expeditions to discover more

[141] Temminck, "Introduction," *Manuel d'ornithologie*, 2 ed., vol. 1, xxvii-xxviii.
[142] Susanna, "Levensschets van Temminck," 65.
[143] Coenraad Jacob Temminck, "Avant-propos," in *Coup-d'oeil général sur les possessions néerlandaises dans l'Inde archipélagique*, vol. 1, (Leiden: A. Arnz & comp, 1846), xv-xviii.
[144] Thomas Stamford Raffles, *A History of Java*, vol. 1 (London: Black, Parbury, and Allen, 1817).
[145] Temminck, "Avant-propos," *Coup-d'oeil général*, vol. 1, xvi.

about the natural history of the East Indian Archipelago, an enterprise that was essential not only for the museum, but even more to boost the economy of the Dutch nation:

> The value of these expeditions of discovery is nowadays widely recognized; we recommend them from the double point of view of the progress they will produce in the sciences and the influence they can have on the future of our distant possessions; even the advocates of a strict economy and those who only look at a positive balance of expenses will be forced to accept that these expeditions, up to now always a meager investment by governments in the progress of the sciences, invariably have a purpose that is real, immediate and of public benefit.[146]

Despite his insistence, these government-sponsored expeditions *à la* Natuurkundige Commissie were too expensive, too fragile, and too bureaucratic to be efficient. Later on, Schlegel enrolled collectors already living there, like the medical officer Heinrich Agathon Bernstein and civil servants like Carl Benjamin Hermann von Rosenberg, which proved a more successful strategy.[147] The importance of the *Coup-d'oeil* for zoology turned out to be, a bit unexpectedly, greater than Temminck himself may have anticipated. In particular, it helped those naturalists studying distribution patterns of animals to formulate theories that would have made Temminck turn in his grave. We will see this in more detail in the next chapter.

Including the *Coup-d'oeil*, the bulk of Temminck's work was contained in extensive monographs and books, issued in installments. It took him decades to complete a single title. Ironically, just as these large-scale but precise books like the *Manuel d'Ornithologie* had catapulted Temminck into fame, publishing at such slow pace would also partly be responsible for his decline, as we will see later on. In a period of constant discovery of new species and of fierce competition, pondering a particular systematic arrangement for years was something naturalists could no longer afford.

While the collections grew and Temminck was immersed in the directorship and in his own books, the outside world was missing an important contribution from the museum: there was no catalogue of the Leiden collections. After thirty years had passed since the establishment of the museum, Bonaparte could not bear it any longer. In an article on parrots published in the Proceedings of the Zoological Society of London, Bonaparte claimed in a footnote (that went on for three pages) that the lack of such a catalogue was hindering the advance of science. He wrote: "no book on Natural History, we shall never enough repeat it, would prove more effectual to the progress of science, more creditable to the nation, to the government, and to the able individuals willing to

[146] Temminck, *Coup-d'oeil général*, vol. 2, 424-25.
[147] Fransen, Holthuis, and Adema, "Type-catalogue of Decapod Crustacea," 311.

accomplish the labor, than the Catalogue of the Leyden Museum."[148] Bonaparte urged Schlegel to get going: "And the greater benefit have we the right to expect for science from the execution of this noble enterprise, inasmuch as M. Schlegel, who would certainly be the head and arm of the publication, combines the knowledge for which he has long been celebrated all over the world, with the skill of a first rate draftsman."[149] His tone was perhaps a touch theatrical, but then again, a collection catalogue was not merely a numbered list of objects: it was an essential tool for systematics. When one is aiming at completing the catalogue of life, it is crucial to be able to know which species have already been described and which are present in collections, available for examination.

Temminck understood the need of cataloguing collections as well—cataloguing had been his gateway into taxonomy, after all. In fact, he had started compiling a catalogue somewhere in the 1820s with the intention of publishing it, entitled *Galerie Zoögraphique du Musée des Pays-Bas*. But he never got further than listing part of the mammals and the birds.[150] Boie's work on the reptiles and amphibians of Java was also meant to be part of the *Galerie*. The indexing was suspended, however, in view of the numerous specimens arriving in Leiden on a monthly basis.[151] Schlegel, picking up the gauntlet thrown down by Bonaparte in 1850, needed twelve years to finally publish the first volume of the inventory, after ensuring that the government would subscribe to sixty copies, paying *f*300 annually for a period of five years.[152] The catalogue was passed on from director to director as some sort of revered family heirloom. Each of them added one or more volumes to it, but it was never finished. The collections grew faster than the curators could catalogue them. In total, fourteen volumes were published between 1862 and 1908. The title of the catalogue was equally lengthy: *Muséum d'Histoire Naturelle des Pays Bas. Revue méthodique et critique des collections déposées dans cet établissement.*

Temminck was well aware of an increasing impatience among his colleagues, and perhaps on his own part as well, for more publications on zoology from the Leiden museum and, especially, about the results of the Natuurkundige Commissie's efforts.

[148] Bonaparte, "On the Lorine genus of Parrots, Eclectus," 144.
[149] Bonaparte, "On the Lorine genus of Parrots, Eclectus," 144.
[150] Coenraad Jacob Temminck, *Galerie Zoögraphique du Musée des Pays-Bas. Catalogue des Mammifères exposés dans les Galeries du Musée des Pays-Bas.* MS, [1825], Naturalis Biodiversity Center Archives, Archive C. J. Temminck. Apparently, he also catalogued the bird collection, or at least, part of it, as this is mentioned in Otto Finsch and Gustav Hartlaub, *Die Vögel Ost-Afrikas. Baron Carl Claus von Deer Decken's Reisen in Ost-Africa.*, vol. 4 (Leipzig: Heidelburg, C. F. Winter'sche Verlagshandlung, 1870), 162.
[151] Snellen van Vollenhoven, "Coenraad Jacob Temminck," 5.
[152] Holthuis, *Rijksmuseum*, 69; Edward C. Dickinson and Florence F. J. M. Pieters, "Some Bibliographic Findings on 'Muséum d'Histoire naturelle des Pays-Bas. – Revue méthodique et critique des collections déposées dans cet établissement' (1862–1881) edited by Hermann Schlegel," *Zoological Bibliography* 1, no. 3 (2011).

He did the only thing left to do: he asked experts from the very same museums he saw as competitors to study and describe these new species. He had already done so in the 1820s for groups he was not familiar with. Cuvier and Valenciennes, for example, worked on South-East Asian fish using material from the Natuurkundige Commissie and published their findings in their *Histoire naturelle des poissons* (1828–1849). But perhaps the most striking of Temminck's collaborations was that with Gustav Hartlaub, a bird collector and naturalist connected with the Bremen Museum of Natural History. Faced with the African collection gathered by Hendrik S. Pel, Temminck decided for some reason to tackle only the mammals. In 1850, he handed the treatment of the birds over to Bonaparte and Hartlaub.[153]

Temminck, now seventy-two, felt his health deteriorating and his energy diminishing, so that he resorted to asking Hartlaub for his assistance. At Temminck's invitation, Hartlaub came to Leiden several times to study the birds collected by Pel in West Africa.[154] Temminck had seen and labelled Pel's specimens and given scientific names to the new species, but he only described two of them in a short article published in 1854.[155] Hartlaub took care of the rest in a book and two articles.[156] He gave Temminck due credit for his discoveries by writing "Temm." after each new species name coined by Temminck. But in a rather cruel twist of fate, the modern Rules of Zoological Nomenclature dictate that Hartlaub should be considered the author of the names, because the descriptions were most probably Hartlaub's while Temminck authored only the species names.[157] Of the twenty-eight new species described by Hartlaub in 1855 based on Pel's specimens, twenty-five had been first labelled by Temminck. Hartlaub is now deemed the author of all of them.

While Hartlaub and Bonaparte took care of the birds, Temminck published his volume on mammals in 1854 entitled *Esquisses zoologiques sur la Côte de Guinée*. It was, to borrow Susanna's phrase, his "swan song."[158] The work was actually meant to become

[153] Snellen van Vollenhoven, "Coenraad Jacob Temminck," 7.
[154] Gustav Hartlaub, "Vorwort," in *System der Ornithologie Westafrica's* (Bremen: C. Schuünemann, 1857), vi.
[155] Coenraad Jacob Temminck, "Zoologische Schetsen van eenige soorten van Hoenderachtige Vogelen," *Bijdragen tot de Dierkunde* 6, no. 1 (1854).
[156] Gustav Hartlaub, "Beschreibung einiger neuen, von Herrn H.S. Pel, holländischem Residenten auf der Goldküste, daselbst gesammelten Vögelarten," *Journal für Ornithologie* 3 (1855); "Systematisches Verzeichniss der von Herrn H. S. Pel auf der Goldküste zwischen Cap Tres Puntas und Accrah gesammelten Vögel," *Journal für Ornithologie* 3 (1855); *System der Ornithologie Westafrica's* (Bremen: C. Schuünemann, 1857). See also Holthuis, "Biografische notities," 28-29.
[157] See art. 50, International Commission on Zoological Nomenclature, International Code of Zoological Nomenclature (London: The International Trust for Zoological Nomenclature, 1999); René W. R. J. Dekker, "Type Specimens of Birds in the National Museum of Natural History, Leiden. Part 2. Passerines: Eurylaimidae – Eopsaltriidae (Peters's Sequence)," *NNM Technical Bulletin* 6 (2004).
[158] Susanna, "Levensschets van Temminck," 68.

part of a more general work, the *Faune d'Afrique*.[159] In the end, Pel's collection was studied over the years by several specialists, including Schlegel and Herklots (whose PhD dissertation was based on this material), and the ichthyologist Pieter Bleeker.[160] Each of them published about the collection independently, and an envisaged work embracing the entire African Fauna was never produced.

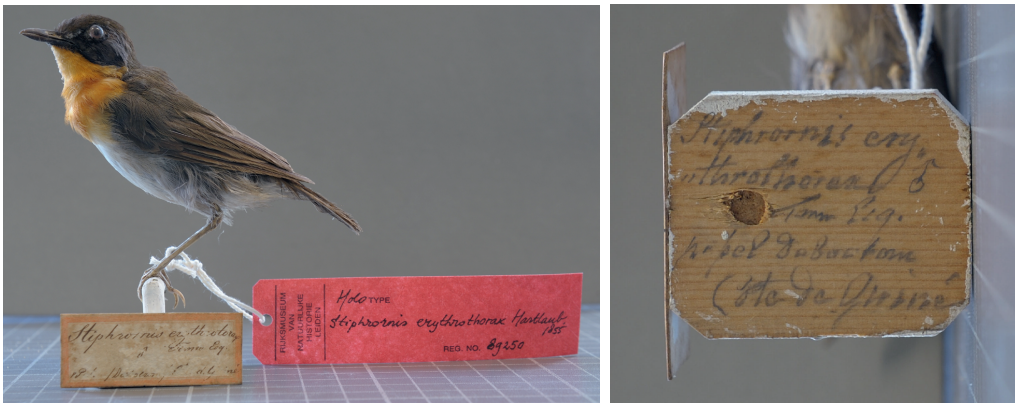

FIGURE 3.9. *Left*: A specimen of the Western Forest Robin collected by Hendrik S. Pel and described by Hartlaub in the *Journal für Ornithologie* as "*Stiphrornis erythrothorax* Temm." (1855). *Right*: Temminck's annotation on this specimen reads "Stiphrornis erythrothorax Temm Esq. Mr Pel Dabocrom Côte de Guiné," indicating that he had at some point intended to describe it himself in his *Esquisses zoologiques sur la côte de Guiné*.

After the *Esquisses*, Temminck only published two very short articles. One described two birds from Pel's collection in 1854, just two pages long, and the second one was a Dutch translation of the description of three new species of squirrels previously published in the *Esquisses*. These were South-east Asian squirrels, so that the editors of the *Natuurkundig tijdschrift voor Nederlandsch Indië* felt that a second edition was justified.[161]

[159] Coenraad Jacob Temminck, "Avant-propos," in *Esquisses zoologiques sur la côte de Guiné. Pt.1: Les mammifères*, (Leiden: E. J. Brill, 1853), xi.

[160] For example, Jan Adrianus Herklots, "Additamenta ad faunam carcinologicam Africae occidentalis, sive descriptiones specierum novarum e Crustaceorum ordine, quas in Guinea collegit vir strenuus H. S. Pel praefactus residentiis in littore Guineae" (PhD dissertation, 1851); Hermann Schlegel, "Over eenige nieuwe soorten van vergiftige slangen van de Goudkust," *Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen* 3 (1855); Pieter Bleeker, "Mémoire sur les poissons de la côte de Guinée," *Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem* 2, no. 18 (1863).

[161] Temminck, "Zoologische Schetsen"; "Over eenige nieuwe soorten van Eekhoorns van den Indischen Archipel," *Natuurkundig Tijdschrift voor Nederlandsch Indië* 4 (1854).

How about the work of the scientific staff at the Leiden Museum? On average, the curators kept up a quicker pace than Temminck. Among the most productive ones were De Haan, Schlegel and Snellen van Vollenhoven. All three of them, each within his own field of expertise, worked mostly, but certainly not exclusively, on systematics. De Haan for instance, straightened out the classification of jellyfish, made comparative studies of the anatomy of crustaceans and other arthropods, researched the wonders of the metamorphosis of beetles—perhaps his best known work—and described many new species of crustaceans and insects in the *Fauna Japonica* and in the *Verhandelingen*.[162] Hermann Schlegel, an autodidact like Temminck, wrote handbooks on zoology, did comparative studies of the venom glands of snakes, published a series of monographs on the comparative anatomy of whales and dolphins, and wrote a treatise on falconry, among a great number of other works. But his main preoccupations were vertebrate systematics and the quest for a satisfying definition of the species concept.[163] He spent more than ten years studying the snakes of the Leiden museum before publishing a two-volume monograph, the *Essai sur la physionomie des serpens* (1837), in which he revised the existing classification systems and the characters used to identify the different groups and species of snakes. Snellen van Vollenhoven concentrated on insect classification, life histories and from time to time also paid attention to pest management and other issues of immediate practical value.[164]

The most striking difference between the curators' works and Temminck's is to be found not in the content of their work, but in their form. They chose to publish mostly articles and short notes above monographs of several volumes—and to publish a lot more. It seems that this allowed them to expand their range of subjects from the purely classificatory to comparative essays and more applied research, even if briefly. It is difficult to pinpoint the exact reason for this. For one, the curators were on average a quarter of a century younger than Temminck. Twenty-five or so years might not seem much, but the practice of systematics was evolving rapidly. For example, Cuvier laid the grounds for the field of comparative anatomy between 1800 and 1817, and by the 1820s it was already embedded in nearly all classification systems.[165] Most of the curators developed their scientific ideas and skills in the 1810s and the 1820s—the period when the first works by Temminck appeared. As we will see later on, this was also the time

[162] Willem Vrolik, "Levensberigt van Wilhem de Haan," *Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen (Afdeeling Natuurkunde)* 3 (1855).
[163] Schlegel, "Levensschets van Hermann Schlegel"; C. Smeenk, "Hermann Schlegel 1804–1884. Ein reiches Leben in einer reichen Sammlung," *Mauritiana* 15, no. 2 (1995).
[164] Krikken, Van Achterberg, Van Doesburg et al., "Samuel Constant Snellen van Vollenhoven (1816–1880) and his Entomological Work."
[165] Georges Cuvier, *Leçons d'anatomie comparée*, 5 vols. (Paris: Crochard, 1805).

when articles devoted to systematics began to appear in zoological journals while iconographic books were becoming a luxury. Short notes in professional journals accelerated communication, facilitated debates and gave momentum to systematics. Temminck began to publish on systematics when he was already past thirty, possibly as a consequence of his lack of formal training. De Haan, by comparison, had started studying in Leiden at seventeen and wrote his first works when he was twenty years old. These may have been additional reasons for the differences in style between Temminck and his curators. There was clearly a difference in temperament and taste between them; Temminck was scrupulous and methodical to the point of being fastidious, and clearly preferred monographs above short articles. Also, the curators had much more time available for research. After all, Temminck was the museum's director and judging from the archives, he took care of the management of the institute single-handedly. Finally, from the mid-1840s on, Temminck's shaking hands could not keep up with his mind. Because of this affliction, writing anything down took a lot of time, effort and frustration. Susanna took on the task of writing most of his letters and the annual reports to the minister.

There is a particular episode in the early years of the Leiden museum that offers a clear picture of the path the museum was meant to follow in terms of its scientific activity. After Jan van der Hoeven decided to leave the museum after working there for only a year, he went back to Leiden University to study medicine. His wish to study was, however, not his primary reason for leaving. What he really wanted was to be able to carry out research in the field of comparative anatomy. Van der Hoeven was a follower of Brugmans' school of thought (but not his student, as Brugmans died before Van der Hoeven could follow his lectures). Right after his appointment as curator in 1826, he requested a room to house a separate collection of anatomical preparations. Not surprisingly, Temminck refused. He had spent years convincing Falck that anatomy and physiology required separate collections in the universities, and that the museum should primarily hold specimens specifically prepared for systematics—not to mention Temminck's efforts to keep the museum as independent as possible from the university, the place to practice comparative anatomy. Additionally, a second collection within the museum inevitably meant dividing funds, space and time between the two collections, something Temminck was not prepared to do. And so it was that Van der Hoeven left the museum, frustrated with the apparent narrowness of the museum's policies and its director.[166] Van der Hoeven returned in 1858 to claim the directorship of the museum, a post that according to the regulations of the museum and of Leiden University, should

[166] This episode and the power struggles between Schlegel and Van der Hoeven are described in De Jonge, "Macht, machinaties en musea."

be his, as professor of zoology. Schlegel, on the other hand, claimed to be the rightful successor. The dispute was fierce, to say the least. In the end, Van der Hoeven was appointed *opperdirecteur* and Schlegel *directeur.* It was a disaster, and Van der Hoeven left the museum, again, angrier than the first time.[167]

At the time of Temminck's death, thirty years after the establishment of 's Rijks Museum, its collections ranked amongst the best in Europe, and the museum's scientific activity had decidedly narrowed down to systematics and descriptive zoology, as had been Temminck's wish—and his best argument for the foundation of the museum. Whether this focus on systematics is viewed as a limitation or as a deliberate step towards specialization is crucial to form an opinion of the museum's scientific production. Understanding that Temminck saw systematics as a new and promising branch within natural history, independent from other disciplines, necessarily puts question marks behind the oft-repeated statement that Temminck was an old-fashioned collector practicing eighteenth-century natural history. In the next chapters, the content and meaning of Temminck's work will broaden this narrow view, exposing the complexity of the practice of systematics within natural history between 1800 and 1850.

[167] De Jonge "Macht, machinaties en musea"; Holthuis, *Rijksmuseum*, 41-42.