Introduction

This book treats the southern South American career of the French naturalist Aimé-Jacques-Alexandre Goujaud-Bonpland, better known simply as Aimé Bonpland (1773–1858). Its main purposes are to clarify the post-1817 South American achievements of his life and to set aside some of the sense of disappointment and confusion that has built around him since his death. In the nineteenth century, Bonpland was famous. For example, the botanical journal *Bonplandia* began to be published in 1853 from Hannover, Germany, as the official organ of the Academia Caesaro-Leopoldina, one of the oldest academies in Europe (founded in the late seventeenth century).[1] The source of the honor was mainly the fame of the botanical work Bonpland achieved while working with Alexander von Humboldt (1769–1859). While the name Bonpland is affixed to such things as a genus of American plants, small towns in Argentina, streets of some major South American cities, a mountain in Venezuela, and, briefly, Lake Tahoe in California, among other memorials, it is not one that carries much resonance today outside of some limited portions of southern South America. When remembered at all, it is usually as a footnote to the immensely famous Alexander von Humboldt. Thus, before moving into Bonpland's own South American career, his links with Humboldt need to be briefly reviewed.

The development of geography in the nineteenth century has been interpreted by one authority as a gathering of tension between the "world of action and discovery, and that of the lecture theatre and library."[2] The contrasting careers of the distinguished travelers Bonpland and Humboldt, after their celebrated scientific journey through equinoctial America (1799–1804), represent a particularly stark illustration of this idea. Humboldt, who spent decades systematically publishing in Paris and Berlin from the field results, is venerated (an academic chair was named after him in the Department of Geography of the University of California at Los Angeles); in contrast,

Bonpland—who made extensive further field researches in South America (1817–1858) and wrote a good deal yet published very little—has fallen from view, to the point that a distinguished modern Brazilian bibliographer could complain that everything about his career is obscure.[3]

While the critical literature on Humboldt, often termed the "father of modern geography," is extensive, Bonpland has been largely forgotten. Modern accounts of the famous journey through equinoctial America frequently do not bother even to mention Bonpland's presence on the trip, although Humboldt himself laid careful stress on the critical role that the former played in the research. Many biographical sketches of Bonpland appear in the older literature, but most of these works written in Europe are thoroughly confused as to his motives and status in South America. The leading theme in the existing literature is that Bonpland met a tragic fate in South America, in my judgment a rather Eurocentric idea that does nothing to explain why he chose to stay—borrowing Mary Louise Pratt's phrase—in the "contact zone," or what was then commonly viewed as the periphery.[4] Any examination of Bonpland's manuscripts will show that, while he might be considered obscure from the perspectives of Paris, Berlin, or London, the argument will never hold for South America. In fact, Bonpland maintained a voluminous correspondence (including with scientists, politicians, entrepreneurs, and diplomats) for periods of his residence in Argentina and Brazil. His earlier fame as an explorer was recognized by figures who loom very large on the political map of South America of the early nineteenth century (Simón Bolívar and Bernardino Rivadavia, for example). As a resident in South America with clear intellectual gifts, almost all the leading political figures seem to have been prepared to grant Bonpland an audience, José Gaspar Rodríguez de Francia, the infamous dictator of Paraguay, being a conspicuous exception.

Before launching Bonpland into the Americas, some brief comment on his background is in order. Aimé Bonpland was born at La Rochelle in 1773 to a bourgeois family. A number of interests can be traced along the line of his ancestors, including the ownership of land and the commanding of sea vessels. There is at least one direct link to the Americas in the family tree, to an ancestor born in Québec. His parents had investments in the Caribbean colonies, as did many Rochellais bourgeois families. The predominant occupation of his forbears, however, was as apothecaries, an interest Bonpland would continue in southern South America. His father, Simon-Jacques (alias Jean), was trained in medicine, becoming the chief surgeon in the

La Charité hospital at La Rochelle. Simon-Jacques was the first member of the family to add the appendage Bonpland to the surname Goujaud. It was supposedly applied by his own father at his birth in a moment of affection as a corruption of "bon plant," conveying the idea of the baby as a fine seedling. Wherever the origins lie in a today murky family tradition, the name stuck as Bonpland, although French orthographers would probably have preferred Bompland. The name has frequently been presented incorrectly in the latter form, including by native-born French authors and others. Given Aimé Bonpland's American destiny, it seems apposite that his name is more easily pronounced in Spanish than in French.

Aimé was the youngest of three children to survive from his parents' marriage. Michel-Simon (1770–1850), the elder brother, would eventually follow his father into a medical career at La Rochelle. He alone seems to have retained the surname Goujaud-Bonpland. His sister, Élisabeth-Olive (1771–1852), married a lawyer, Pierre-Philippe-Amable-Honoré Gallocheau, remaining all her life in the Charente region of France. The two brothers, who can be differentiated as Goujaud-Bonpland and Bonpland, a habit that may have been present at Paris already by the 1790s, both gained access to a superior quality of higher education, certainly one of the best available in their era. By 1791, Aimé had joined his elder brother at medical school in Paris. The teachers included the major medical innovators Pierre-Joseph Desault (1738–1795), Jean Corvisart (1755–1821), and Xavier Bichat (1771–1802). Bonpland appears to have gained his knowledge of comparative anatomy from the last. The progress of his education along parts of the 1790s remains hazy. There is some evidence that he accomplished military service in the navy, beginning from Rochefort, where he may have continued his medical studies in the naval medical school.[5] Surviving letters to his sister confirm that Bonpland was at Rochefort in 1794.[6] Much later, Bonpland recounted orally from Montevideo that he completed his military service by serving as a ship's surgeon on the vessel *Ajax* from Toulon.[7] By early 1795, he rejoined his brother in Paris, where he continued his education along the next years by frequenting clinics and medical courses. However, a passion for botany and other branches of natural science also registered its presence early with both brothers. For example, they botanized together around La Rochelle, and they long held to the plan, never realized, of publishing together. Perhaps, according to Aimé Bonpland's own memory, some inner vocation pushed him in his spare time toward the Jardin des Plantes in Paris, "where he contemplated with a curious

intelligence the numerous treasures assembled in this vast collection of the natural productions of all the countries."[8] The study of botany suited his capacity for close observation (his memory for earlier sightings of plant materials would become prodigious during his long South American residence). He completed his education under some of the leading teachers at the Jardin des Plantes. Under the influence of Jean-Baptiste Lamarck (1744–1829), Antoine-Laurent de Jussieu (1748–1836), and René-Louiche Desfontaines (1750–1833), he "developed a deep interest in natural history, chiefly botany, which needed only a little encouragement to flare out marvelously."[9] These were the talents that brought him famously into the company of Humboldt in 1798. However, another facet of Bonpland's education should not be forgotten—its socialization. His studies brought him friendships with a number of individuals who would go on to have distinguished careers in the French scientific establishment during the first half of the nineteenth century. The surgeon baron Guillaume Dupuytren (1777–1835) and the chemist baron Louis Jacques Thénard (1777–1857) are but two good examples of this; both began life with more modest social origins than Bonpland. Some of these relationships are of central importance for understanding the conduct of his later life in South America. They represented a type of social capital that enhanced his reputation in the region.

The careers of Bonpland and Humboldt were thrown inextricably together through the fame of the journey through the Americas from 1799 to 1804. Bonpland was Humboldt's assistant, responsible mainly for the botanical work, although he also worked in other fields. We have been left with a somewhat opaque vision of his contributions. Researchers today do not always remember that four-fifths of the botanical manuscripts written along the journey are Bonpland's work, nor, sometimes, do they even remember his presence along the journey.[10] In Douglas Botting's widely read biography, an illustration of "a page from the journal Humboldt kept on board the *Pizarro*" happens to be one in which all the script is clearly that of Bonpland.[11] Jason Wilson has noted how little of Bonpland comes through in the published travel account.[12] Humboldt's descriptions in his travel diaries are more immediate, never more so than in his account of when the canoe advancing up the Orinoco was on the point of capsizing, and Bonpland was the hero of the moment: "Don't be afraid, my friend, we shall save ourselves."[13] Humboldt could never forget that his traveling companion was ready to swim, if necessary carrying him on his back. George Sarton pointed out that Bonpland may have faced even more challenges than Humboldt:

"It is probable that in his search for plants in dismal places Bonpland exposed himself more than his friend."[14]

The evidence is abundantly clear in Humboldt's letters written from the Americas that he was delighted with Bonpland's knowledge, courage, and enthusiasm.[15] Given the range of Humboldt's correspondents—from distinguished scientists to such politicians as Thomas Jefferson and James Madison—the frequent mentions of Bonpland's work added to the latter's fame upon his return to Europe. Humboldt also worked to enhance his companion's reputation in France. After Humboldt's donation of a large portion of the American herbarium to the Paris museum, Napoleon granted Bonpland in 1805 an annual state pension of 3,000 francs.

The working relationship between Bonpland and Humboldt during the period from 1804 until 1816 still requires closer research. When Humboldt was away in such cities as Rome and Berlin, Bonpland was heavily involved with Humboldt's business affairs at Paris, especially in relation to

Figure I.1 Friedrich Georg Weitsch's painting from 1806–7 of Humboldt (standing) and Bonpland (seated) on the plain at the foot of Mount Chimborazo in the Andes.

SOURCE: Reproduced by permission of the Bildarchiv Preussischer Kulturbesitz/Art Resource, New York. In connection with Weitsch's painting, Humboldt wrote to Bonpland on 3 October 1806 from Berlin, asking his friend to send a drawing of himself in profile: "It is not a woman but the king who wishes this" (Schneppen, Bonpland: Humboldts vergessener Gefährte? p. 37). Humboldt informed Bonpland that he was on the way to immortality. Today, the painting hangs at the Schloss Bellevue in Berlin, the residence of the presidents of the Federal Republic of Germany.

publication matters.[16] In April 1805, for example, Humboldt urged Bonpland to think about melastomes, arguing that their joint fame depended on this.[17] Difficulties flowed from the fact that the work of botanical publication advanced only very slowly. It is widely recognized that Humboldt underestimated the time and work involved in bringing his raw research to fruit. Even the narrative of the travel experiences took decades to prepare, and remained incomplete. But the botanical aspect of the project, which was a huge portion of the overall endeavor, was hindered by 1809–10 as Bonpland was drawn more and more into administration, working for the Empress Joséphine as the administrator of her property at Malmaison. George Sarton identified the opposition between these two men following his observation that "with less generosity on either side they would have easily become enemies."[18]

The potential for tensions between Bonpland and Humboldt over the character of the botanical publications was deep even along the actual journey. For example, Humboldt had already invited the Berlin botanist Karl Ludwig Willdenow (1765–1812) to serve as the editor of the botanical publications in 1801.[19] The use of German collaborators was not something that Bonpland readily accepted, especially when certain of their specimens at Berlin were not present in Paris.[20] As Bonpland's rate of production stalled to a trickle along the second half of the decade, in part an understandable development given the level of his work commitments for Joséphine at her Malmaison and Navarre residences, Humboldt turned back to Willdenow in 1810, asking him to come to Paris from Berlin to assist with and advance the work. In his letter of invitation, Humboldt argued that neither he nor Bonpland himself had any influence over Bonpland's actions.[21] Willdenow died suddenly in 1812 and the work then passed to Karl Sigismund Kunth (1788–1850). Ulrike Leitner has argued that Bonpland ceased doing botanical work for Humboldt in 1813, but there is considerable evidence to the contrary.[22] There are also numerous indications from Bonpland while resident in southern South America that he saw his project there as the completion of Humboldt's work, most importantly in botany but also in other branches of science.

The Humboldt-Bonpland working relationship was one of uncommon intensity. The shifting phases of how they viewed each other would be a worthy theme for intense research scrutiny. Bonpland set the model for Humboldt of close research collaborations with other male scientists. There is no doubt that Humboldt's deep collaboration with the physicist Joseph-

Louis Gay-Lussac (1778–1850) rankled on some level with Bonpland. What level of intimacy Humboldt ever achieved with his research partners remains, as Aaron Sachs points out, something impossible to resolve.[23]

If the personal connections are impossible to recover in their entirety, other things seem clearer. The Humboldt and Bonpland journey between 1799 and 1804 was of key importance in the development of an affirmative view of at least parts of the tropical world. David Arnold has argued recently that "Humboldt surely did more than any other individual to 'invent' the tropics as a field of scientific enquiry and an aesthetic domain and to feed a positive perception of the tropics into wider environmental debates."[24] Important differences prevailed between Humboldt and Bonpland in their relationships to tropical environments. The appeal of these environments seems to have seized hold of Bonpland in the most tangible way. His early reaction of sensory overload on arriving with Humboldt in the tropics, "a cacophony of sense impressions bordering on insanity," as one author has phrased it, has been much repeated in the literature.[25] In the early nineteenth century, Bonpland had shown considerable pride in the material furnishings of his Paris apartment, writing to his sister and brother-in-law about parquet floors and marble chimneys.[26] Along the remainder of his life, the appeal of nature took hold of him and a passion for field studies became the guiding force of his life.

Bonpland clearly stood in Humboldt's shadow. His reputation was also affected by the distance he lived removed from metropolitan scientific institutions. In many ways, his life can be interpreted as an often desperate effort to maintain his own scientific authority in the face of Humboldt's immense and growing reputation. He certainly held to the ambition of publishing some of the results of his southern South American research. As late as 1849, when traveling across the mountains of southern Brazil, he told his old friend the French botanist Alire Raffeneau-Delile in a letter that he still wished to publish the plants that were properly his, that is things collected separately from Humboldt.[27]

Although Bonpland never saw France in person again after he left Le Havre for Buenos Aires in 1816, he made repeated promises to return. Following the importance of his work with Humboldt between 1799 and 1804, his imprisonment for almost a decade in Paraguay during the 1820s added a new layer of fame. By the middle of the nineteenth century, still in written contact with many of the surviving members of the scientific community of his generation in Europe, he was widely viewed in South America as a type

of walking relic. Even so, his friendship was greatly appreciated by many younger people interested in science, to whom he offered much encouragement. In 1907, one of Bonpland's relatives offered the impressions, still "*très vive et très precise*," of meeting his ancestor over a half-century earlier at Montevideo. He retained the memory that, throughout southern South America, Bonpland was "the object of a kind of cult on the part of everybody, rich and poor, urban dwellers or gauchos."[28]

. . .

The complicated movement patterns of Bonpland's final years hindered knowledge of the whereabouts of his papers at his death. This has been a major source of confusion in the historiography. The Comte de Brossard, the French diplomatic representative to Paraguay, summarized the state of knowledge for the French minister to Argentina in August 1858. Four volumes of Bonpland's botanical registers, containing the descriptions of 2,449 species, and his geology catalog, giving an account of 357 mineral specimens, were at Corrientes, in the hands of Pastora Périchon, a long-standing family friend. The location of other papers, including "an extensive study on the woods of South America, a work to which he attached great value," was unknown.[29] Brossard held that Bonpland had left his manuscripts in São Borja, Brazil, when he moved his residence definitively to Santa Ana in southeastern Corrientes. He said he had "reasons to presume," though none were given, that the remaining manuscripts, at least, were in the hands of Jean-Pierre Gay, the French-born priest of that small Brazilian town since February 1850, and a close friend of Bonpland. The governor of Corrientes, Juan Pujol, saw things otherwise, maintaining that Bonpland's entire scientific heritage was on Correntino soil.[30] Based at Asunción, Brossard was in no position to question Gay directly. In addition, the inventory of what Bonpland had left at Santa Ana had still to appear. Suspicion thus fell on Gay, in the form of vague charges that he worked hard to dispel. Brossard was working to trade Bonpland's materials at Corrientes for books and instruments from France, thinking that these could serve as the beginning of a public library at Corrientes.

The administrators of the Muséum d'Histoire Naturelle at Paris staked their claim to Bonpland's heritage in a letter to the Ministry of Public Instruction in October 1858. The key evidence they used to make their case was a portion of the letter Bonpland had written to Humboldt from Corrientes on 7 June 1857. It contained an explicit statement that he wished to

see his scientific heritage left to France. Humboldt was prepared to give the museum the original copy of his letter, should that prove necessary.[31]

Faced with requests for clarification about the whereabouts of Bonpland's manuscripts coming from French diplomats based at Paraná, Entre Ríos (Argentina), Porto Alegre (Brazil), and Asunción (Paraguay)—all considerable distances from the places where Bonpland had lived—Gay had to work hard to clear his reputation. He wrote a long manuscript (nineteen numbered pages) from São Borja to the French Minister of the Interior in August 1859 expressing his reluctance to see Bonpland's "treasures," meaning his collections and manuscripts, lost for the scientific heritage of France.[32] He held firm to his conviction that everything concerning Bonpland's scientific heritage was held in the province of Corrientes. Gay was concerned that the declining physical state of the plant specimens required urgent publication of Bonpland's southern South American flora. He received an eyewitness report about the state of Bonpland's herbarium in early 1859 from Louis de Luchi, the secretary of the Sardinian legation to the Argentine Confederation, who reported that the herbarium was kept in a very humid room and would presumably soon be lost to science.[33] By August 1859, Gay reached the conclusion that while Bonpland's plant collections were no longer in a perfect state, they were still in a fit condition from which to prepare illustrations. This was not something, he said, within the publishing resources of Corrientes, but work that needed to fall to the learned societies of Europe. Bonpland's flora of Paraguay, the Jesuit missions, the province of Rio Grande do Sul, and the republics of the Plata represented in Gay's opinion "a prize of boundless value for botany." At the time he wrote, however, the French diplomats posted in southern South America seemed to be reaching the conclusion that Bonpland had left no legacy, although Gay knew the manuscripts existed, partly at Corrientes and partly in the southeastern corner of that province. He placed the weight of responsibility with Juan Pujol to make sure Bonpland's work was posthumously published. Gay had worked since 1850 encouraging his friend to complete his work, or at least to take his collections to France. But Bonpland had come to identify with the customs and ways of the missions; he feared the idea of launching himself again into high society. Gay seems to have been disturbed by the patterns of Bonpland's daily life, and tried to recruit him into his own home, saying Bonpland was customarily surrounded "only by Indians and children." Gay took an extremely positive view of Bonpland's merits. He hoped a more skilled writer than himself would take on the task of writing his friend's biography.

It took the French authorities some time to prevail in their claim, to locate remaining material, and to move it from the South American interior to Paris. Some of Bonpland's French collateral relatives also made a claim, but they soon desisted. The French government was also aware that Bonpland had left "several natural children" in the Plata, whom he recognized. By 1860, two boxes had arrived at Paris and the bureaucrats then set to work, deciding what they could retrieve from Bonpland's South American legacy. In July 1860, a commission, which included the geologist Jules Desnoyers (1800–1887), the librarian at the Jardin des Plantes, was working to assess the contents of two cases of books and manuscripts. The commission met on Saturday, 7 July, and it was not impressed. The inventory described around thirty books, most of them in poor physical condition. These were mainly volumes relating to botany, zoology, and natural history more generally.[34] The books were seen as without importance and value. While they were items readily accessible at Paris, the same could certainly not be said for the interior of South America. The manuscripts were also a source of disappointment; they did not correspond at first sight with what could be expected "from the extended sojourn of the famous traveler in these countries so distant and so little explored."[35] This was hardly a judgment likely to stimulate scholarship, but the commission had worked with only a portion of Bonpland's papers. Much more would turn up almost a half-century later in South America.[36]

Despite the disappointment registered at Paris in the years following Bonpland's death, a considerable amount of literature on him exists, especially in French and Spanish. Essays by George Sarton and Jason Wilson excepted, there is remarkably little in print in English. Very little in any of the existing treatments is thematic. Most accounts center on the drama, which does not always further analysis.[37]

Bonpland's life holds considerable interest for the general reader.[38] Numerous articles have appeared in South American newspapers about his life, some of them highly informative.[39] His close association with Joséphine in Napoleonic France, work on behalf of South American revolutionaries in Europe, and imprisonment by Francia in Paraguay during most of the 1820s have all supplied much raw material for writing romantic fiction. It came as no surprise when Gabriel García Márquez drew on Bonpland within his work on the life of Bolívar.[40] He is also an important character in Augusto Roa Bastos's distinguished and innovative 1974 novel *Yo, el Supremo* (*I, the Supreme*) about Francia's life. Constructed in Jason Wilson's analysis around

"documents, letters, fragments, and Francia's own punning mind-flow," this book shows a close sense of Paraguay's historical development.[41] Four years later, the Argentine novelist Luis Gasulla published a strangely titled historical novel of approximately six hundred pages directed squarely toward Bonpland's career in the Río de la Plata; it is heavily based on the Bonpland archives.[42] Philippe Foucault's French-language work of historical fiction went in the same direction, but it is built over a wider temporal span.[43] More will have heard of Bonpland from Daniel Kehlmann's recent novel about Humboldt and Gauss than any other single source.[44] Fiction builds interest in Bonpland, but it is not always helpful for our knowledge of his life while academic research has lagged so far behind. However great the temptations and appeal of creative writing, to say nothing of film, this study is confined to things seen in the archives.

The earliest biographies of Bonpland were mainly written from South America itself by some of his contemporaries. The first of these, a much-reproduced brief account, was published in sections in the periodical *Revista del Plata* in 1854. It was authored by Pedro de Angelis (1784–1859), a major figure in the intellectual history of South America, while he was based at Buenos Aires.[45] Another biography came from Montevideo, penned by Adolphe Brunel, a French medical doctor resident there. Brunel and Bonpland were also in direct contact during the latter's visits to Montevideo during the 1850s. Both of these authors' works are of interest partly because they contain elements of oral history. For example, Brunel opened the 1859 edition of his biography with the observation that most of it came from Bonpland's mouth. But neither de Angelis nor Brunel can have known much for sure about the conditions of Bonpland's life in the interior. Buenos Aires and Montevideo were probably closer in elite ways of life to Paris than to Bonpland's principal residences. The account provided by Alfred Demersay, a member of the central commission of the Société de Géographie at Paris, is different in this respect. Assigned in 1844 by the government of France to report on the state of Paraguay following the demise of Francia, Demersay spent several months as a guest of Bonpland at São Borja, tarrying on account of the politics in the neighboring regions. Encouraged by his host to draw, this visit also resulted in the greater part of the very limited iconography we have for Bonpland's long South American career.[46]

The best existing biography of the broad scope of Bonpland's career remains the work by Ernest-Théodore Hamy (1842–1908), stimulated by his preparation of a volume of Humboldt's letters around the time of the

centenary of the journey to the Americas.[47] This research was intimately linked with Hamy's active involvement in directing the Congrès International des Américanistes (International Congress of Americanists). Even at the time of its publication (1906), however, the book provided an incomplete treatment. Hamy worked from Paris by correspondence, making little direct use of Bonpland's other archives.[48] As a result, he could provide only a pallid description of long stretches of Bonpland's South American career. He did not set Bonpland's activities in South America into broader context or assess their significance. A great strength of his work is that he was able to publish so many of Bonpland's letters. But any perusal of the chronology of those letters quickly reveals lacunae. From leaving Europe in late 1816 to emerging from Paraguay in 1831, only two letters by Bonpland are printed in Hamy's book. It would be foolish to expect letters during the Paraguayan confinement, but we are bound to question the silence on experiences of setting up life in the Americas. Another major gap when reading Hamy is during the 1840s. This is a reflection of political instability in South America, when letters were not reaching Europe. The focus of the subject's preoccupation then was much more regional than international. Whatever its weaknesses, Hamy's important book has long represented the bedrock for studies of Bonpland. Scholars ignore it at their peril, as demonstrated by the publication of materials claimed as new when they are not.[49]

A few years later, Henri Cordier published his account of Bonpland's unpublished papers that were conserved at Buenos Aires.[50] This effort was also linked to a meeting of the International Congress of Americanists, this time one held in Buenos Aires. Here, Juan A. Domínguez read a paper outlining how the museum he headed in that city had come into possession of material relating to the French naturalist. News of extensive papers still present at Santa Ana in Corrientes came south in 1905 with Pompeyo Bonpland, a grandson, who was studying medicine at the University of Buenos Aires. In accounting for the continued existence of the papers at Bonpland's former Argentine home, Cordier pointed the finger of suspicion at Gay once again, probably unaware of the detailed accounting the latter had provided for the French authorities back in 1859.[51] Cordier also wrote somewhat pedantically on the drawbacks of Hamy's treatment, making the argument that if the latter had drawn on the large store of manuscripts preserved in the Americas, he could have written the definitive biography of Bonpland. Given the limited time available to him, Cordier worked hard to produce a twenty-four–page summary of the contents of the archive at Buenos Aires.

He concentrated less on American themes than on links to famous scientists resident in Europe, starting with Humboldt, but also including other names of world reputation, such as Sir Joseph Banks and William Jackson Hooker. Cordier offered a most tantalizing glimpse of the content of the Buenos Aires archive, but not a measured reflection on it.

The arrival of the Bonpland collection at Buenos Aires was a subject of newspaper comment in Europe, mainly because it contained extensive correspondence with Humboldt.[52] At the University of Buenos Aires, the museum of pharmacobotany was aware that it was sitting on a type of historical treasure. Under Juan Domínguez's energetic direction, a start was made on organizing the contents, work entrusted to Eugène Autran, a Swiss botanist working in Argentina. The greatest strength of the slow publishing program at Buenos Aires has been the fact that the museum has worked thematically. Autran first organized and transcribed 28 letters from Humboldt to Bonpland, which were published as facsimiles of the manuscripts.[53] Even today, researchers turn to these, and doubtless they regret the rigors of reading Humboldt's hand. Autran died in 1912, which slowed the work of bringing the manuscripts to print. All further volumes produced at Buenos Aires have been facsimiles of manuscripts, accompanied by brief introductions. One volume provided a published version of the latter part of Bonpland's botanical registers.[54] The remainder of the series has political overtones. An extremely interesting volume published in 1940 demonstrated Bonpland's extensive links with the Spanish American revolutionaries based in London, documenting his services to them in the period 1814–1816. The year of publication of this work was significant, in part, the preparers had the didactic purpose of reminding people in Argentina of the important role that Britain, especially London, played in the mounting of the independence struggle against Spain. Another folio transcribed Bonpland's correspondence with the politicians connected with his journey into the Upper Plata that began in 1820. It provides a useful reminder of his optimism and energy shortly before he was dragged into captivity in Paraguay near the end of 1821. The final volume dealt with Bonpland's medical services to the army of Justo José de Urquiza, shortly before this latter and his allies toppled the famous dictator Juan Manuel de Rosas.[55] These works demonstrated effectively how Bonpland, while working in the shadows, sometimes played political roles of great consequence for Argentina.

In 1943, the distinguished historian of science George Sarton published an essay on Bonpland in *Isis*. This was a clear effort to resurrect his subject's

reputation in the history of science. While Sarton's synthesis contains much of value, he could see "no point in following the activities of the final period of [Bonpland's] life . . . which were largely agricultural, financial, political."[56] Yet Bonpland had always mixed concerns for agriculture with his scientific observations in South America. In addition, finances are something it would be most helpful to know more about. The literature has been overwhelmingly uncritical about the patterns of payment and receipt of the state pension granted by Napoleon in 1805. It is also worthwhile remembering that Bonpland gathered new plant species more rapidly in his late seventies, during his 1849 journey across the Serra of Rio Grande do Sul, than at any other stage of his southern South American career. Reliance solely on secondary material has led to numerous errors of fact and interpretation in treatments of Bonpland, a trap even Sarton was unable to avoid. Take Sarton's assertion that Bonpland "reverted to native standards" in later life, for example.[57] This simply does not square with much of Bonpland's activities in the 1850s as revealed in his own manuscripts, but it does help to build the idea of a "tragic fate," the interpretation used by Hanno Beck in his major biography of Humboldt.[58]

In 1960, Wilhelm Schulz published a brief biography of Bonpland's career in South America (53 pages), the research for which was stimulated by the centenary of Humboldt's death.[59] Schulz laid useful emphasis on Humboldt's letters written to Bonpland in South America. Translating the facsimile manuscripts from French into German, he rendered these easily readable for the first time, a valuable contribution in its own right, language barriers apart. But again, Schulz's extended essay included no sustained examination of the primary sources. In short, the research linking Bonpland's divided archival records in western Europe and southern South America still remained to be done a century after his death, and even more recently.

Although some brief published account of the contents of the Bonpland archive at Buenos Aires has been available for nearly a century, thematic research has been slow to emerge from it. Most of the existing work treats aspects of the Humboldt-Bonpland working relationship or concentrates on specific regions of Bonpland's long southern South American residence.[60] A high degree of repetition occurs in the literature, while some important aspects remain weakly researched. In particular, Bonpland's links with Brazil have never attracted the close scrutiny they deserve, possibly because he lived in such a peripheral location within that vast country. However, there

are welcome signs of renewed activity. Since the publication of Philippe Foucault's book, based on research originally intended for a television documentary, French scholars have shown a renewed interest. Nicolas Hossard's recent brief study, a synthesis of Bonpland's southern South American career, has shown the wealth of material available at Buenos Aires. His study is especially interesting for publishing documents relating to Bonpland's family for the first time.

The present study is the first detailed treatment of Bonpland in English. It lays special emphasis on what is least understood, his later career in southern South America. While the possibility is always real that new material will turn up in the archives, the study has worked to reconnect Bonpland's divided archival records in western Europe and southern South America.[61] It charts his activities in the context of the historical and geographical development of Argentina, southern Brazil, Paraguay, and Uruguay during the first half of the nineteenth century. Bonpland spent the last forty-one years of his life in this broad region, where he lived from a wide range of occupations, including medical doctor, pharmacist, farmer, rancher, government scientific explorer, and political conspirator. In the political context of the first half of the nineteenth century—that is, in the disturbed process of moving from colonies to nations—none of these diverse interests developed smoothly. The numerous interests are interlinked and all have received attention in my research. However, this book places its closest attention on the three themes of rural economy that stand in bold relief in Bonpland's thought and action: experimental cultivation in general; the cultivation of yerba maté, or Paraguayan tea (a staple in the southern South American diet) on a sustainable basis; and the breeding of merino sheep for wool. The sources for these pioneer interests on Bonpland's part are deep, extending back to Europe. They include the period he spent working for the Empress Joséphine as the scientific manager of her properties Malmaison and Navarre in Napoleonic France.

This book has been written keeping the following objectives in mind. First, it aims to provide a critical assessment of a significant but neglected historical figure in his own right. Academic interest in the French intellectual contribution to nineteenth-century Latin America has been growing.[62] It is already recognized that travelers with greater or lesser degrees of "obscurity" have played a significant role in the description of the earth, especially through their contributions to the formation of the world's major scientific collections. In addition, study of these travelers offers a valuable window for

the reconstruction of the social and economic conditions of Latin America during the first half of the nineteenth century. Taking the totality of Bonpland's long career, it is doubtful whether any other individual in the nineteenth century witnessed directly more of Latin America than he did, thus his capacity for comparative observations was immense. The bicentenary of the Humboldt-Bonpland journey (1999–2004) did much to renew interest in these figures, with numerous conferences and exhibitions in both Europe and Latin America.[63] This seems an apposite time to attempt again the objective for Bonpland raised by George Sarton in his essay published in 1943: "Let us now turn our attention to that companion, snatch him out of the obscurity wherein he has sunk, and put him back in the center of the stage with Humboldt."[64]

More than Humboldt, however, the center of the stage should be South America itself. By concentrating on what Bonpland was doing in South America rather than what he was not doing in Europe—following Humboldt into decades of study of the research results from the equinoctial journey from 1799–1804, there is some potential to help redress Eurocentric biases in the historiography of exploration. Although European in background and training, it is known that Bonpland grew increasingly ambivalent about Europe after the Empress Joséphine's death, yet the developing character of this ambivalence still needs clarification. Given the strength of his reputation in Europe, we are bound to wonder why he did not return there. In historical fiction, the distinguished Uruguayan writer Eduardo Galeano has performed the useful service of viewing Bonpland as a figure who identified with the Americas.[65] In order to make sense of him, he implies, we need to understand the development trajectories of southern South America.

Those development trajectories include the matter of French influence. While Bonpland never made his way back to France, the period of his long residence in South America was one in which French interests developed considerably there.[66] He started life at Buenos Aires in a place where France had not yet established consular agents nor formal recognition of the government. The explicit support for monarchism coming from the Bourbons placed French residents in Spanish South America under a general cloud of suspicion in the new and still unstable republics, something that carried practical consequences for Bonpland when he first arrived on the frontiers of Paraguay. Although Spanish America was generally a backwater for official French policy, the temperate parts of the region attracted significant

immigration from France after independence, with the heaviest geographical concentrations occurring in the Buenos Aires region and in southern Uruguay. This was usually couched within the language of a civilizing mission, one that continued to see value in the efforts of Argentina's Bernardino Rivadavia and his Unitarian party to build a centralized government and to attract European immigrants.[67] Around seventeen thousand French subjects were estimated to be on Uruguayan soil by 1844.[68] Redress claims from settlers and exaggerated claims about the strategic importance of the Plata fostered by local French diplomats drew Orléanist France more and more into the region, first alone and then in concert with Britain. This was especially the case for the Montevideo region, where the French supported the Argentine Unitarians in exile in their opposition to the Argentine leader Rosas. As many as six thousand French sailors eventually served in the anti-Rosas campaigns of the Plata. In 1850, a British diplomat could describe Montevideo as having "now quite the appearance of a French possession."[69] Just what part Bonpland played in France's civilizing mission for the region is not easily determined, not least because some of the most intriguing aspects remain undocumented. But if French policy concerned many layers—including the local policies of diplomats in regional postings, questions involving settlers, and policy issues framed by intellectuals, for example—Bonpland had links with his compatriots engaged in all these spheres. For example, two French South American residents who made the trip back to France in order to argue the plight of fellow residents in the Plata, Frédéric Desbrosses and Benjamin Poucel, were both known to Bonpland.[70] The former had even contemplated a business partnership with him during the 1830s. Given a residence pattern focused on the Upper Plata, Bonpland's political intelligence was of most potential interest at times when France was seeking to assemble coalitions of support from interior regions against the dictatorship of Rosas. The overall impression is of a shadowy figure, one that was never far from where French policy was being made on the ground in the region. At the same time, as a holder of property at several locations in an unstable interior, Bonpland was extremely careful not to jeopardize his position by revealing his political sympathies too overtly in his writing. Things changed for him under the Second Empire, when the government of Napoleon III showed more overt ambition in relation to the region. By taking on a project of seed transfer from South America to North Africa, he was able to serve French imperial interests in an open manner, a task he accepted with alacrity and enthusiasm.[71]

Finally, this study aims to add to our knowledge of the southern South American environments, both physical and human, in the first half of the nineteenth century. In a region where knowledge of the human impact on the physical environment remains extremely thin for this period, Bonpland's detailed written concern for impeding destructive forms of land use holds great historical interest. His manuscripts contain numerous descriptions of changing appraisals of physical resources. Some of the most significant come in the eleventh hour of his life from southern Brazil. He wrote, after all, on the eve of massive vegetation change there, the near total deforestation of the southern Brazilian plateau associated with non-Iberian European colonization.[72] Official efforts to preserve the vestiges of the once immense South Atlantic forest have been taken in Brazil only during the past few years.

Bonpland stands apart from most of the travel-account literature, on which the historical study of South America has relied very heavily, in at least two ways. First, he managed to bring only a very little of what he wrote into print. Taking the field of paleontology alone as an example, however, the earth scientist Eduardo Ottone has recently argued that Bonpland's findings and collections "are worthy of the highest consideration and respect."[73] Second, he gave land use and environmental issues in specific regions his attention over decades, not days or weeks. Concerns for sustainable development are not new. Historical geography has a contribution to make to this important field of enquiry.

The remainder of this book has been structured following the shape of Bonpland's long career in South America. Like much of the plant material that he studied there, his life opened and closed in reflection of the external circumstances. Chapter 1 takes up the theme of his arrival in the city of Buenos Aires early in 1817. This reflected the bold decision to chance a career in the Americas in the early phase of the formation of nations there. Despite recognition of his talents from multiple quarters, the unstable politics soon undermined the potential of his scientific work. Still, this was a time for making new connections, of trying new things, including a journey to the former Jesuit missions. In December 1821, Bonpland's life took on an emphatically new direction as he was dragged into confinement in Paraguay. Chapter 2 treats a phase that is clearly one of a life in shadow, when Bonpland was a prisoner in Paraguay for the greater part of a decade. Here the scope for any bridging of regions, countries, or even continents was lacking. Bonpland's experiences in Paraguay have long been a subject of interest to scholars. In Chapter 3, Bonpland's life opened once more,

especially through his visits to Buenos Aires during the 1830s. By 1838, there were signs that he was achieving a firmer material base, with the filing of a land claim for an estancia in southeastern Corrientes. Yet all these efforts were abruptly undone in the following year at Pago Largo, when the military forces of Corrientes were defeated. The decade of the 1840s was one of deep instability in southern South America. Ongoing civil war prevailed in Rio Grande do Sul, Uruguay was in turmoil, and governments rose and fell with depressing frequency in Corrientes. This was clearly no time for resource appraisal. In Chapter 4, the book accounts for Bonpland's main actions during this turbulent period, one in which he was pulled more directly into the politics of his American life. Chapter 5 deals with what almost looks like Bonpland's third South American career. The greater degree of political stability of the 1850s meant that he saw scope yet again to seek the development of rural resources. Readers will not fail to be struck by the astonishing level of his ongoing activity during the final decade of his life. Chapter 6 examines the circumstances of Bonpland's late life and of his death; it shows how he sought to continue his work until almost the very end of his long life. A brief concluding chapter summarizes the main findings and suggests themes for further research.