

## Bertrand Guest and Anne-Gaëlle Weber

### Bridging the Divide between Science and Poetry: The Comparatist Legacy of Alexander von Humboldt

#### ABSTRACT

Which place can and should Alexander von Humboldt's work occupy in literary studies and, more specifically, in comparative literature? Contemporary critical reading of his work has largely consisted of making it a possible and hitherto unknown source of new scientific disciplines. Humboldt has often been seen as the almost anachronistic author of a work that reconciled literary writing with scholarly requirements, at the very time when literature and science were being separated, and scientific disciplines were being specialised. Yet it appears that Humboldt, perfectly aware of the ongoing separation of the two fields, not only made the presuppositions explicit, but also proposed new ways of articulating literary and scholarly discourse. Better still, he experimented with several possible uses, between the literary and the scholarly, which re-define the boundaries and aims of both practices.

#### RÉSUMÉ

Quelle place peuvent et doivent occuper les travaux d'Alexander von Humboldt dans les études littéraires et, plus particulièrement, en littérature générale et comparée? La lecture critique contemporaine des son travaux a surtout consisté à en faire la source possible, et jusque-là méconnue, de nouvelles disciplines scientifiques. Humboldt est souvent apparu comme l'auteur presque anachronique d'une œuvre qui conciliait une écriture littéraire et des exigences savantes, au moment même de la séparation des lettres et des sciences et de la spécialisation des disciplines scientifiques. Or

il apparaît que Humboldt, parfaitement conscient de la séparation en cours des deux domaines, non seulement en explicite les présupposés, mais propose aussi de nouvelles articulations des discours littéraires et savants. Mieux encore, il expérimente plusieurs usages possibles, entre littéraire et savant, qui redéfinissent les frontières et les visées des deux pratiques.

#### ZUSAMMENFASSUNG

Welchen Platz können und sollten die Werke Alexander von Humboldts in der Literaturwissenschaft und insbesondere in der Allgemeinen und Vergleichenden Literaturwissenschaft einnehmen? Die zeitgenössische kritische Lektüre seiner Werke bestand mehrheitlich darin, sie als mögliche und bislang unbekannte Quelle für neue wissenschaftliche Disziplinen zu betrachten. Humboldt erschien oft als fast anachronistischer Autor eines Werkes, das eine literarische Schreibweise mit wissenschaftlichen Ansprüchen in Einklang brachte, und zwar genau zu dem Zeitpunkt, als die Trennung von Literatur und Wissenschaft und die Spezialisierung der wissenschaftlichen Disziplinen erfolgte. Es zeigt sich jedoch, dass er, der sich der fortschreitenden Trennung der beiden Bereiche durchaus bewusst war, nicht nur deren Voraussetzungen explizit machte, sondern auch neue Artikulationen des literarischen und des gelehrten Diskurses vorschlug. Mehr noch: er experimentiert mit mehreren möglichen Verwendungen zwischen dem Literarischen und dem Gelehrten, die die Grenzen und Ziele der einen und anderen Praxis neu definieren.



Wilhelm von Humboldt, as a renowned philosopher of language, accomplished diplomat, and one of the founders of the University of Berlin, has long enjoyed a respected place in European academia, in particular for his pioneering studies of non-European languages. In contrast, his brother, Alexander, though devoted to the natural sciences, was often seen as an author who defied easy classifications that were not always recognised for their full scientific significance in the history of European science. His five-volume *Kosmos. Entwurf einer physischen Weltbeschreibung*, published between 1845 and 1862, was viewed either as a unique achievement or as a late example of the encyclopaedic scholarship typical of the eighteenth century (Gayet, 2006). This style was becoming less compatible due to the decline of the *Belles-lettres* tradition and the ever-increasing specialisation of academic disciplines in the mid-nineteenth century. Notably, however, the reputation of Alexander von Humboldt has now almost surpassed that of his brother, both in academia and among the general public. Indeed, Alexander von Humboldt's reputation has seen a significant increase in esteem thanks to his status as both a pioneering scientist and a role model for the writings of proponents of what is now termed the "environmental humanities" or, with regard to the literary field, "ecocriticism" (Dassow Walls, 2005); largely grounded in the idea of novel possible articulations between the arts and sciences in the service of an understanding of environmental interdependence, such propositions are fully justified by the naturalist's literary and scholarly practice. More fundamentally, it reveals the extraordinary depth and richness of his writings, which consistently bridge scholarly discourse, rhetoric, poetics, and literature. Above all, his work offers unique contributions in practice; it is precisely this combination that strongly warrants a re-examination of his work, both as a literary and scholarly endeavour. Alexander von Humboldt's work can thus be interpreted as a "textbook case" of literary and comparative studies devoted to analysing the relationship between science and literature. Its reception, re-readings, and re-appropriations reflect developments – both historical and contemporary – across a range of scholarly disciplines, as well as the ways in which these disciplines either exclude or intersect with one another. The works themselves underscore both the merits and drawbacks of a practice that neither renounces literariness nor scientific rigor while simultaneously redefining the relationship between the two spheres of "literature" and "science." Finally, his works incarnate the varied uses of science by literature and of literature by science, an interrelatedness which the scholar makes explicit at each stage of his work.

## Humboldt: scholar or writer?

The success of Daniel Kehlmann's novel *Die Vermessung der Welt*, which imagines a meeting between Alexander von Humboldt and the mathematician Carl Friedrich Gauss at the 1828 Congress of Naturalists in Berlin, underscores the remarkably longevous notoriety of the former. The story combines these two fictionalised biographies of this pair of illustrious figures of German Science to examine the paradoxical reality that led a nation down a path culminating in the unspeakable atrocities of Nazism, despite having enjoyed stellar academic achievement and boasting a rich, vibrant culture. It is undoubtedly significant that a novel such as this, based on the rewriting of the lives of two scientists, does not content itself with simply popularising science. It critiques a dehumanized vision of science – detached from the needs of humanity and society and devoid of any sensibility. The novel assumes a heuristic, even epistemological role, by conceptualising the disconnection that may have existed between the scientists' lived experiences and the scholarly writings or theories they crafted. These works were often designed to align with an idealised image of universal, objective science, far removed from the complexities of human existence and the vibrancy of city life. In a manner, *Die Vermessung der*

*Welt* rewrites the history of science that Gauss and Humboldt assisted in constructing from the perspective of a culturally and sociologically situated science.

The novelist, therefore, in his own way and by his own means, contributes to the re-examination of Humboldt's work and his role within the history of science and culture. This nascent movement has been initiated jointly by proponents of the humanities and social sciences (*Geisteswissenschaften*) and specialists in the natural sciences (*Naturwissenschaften*). While several German historians compiled biographies on Alexander von Humboldt from the late 1950s and early 1960s onwards (Schultze, 1959; Pfeiffer, 1959), the reprinting of the three volumes of *Voyage aux régions équinoxiales du Nouveau Continent* in 1970 by the naturalist and geographer Hanno Beck contributed significantly to the "rediscovery" of this work. In France, *Alexandre de Humboldt. Voyages dans l'Amérique équinoxiale* written by the historian Charles Minguet in 1980, followed by *Alexandre de Humboldt: historien et géographe de l'Amérique espagnole (1799–1804)* in 1998, raised awareness of the scholar's political commitments and his work as a geographer (Minguet, 1980 and 1998). Meanwhile, science historian Malcolm Nicolson's 1987 work laid the foundations for viewing Humboldt as the progenitor of plant geography, referring to his works as a "Humboldtian science" (Nicolson, 1987). These introductory studies sparked a formidable undertaking of translations and republications of Humboldt's works, written in French, German and Spanish, followed by the publishing of the German scholar's remarkable and extensive correspondences and the development of analysis of his works, particularly in the fields of geography, philosophy, anthropology, history and history of science, and literature (Dielthem, 2016). Consequently, some of the scholar's works, in particular the *Ansichten der Natur* (1808), an account of his journey and his cosmological essay, have almost come to represent national and international standards in these disciplines.

However, the reception of Humboldt and his works in Europe reflects a dual aim: firstly, to reassess the history of science and culture by nuancing its stages, redefining its objects, and even deconstructing its presuppositions; secondly, to recognise Humboldt as the forerunner of emerging fields of research. In 1991, Jean-Marc Drouin traced the history of scientific ecology, designating Humboldt and Candolle as being the two founding pioneers of botanical geography (Drouin, 1991, 67). More recently, the historian Romain Bertrand criticised the neglect of the natural world, which partly explains the irrational exploitation of its resources. He also reminded us that there once existed – and remains still – another way of interpreting the world and considering its details, as well as outlining the major stages in a 'lost art of describing nature', concerned with details, nuances, and 'surfaces' (Bertrand, 2019, 13). Poets and writers such as Francis Ponge and Virginia Woolf fall into the same category as naturalists such as Wallace and Humboldt (Bertrand, 2019, 46–49). This second, retrospective view of Humboldt's place in history emphasises not only the objects of his observations but also his unique descriptive methods. Employing as he does 'poetic' or 'literary' devices, Humboldt's approach mirrors the 'descriptive art' that Bertrand discusses in his own work. It requires mention here, however, that while the place of Humboldt's work in the history of science is under scrutiny today, his place in literary history is rarely considered at all.

In fact, scholarly re-readings that aim to reassess his work are quite often part of a broader investigation into the major periods in the history of science. These re-readings also contribute to the legitimisation of alternate ways of doing science through their search for origins, with the goal here being not only to revisit canonical frameworks but also to justify the emergence, two centuries apart, of new scientific approaches to nature. It appears that the works of the German naturalist rapidly became the benchmark for new criteria in defining science, with their 'literary' element serving as both an inspiration and a point of contention.

An appreciation of Humboldt's scientific contributions as the touchstone for contemporary developments in natural history and their legitimisation is exemplified by comments made by Georges Cuvier on the German naturalist's travels. While he acknowledged the immense quantity of observations gathered by Humboldt and Bonpland during their journey to the equinocial regions of the new continent, Cuvier could not resist suggesting that fieldwork alone was insufficient to confer the title of 'naturalist.' He asserted that "*le voyageur ne parcourt qu'une route étroite; ce n'est vraiment que dans le cabinet qu'on peut parcourir l'univers*" ("the traveller only covers a narrow trail; one may only explore the universe in one's study", Outram, 1984, 62). The director of the Museum of Natural History in Paris elaborated further on the distinction between 'scholars in the study' and 'travellers,' attempting to establish an impassable boundary between 'natural history' as he practised it and the data – more or less well reported – by ignorant travellers who were incapable of contributing to the progress of science they wished to join. Humboldt began by proposing a general classification system based on the natural method, later establishing comparative anatomy as the standard for this history. However, from his perspective, this separation between descriptive and analytical approaches was not self-evident. In fact, he actively sought to redefine the terms. In 1805, he lamented before the Berlin Academy that many voyages were of little practical use to science, particularly when conducted by naturalist travellers focused almost exclusively on descriptive sciences and building collections ("*reisenden Naturforschern [die sich] mit den naturbeschreibenden Wissenschaften und mit dem Sammeln beschäftig[en]*", Humboldt, 1805, 2). In contrast, he advocated for a different model of the learned traveller – one dedicated to uncovering the superior and constant laws of nature, revealed through the rapid fluctuation of phenomena ("*den grossen und steten Naturgesetzen, die sich in dem raschen Wechsel der Erscheinungen zeigen*", Humboldt, 1805, 2). This vision of observing the infinite fluctuations of nature to induce its general laws is vividly illustrated in the paintings included in his *Relation historique du Voyage aux Régions équinoxiales du nouveau continent* (1815–1838).

Georges Cuvier argued that natural history should be concerned with studying the internal characteristics of as many species as possible, primarily those housed in museum collections and cabinets. In contrast, Humboldt championed a natural history rooted in the direct observation of nature, seeking to uncover the 'movements' and 'laws' of phenomena. Ultimately, Cuvier's approach prevailed in France, reflecting a broader debate about the inclusion of travel accounts in the scientific canon and its history. Notably, Cuvier did not classify Humboldt's works as 'literary' or attempt to place him among the ranks of 'writers.' This contrasts with his relegation of Buffon's *Histoire naturelle* to the prehistory of science (Weber, 2020, 65).

Despite this, the reference to the 'literary' nature of Humboldt's writing and the compatibility between poetic forms and scholarly exposition is omnipresent in Charles Darwin's writings, even before he presided over the shift from natural history to biology. As Sloan (2001) and Ghiselin (2015, 306) have demonstrated, "Darwin's reading of Humboldt had a substantial effect on his literary style", which he formed as picturesque (*malerisch*), captivated by the vivid descriptions of the volcanoes and vegetation of the Canary Islands and the jungles of South America. Upon entering the forests of Brazil, Darwin noted in a letter that only Humboldt had managed to convey the "feelings which are raised in the mind when first entering the Tropics" (Darwin, 2023, 237). This admiration shaped Darwin's early writing, with Humboldt's *Historical Relation* serving as a direct model for his *Journal of Researches*, published in 1839 based on observations made during the voyage of the *Beagle*.

However, Darwin's correspondences reveal a simultaneous awareness of the stylistic tension between inspiration and originality. His sister Caroline, a recipient of these drafts, intervened

with cautionary advice; in a letter dated 28<sup>th</sup> of October 1833, she urged him not to imitate Humboldt too closely, advising him instead to embrace his “own simple, straightforward & far more agreeable style” (Darwin, 2023, 345). Caroline’s critique was not aimed at discrediting Humboldt’s scholarly achievements but rather reflected a growing preference within the scientific community for a pared-down, ‘straightforward’ style that prioritised precision over rhetorical flourish. Her concern also hinted at the risks of relying too heavily on poetic conventions, warning that they might undermine the relevance and accuracy of scientific observation.

This stylistic divergence underscores broader debates in nineteenth-century science about the place of literary expression in scholarly work. While Darwin ultimately heeded his sister’s advice to develop a more distinctive voice, Humboldt’s synthesis of poetic and scientific methods nevertheless left an enduring legacy, with his descriptions not merely conveying observations but also embodying a larger, more aesthetic engagement with nature – an approach that both inspired and, in some quarters, unsettled his successors.

The correspondence between Charles Darwin and his sister attests not only to the contentious reception of Humboldt’s works in early nineteenth-century Europe – both as sources of inspiration and as potential complications for the writing of natural history – but also to their pivotal role in shaping some of its greatest advancements. This exchange reflects less of a widespread mistrust of Humboldt’s incorporation of literary forms into scholarly discourse than it does a concern over the perceived misuse of such tools when relegated to purely ornamental purposes. In this respect, the reception of Humboldt’s writings by scholarly audiences serves as an echo of the challenges he himself sought to address, as the aims of natural science evolved alongside shifting rhetorical and literary conceptions of style. Indeed, Humboldt devoted a large part of his writings to reflective commentary on the appropriate form for scholarly writing. It is hardly surprising, then, that he was also regarded as a writer, well-versed in poetic and rhetorical techniques and keen to invent new forms. In fact, a number of portraits of Humboldt written by contemporary men of letters, scholars, and writers often place his works, explicitly or otherwise, in the realm of literature without necessarily contesting their scholarly nature.

In the *Gallery of Illustrious Contemporaries* compiled in 1840 by the essayist and future professor of French literature at the *Collège de France*, Louis de Loménie, Alexander von Humboldt is exemplified as an encyclopaedic genius, both a universal scholar and a poet:

Il est difficile d’énumérer tout ce qu’est M. de Humboldt, mais il est encore plus difficile d’expliquer ce qu’il n’est point. Je ne saurais vraiment dire quelle partie des connaissances humaines est étrangère aux investigations de l’illustre savant prussien: géographe, géologue, physicien, chimiste, astronome, botaniste, philosophe, moraliste, économiste, homme d’État au besoin, homme du monde toujours, voire même poète, car il a écrit deux volumes de prose purement descriptive, où brille un sentiment poétique des plus remarquables [...]. (Loménie, 1842, 4)

Others, such as John Herschel, emphasise Humboldt’s powerful imagination and his ability to engage the reader’s emotions, as well as the charm of his descriptions, which vividly transport the audience to the very places he so richly details (Dielthem, 2016, 29 and 36). Additionally, a wealth of contemporary accounts praises Humboldt’s talents as both an orator and a man of the world (Dielthem, 2016, 35). Writers like Balzac, Flaubert, and Théophile Gautier also made comments that demonstrated the renown of Humboldt’s writings and his own literary status throughout the nineteenth century. A systematic study of how Humboldt’s prose was received by writers in France and Europe would likely shed light on the role his works played in lit-

erary history, perhaps by redefining “descriptive” literature or providing a model – or even a repellent – for certain authors. Yet this brief survey already suggests that when evaluating Humboldt’s work, the focus is often placed on his art of conversation, his wit, charm, and imaginative power.

There are two ways to assess the ‘literary’ quality of Humboldt’s work: either as an ornate, florid style exemplifying the art of conversation, or through the originality of his writing, where the content and form are seamlessly intertwined. A quick glance at how Humboldt was regarded by his contemporaries shows that the separation between science and literature had not yet been fully established or distinct within scholarly practice. It also indicates a degree of uncertainty regarding the definitions of both “literature” and “natural history.”

One might be tempted to believe that natural history specialists, such as Cuvier, would dismiss the Prussian scholar’s writings as ‘literature’ in order to exclude them from their field, one whose autonomy they defended vehemently as distinct from literature, and that conversely, writers would dismiss Humboldt’s work as belonging solely to science. The current retrospective readings of Alexander von Humboldt’s work, however, mirror those of his contemporaries, in that the analysis of the scholar’s works often becomes an argument for defending a particular conception of both literature and science as well as their possible dialogue. In attempting to portray Humboldt as a ‘precursor,’ or, conversely, an offshoot of the encyclopaedic spirit of the eighteenth century, these readings encourage us to interpret his work as an effort to reconcile independent research fields or to continue the encyclopaedists’ synthetic tendency. In doing so, they often overlook the extent to which Humboldt systematically and explicitly, and at times problematically, raises the issue of the incompatibility between literary and scholarly discourse. According to Bettina Heyl, who devotes a study to Humboldt’s holistic writing of nature, he knew that he was condemned to fragmentarity by the multidisciplinary and social indeterminism he practised in an age of specialisation and professionalisation of book production. His “all-encompassing, plurivocal spirit” came up against the “mechanisms of a differentiated society of critics and readers”, leading to the “failure of his visionary project” (Heyl, 2007, 208–213). More importantly, current readings fail to grasp how Humboldt actively endeavours to overcome the contradictions he identifies in his works, even if this requires the invention of new forms, styles, and definitions of what is ‘literary’ and what is ‘scholarly.’

## Science and literature according to Humboldt

In the history of science, it is undeniable that Alexander von Humboldt contributed to the establishment of the foundations of scientific thought, ecological epistemology, and comparatism, adopting the latter as a method for exploring both nature and the diverse cultures inhabiting it. The Humboldtian programme can be succinctly expressed through four suggestive verbs – “explore, collect, measure, connect” – proposed by Laura Dassow Walls in her study of the links between transcendentalism, particularly Emerson and Thoreau, and Humboldt, whom they lauded and held in high regard (Walls, 1993, 134). Humboldt’s innovative approach, which combined precise measurement of phenomena with empirical observation and poetic description, was exemplified in his complementary journeys – from the Americas (1799–1804) to Eurasia (1829) – which cross-checked and refined each other’s hypotheses.

More precisely, his vision of the physical description of the world was inseparable from the invention of expressive forms capable of conveying the poetic character of this world as imag-

ined by scholarly poetry. His *Kosmos* had the intention of being both a “book on nature” and a “book of nature,” guided by the principle that “a book of nature must produce the impression of nature as well as nature itself” (“*Ein Buch von der Natur muß den Eindruck wie die Natur selbst hervorbringen*”) (Humboldt/Assing, 1860, 23). Humboldt was wary of “too great a concentration of a multitude of ideas and sensations in a single period” and sought to mitigate this by favouring “a fairly constant simplicity and generalisation (a way of dominating observation)” (Humboldt/Assing, 1860, 23). In his writing, a dynamic interplay emerges between the particular and the general, between complexity and simplicity, and between the beauty of language and the beauty of nature. On the one hand, his prose displays a decidedly aesthetic quality; on the other, it integrates diverse perspectives to allow his subjects to be measured. This dialectic between the ornamental and the documentary reflects an essayistic approach striving for true alignment with its subject. However, achieving this balance does not occur without encountering challenges of genericity or requiring compromises that blur the boundaries between the poetic and the epistemological. Humboldt, to his credit, made the existence of such tensions explicit, beginning as early as his *Essai sur la géographie des plantes*, a work that long precedes the publication of *Kosmos*:

Mais j’ai pensé qu’avant de parler de moi-même et des obstacles que j’ai eu à vaincre dans le cours de mes opérations, il vaudrait mieux fixer les regards des physiciens sur les grands phénomènes que la nature présente dans les régions que j’ai parcourues. C’est leur ensemble que j’ai considéré dans cet essai. Il offre le résultat des observations qui se trouvent développées en détail en d’autres ouvrages que je prépare pour le public.

J’y embrasse tous les phénomènes de physique que l’on observe tant à la surface du globe que dans l’atmosphère qui l’entoure. Le physicien qui connaît l’état actuel de la science, et surtout celui de la météorologie, ne s’étonnera pas de voir un si grand nombre d’objets traités en si peu de feuilles. Si j’avais pu travailler plus longtemps à leur rédaction, mon ouvrage n’en serait devenu que moins étendu encore; car un tableau ne doit présenter que de grandes vues physiques, des résultats certains et susceptibles d’être exprimés en nombres exacts. (Humboldt, 1805/1990, V–VI)

Humboldt engaged in deep reflection on the structure of discourse and the challenge posed by addressing multiple objectives simultaneously. This reflection led him to adopt an approach that disassembled a subject encompassing multiple interrelated works, integrating and subsuming them into a coherent whole. Faced with the need to recount his expeditions, record his observations, and draw general extrapolations to deduce a theory of nature, Humboldt was compelled to tackle his vast subject from multiple angles. Each approach held equal importance, corresponding to distinct facets of nature and compounding the complexity of his task.

This challenge was further heightened by the varying tastes and expectations of his diverse audiences. These audiences were separated historically by the poetics of the *Belles-lettres* and increasingly, in Humboldt’s time, by the emerging literature of the sciences. The latter was rapidly asserting its autonomy, distancing itself not only from the poetic but also from any aesthetic dimension.

The successive prefaces, editions, and translations of *Ansichten der Natur* in 1808 and 1849 respectively, provide ample evidence of Humboldt’s awareness of the increasing difficulty, from the reader’s perspective, of accepting that a text could be both scientific and literary. They also reflect his desire to compose a work that, from the outset, harmonised the two practices without outright rejecting the use of literary writing or abandoning the scholarly character of the

work. The preface, in 1808, unfolds around what, at first glance, appears to be an expression of regret on the part of the scholar:

Diese ästhetische Behandlung naturhistorischer Gegenstände hat, trotz der herrlichen Kraft und Biegsamkeit unserer vaterländischen Sprache, grosse Schwierigkeiten der Composition. Der Reichthum der Natur veranlasst Anhäufung einzelner Bilder. Diese Anhäufung aber stört die Ruhe und den Totaleindruck des Naturgemäldes. Das Gefühl und die Phantasie ansprechend, artet der Styl leicht in eine dichterische Prosa aus. Diese Ideen bedürfen hier keiner Entwicklung, da die nachstehenden Blätter leider! mannichfaltige Beispiele solcher Verirrungen, solchen Mangels an *Haltung* darbieten. (Humboldt, 1808, vol. I, VII)

Initially, Humboldt distinguishes natural history from poetics, or rather from aesthetics, in the same way one might distinguish form from content – seemingly aligning with the ornamental use of poetics. He then proceeds to deepen the divide between the richness of nature in itself, which inspires particular pictures (“*Bilder*”), with its representation (“*Naturgemälde*”), itself based on an overall view (“*Totaleindruck*”). Yet he also posits that style arises from sentiment and poetry, transforming prose into ‘poetic prose’. Curiously, Humboldt, having identified these pitfalls, does not express any intention to avoid or challenge them. Instead, he presents the work that follows as the only possible justification for such ‘deviations.’ His argument thus could almost constitute a preterition, in which the scholar takes to heart the critiques that could be made of his text without, however, renouncing the type of writing and study to which he is dedicated and which the work ultimately exemplifies; it is as though the reader is directed to the following chapters to judge for themselves whether the critiques are accurate. Moreover, while pointing out the apparently insurmountable gulf between a serious subject and a poetic form and between the object (Nature) and its representation, Humboldt employs a vocabulary that proposes a certain continuity between the terms of these two dichotomies: the text transitions from “images” to “pictures”, from a poetic constraint (that of the aesthetic treatment of nature) to a natural constraint (that of particular images), as if the laws of nature and the aesthetic laws intertwine in the text, coalescing to finally create the resulting ‘tableaux of nature’.

In 1849, Humboldt’s *Ansichten der Natur* went even further, explicitly stating the apparent inadequacy of literary form and scholarly content, as if echoing, thirty years on, the progress made in the minds of his contemporaries of the idea of the necessary separation of science and literature:

Es sind damals schon die mannichfaltigen Hindernisse angegeben, welche der ästhetischen Behandlung großer Naturscenen entgegenstehn. Die Verbindung eines litterarischen und eines rein scientifischen Zweckes, der Wunsch, gleichzeitig die Phantasie zu beschäftigen und durch Vermehrung des Wissens das Leben mit Ideen zu bereichern: machen die Anordnung der einzelnen Theile und das, was als Einheit der Composition gefordert wird, schwer zu erreichen. Trotz dieser ungünstigen Verhältnisse hat das Publikum der unvollkommenen Ausführung meines Unternehmens dauernd ein nachsichtsvolles Wohlwollen geschenkt. (Humboldt, 1849, vol. I, XI–XII)

The tone here changes slightly: pushing to the extreme the apparent incompatibility between the literary aim and the purely scientific aim, it seems that Humboldt is delineating a boundary that has already been established. Yet he also suggests that the reason for this incompatibility lies essentially in a poetic precept: the unity of composition or, more precisely, what is required

in such a matter. Put differently, Humboldt suggests that there may be other ways to express unity of composition – alternative textual forms that would incorporate a certain set of guiding principles. Some forty years after the first edition of the work, the scholar, moreover, countered the critiques that might be levelled at him for mixing poetic impressions with a mere scholarly object with the public success of the work, as if the distinction between the scholarly and literary spheres, established by certain scholars, were far from being accepted by the majority of the contemporary public. In other words, despite his apparent humility, this second preface reveals Humboldt's claims regarding his own scholarly practice and authority, which, although they do not correspond to the requirements laid down by his peers, constitute nonetheless part of the scientific and literary spheres. It is still necessary to know how to appropriate and develop fixed poetic principles, and even to define 'science' and 'literature' in light of their development.

Attentive to the overall impression as much as to addressing taxonomic gaps, Humboldt was convinced that "everything is in mutual interaction (*Alles ist Wechselwirkung*)" (Humboldt, 1803, Tagebuch IX, 27r, 2–27v.); as he wrote in his very first travel diaries *in situ*, Humboldt's desire to observe things from multiple perspectives, with varying sensibilities, led him to link and compare everything he encountered with everything else he knew, and to describe the interrelationships between phenomena that were the subject of separate sciences, in contrast to the increasing specialisation of his time. In *L'Écologie et son histoire*, Jean-Marc Drouin recalls Humboldt's rivalry with Pyrame de Candolle in the realm of plant geography, renamed 'biogeography' in 1900 (Drouin, 1991, 67–80). This field, central to botanical geography, provided the groundwork upon which ecological science would eventually be built. In 1805, Candolle not only published his *Essai sur la géographie des plantes*, but also republished Lamarck's *Flore française*, reinforcing the notion of a complementary approach to plant geography. This concept, inspired by their predecessor Bernardin de Saint-Pierre in *Études de la nature*, likened the relationship between plants and nature to that of a famous fable: the hussar who, finding an inscription in Latin letters, sent each letter individually to an antiquarian, thus destroying the original context of the whole. Similarly, Saint-Pierre argued for maintaining a connection between a plant (like the inscription) and the place and season in which it was collected. His insistence on a global, holistic approach highlighted the belief that meaning arises from disposition, hence the link to be constructed between geography and botany.

What, then, were the complementary activities in the field of plant geography, and where did Humboldt fit in? De Candolle epitomised the 'cabinet scientist,' meticulously analysing the samples of *flora* he received, plotting their origins on a map, and studying their characteristics in order to trace their history. Humboldt instead embodied the learned traveller, undertaking the archaeological task of situating each plant within its specific altitude and the landscape it shaped, whether through its abundance or rarity. He contextualised each plant – examining how it was grouped with others, its role within the environment, and even its contribution to the beauty of the landscape. The care he accorded to the *association* between the different elements that make up geography to their *physiognomy* that underpins landscapes meant that Humboldt retained a highly original epistemological position. For his part, Humboldt desired to rely on measurement, quantification, and the search for elementary physical causes in order to contemplate a reality, one whose unity and shimmering beauty he endeavoured simultaneously to preserve (Drouin, 1991, 69). In all of his works, the existence of this requirement is evident in the articulation that he proposes between scholarly discourse and literary discourse, endeavouring to combine them without establishing a hierarchy, thus exposing the risks and advantages, for the science and literature he intends to practise, of resorting to forms or styles that could undermine his scientific project.

As Hartmut Böhme has demonstrated, Humboldt's scientific *poiein* is an "aesthetic science" (Böhme, 2001, 17–32). This is clearly demonstrated in the chapter entitled "*Ideen zu einer Physiognomik der Gewächse*", in which the scientist sets out to classify plants on the basis of aesthetic characteristics, first adopting the eye of the painter to determine the major masses of vegetation that characterise the landscapes of each of the territories observed:

Umfasst man die verschiedenen Pflanzenarten, welche bereits auf dem Erdboden entdeckt sind, und von denen Willdenow's grosses Werk allein über 20,000 genau zergliedert, mit Einem Blick; so erkennt man in dieser wundervollen Menge wenige Hauptformen, auf welche sich alle andere zurückführen lassen. Zur Bestimmung dieser Formen, von deren individueller Schönheit, Vertheilung und Gruppierung die Physiognomie der Vegetation eines Landes abhängt, muss man nicht (wie in den botanischen Systemen aus andern Beweggründen geschieht) auf die kleinsten Theile der Blüthen und Früchte, sondern nur auf das Rücksicht nehmen, was durch Masse den Totaleindruck einer Gegend individualisiert. Unter den Hauptformen der Vegetation gibt es allerdings ganze Familien der sogenannten natürlichen Systeme. Bananengewächse und Palmen werden auch in diesen einzeln aufgeführt. Aber der botanische Systematiker trennt eine Menge von Pflanzengruppen, welche der Physiognomiker sich gezwungen sieht, mit einander zu verbinden. Wo die Gewächse sich als Massen darstellen, fließen Umrisse und Vertheilung der Blätter, Gestalt der Stämme und Zweige, in einander. Der Mahler (und gerade dem feinen Naturgefühle des Künstlers kommt hier der Ausspruch zu!) unterscheidet in dem Mittel- und Hintergrunde einer Landschaft Tannen- oder Palmengebüsche von Buchen, nicht aber diese von andern Laubholzwäldern! (Humboldt, 1808, vol. I, 180–182)

Although Humboldt, unlike Darwin, did not enshrine beauty as a law of nature, such statements would easily permit him to take his place in the natural history of aesthetics traced by Lorenzo Bartalesi (Bartalesi, 2021), in the sense that the aesthetic principles of classification of plant forms do indeed lead to a new 'science of plants.'

The least risk posted by Humboldt's epistemo-poetic research lies in embracing a certain amount of wandering – an approach characterised by possibilistic forms of serendipity and a receptiveness to previously unnoticed phenomena. This approach (contrary to a 'method') leaves room for the spontaneous expression of natural forms without categorising them or creating a tabular reasoning classification of phenomena. Ottmar Ette goes as far as to suggest that:

Delirious at the sheer abundance of Nature and overwhelmed by sensory impressions, both Bonpland and Humboldt run around aimlessly. They move about almost choreographically in discontinuous figures of movement that represent a sort of continually interrupted *discursus*. Recalling the etymologically stored basic meaning of the Greek *trópos* as 'turn' and 'change in direction' helps identify this sketchy choreography as deeply tropic(al). (Ette, 2012, 221)

While the aim here is undoubtedly to convey the style of the journey itself as well as the lived experience that precedes the written word, something emerges that permeates all subsequent writings. The choices made in structuring the work, far from restricting the flow of thought, preserve the impression of a dance or a spiral – an openness in the written form. Above all, they give the lasting sense of hearing an enchanting voice narrating nature, an impression highlighted by Ottilie in *Die Wahlverwandschaften* as early as 1809.

Nur der Naturforscher ist verehrungswerth, der uns das Fremdeste, Seltsamste, mit seiner Localität, mit aller Nachbarschaft, jedes Mal in dem eigensten Elemente zu schildern und darzustellen weiß. Wie gern möchte ich nur einmal Humboldten erzählen hören. (Goethe, 1809, t. II, 150).

The question of the charm that the impressions left on the reader by the genre of the travelogue were to inspire, as well as that of the need to conform to a certain pre-established genre of composition, were in fact dealt with precisely in the long introduction to the *Relation historique du Voyage aux régions équinoxiales du Nouveau Continent*, published in 1814. Here, Humboldt tackles the question of the incongruity of applying the rules of a pre-established literary genre to the novel objects that science has to analyse, as well as the question of respect for the unity of composition that had already appeared in the first preface to *Ansichten der Natur*. The scholar thus expresses, in the form of a preterition, his reticence at the notion of being obliged to provide the public with a travel report, which he refers to, with a certain amount of contempt, as “this kind of composition” (“*ce genre de composition*”, Humboldt, 1814, vol. I, 30). He elaborates that the expectations of the genre are based on the traveller recounting his personal impressions and adventures, which ensures a certain unity. However, Humboldt, who had opted to focus on scholarly descriptions, could no longer conform to this unity. The unity of composition, he argues, was lost once explorers – no longer in touch with contemporary scientific understanding – began undertaking and narrating their voyages.

Alas, Humboldt did not forsake his composition of the historical account and its delivery to the public. He even began to describe its composition, explaining that he had chosen to interrupt the descriptive and scholarly portion of his text – which would form the main body – with ‘charming pictures’ illustrating the customs of the populations he encountered. (Humboldt, 1814, vol. I, 32). Humboldt added further that, in order to make the work “more varied in form”, the subjects would be dealt with in chronological order before being categorised on the basis of their individual characteristics: each object would form a chapter, as it were, which would conclude with a comparison and a generalisation.

He even went on to compile a typology of types of narrative according to the characteristics of the territories travelled through and, above all, the place occupied by human civilisations: history and morality will take precedence in descriptions of the oldest and most populated countries, while descriptions of nature will prevail in wild or “young” lands (Humboldt, 1814, vol. I, 32–33). This typology does not merely categorise types of travel narratives; it forms a true ‘tropology,’ where the scholar demonstrates how the structure of the narrative can mirror the components of the world described while aligning with a broader poetic category. In other words, Humboldt rejected the application of a certain outdated conception of the genre of travel writing to his own observations while simultaneously inscribing his subject in a (literary) genre whose poetic rules are based on natural characteristics. Better still, the description of large autonomous *tableaux*, containing scenes of manners and all animated by the same tendency to generalise by comparison, could well illustrate the unity of composition, conceived no longer as the succession of events in the narrative but as a unity of plan in which all the stages of a text are constructed from the same schema. In the introduction to the *Relation historique*, Humboldt, far from contenting himself with noting the relative incompatibility between pre-established literary precepts and the necessary novelty of the objects analysed by the scholar, undertakes to redefine the ‘genre’ of the travel narrative; he also adopted the poetic criterion of unity of composition, deducing from it new rules of writing designed to synchronise literary form with natural content.

The recent genetic work conducted on *Kosmos* also sheds light on this process. This work, which began to be written from 1834 onwards (though unfinished when Humboldt died in 1859), was based on the 62 lectures given in the university, and 16 in the *Sing-Akademie* of Berlin to packed auditoriums between 3<sup>rd</sup> of November 1827 and 26<sup>th</sup> of April 1828, in which Humboldt's vision of the world was already clearly asserted. As Christian Kassung and Christian Thomas demonstrate, having edited an unsigned *Nachschrift* of these lectures, Humboldt used a distinctive, open, and encompassing form. This allowed his audience to witness a juxtaposition of elements whose connection only became apparent after the fact, singular phenomena for which there is still no theory that describes them all together (Kassung und Thomas, 2019, 27). The identification of Henriette Kohlrausch, an attendee of the lessons, as the writer of this manuscript further illuminates Humboldt's approach. Though written by another hand, it was nonetheless derived from the very source of Humboldt's oratorical art as a teacher. The editors confirm that Humboldt's quest for changing literary forms capable of conveying the scholarly material he explored extended even to the *in vivo* note taking he inspired in his contemporaries. This confirms Ulrike Moheit's earlier observation that correspondence played a significant role in Humboldt's writing, both in its scholarly and its literary dimensions. For this researcher, the prolific correspondence that the traveller addressed to more than 80 people and institutions, first published by La Roquette under the title *Correspondance scientifique et littéraire* (1865–1869), endured, perhaps even gaining in rigour from the first expedition to the last volume of *Kosmos*, an instrument for collecting and disseminating knowledge across several disciplines (Moheit, 1993, 17).

In such a network of scribes and scientific correspondents whose intervention shaped, and to some extent co-wrote, Humboldt's work, there spread the conviction, indissociably poetic and scholarly, and in this way typically Humboldtian, that the desire to explain was necessarily accompanied by an art of describing with precision (Kassung and Thomas, 2019, 45). However, this is not something that an inherited poetics, already in place, outlines in advance. Humboldt was wary of preconceived forms: the style of the *Ansichten der Natur* and the preface to the *Relation historique* bear witness to his concern not to write for purely ornamental or documentary purposes, but rather for epistemic ones, while at the same time putting forward an argument for why the two spheres should complement each other.

## Humboldt as cosmopoetician

To interpret and describe the world, it is essential to create poetic forms that, in the spaces between established genres, allow it to convey the natural shapes it presents to the senses. Distancing itself from a treatise on the world, which would see it as an object to be mastered through discourse, Humboldt's poetic quest consists of a mimetic essayism of the very forms that the world takes to better depict it. By choosing the concept of "*Entwurf*" as its subtitle, which can be translated as 'sketch', 'attempt', 'rough work', 'draft' or 'drawing', *Kosmos* asserts this empiricism and this need for formal renewal; just as in all the writings that are, so to speak, satellites, the enlightening rhetorical indications of the "views" (*Vues des Cordillères et Monumens des Peuples indigènes de l'Amérique*), "tableaux" and "considérations" (*Ansichten der Natur*, translated in French as *Tableaux de la nature* or *Considérations sur les déserts, sur la physionomie des végétaux et sur les caractères*), "fragments" (*Fragments de géologie et de climatologie asiatiques*, 1831), "experiments" ("*Expériences sur la torpille*") or "investigations" (*Untersuchungen zu den Gebirgsketten und zur vergleichenden Klimatologie*). The unfinished or *in-progress* nature of Humboldt's work is due to the fact that it abandons any pretence of a

system and is resolutely dynamic, what Ottmar Ette has described as the “*Mobile des Wissens*” (Ette, 2009).

Humboldt’s twofold literary and scholarly challenge implies the adoption of unprecedented strategies in the composition of texts, starting with their dissemination in essays of varying dimensions, ranging from the most apparently simple to the more elaborate architecture of *Kosmos*, on the threshold of which Humboldt writes that:

Den Naturschilderungen darf nicht der Hauch des Lebens entzogen werden, und doch erzeugt das Aneinanderreihen bloß allgemeiner Resultate einen eben so ermüdenden Eindruck als die Anhäufung zu vieler Einzelheiten der Beobachtung. (Humboldt, 1845, Bd. I, viii).

This contradiction, he elaborates, is not a conundrum that he thinks he has been able to resolve, but rather one that he intends to confront as a challenge that reveals the truly cosmic scale on which the problem arises, poetic and scholarly at the same time, of this need to charm and explain, that is to say, to balance the subject between synthesis and analysis, between ideal and empirical, between orphism and prometheism (Hadot, 2008). It is a question of encapsulating the world in all its uniqueness and diversity into a book that is itself singular and multifaceted, and vice versa. In other words, to forge a poetic on the scale of the cosmos.

Humboldt’s essayistic style is tentative, ramified, curved, and digressive, even though it is also intended to be encompassing, clear, holistic, and harmonious in its composition. It betrays its contradictions and pitfalls at every level, from the “fragment” of the *Essai sur la géographie des plantes* to the monument of *Kosmos*. He does not seek to be concise, instead aiming for the unity of what he describes in segments. In other words, it does not give in to a posteriori *cosmetic* shaping of the writing, but rather gambles on the manifestation of the *cosmic* itself: the writing may embrace the seeming disorder of what it describes, allowing the natural order of things to reveal itself and shape the very form of expression. Above all, style is the transposition of a way of looking at the world, as Nietzsche would emphasise in an ambiguous eulogy to Humboldt, who is remarkable for his supposed incarnation of both the Apollonian and Dionysian, multiscalar and readable through several focal points, stimulating the imagination while not neglecting the ordering of details:

Die Mängel des Stils geben ihm bisweilen seinen Reiz. – Alexander von Humboldt’s Stil. Die Gedanken haben etwas Unsicheres, soweit es sich nicht um Mittheilung von Facta handelt. Dazu ist alles in die Höhe gehoben und durch ausgewählte schöne Worte mit Glanz überzogen: die langen Perioden spannen es aus. So erzeugt dieser Stil als Ganzes eine Stimmung, einen Durst, man macht die Augen klein, weil man gar zu gern etwas Deutliches sehen möchte, alles schwimmt in anreizender Verklärung in der Ferne: wie eine jener welligen Luftspiegelungen, welche dem Müden Durstenden ein Meer eine Oase ein Wald zu sein scheinen (vor die Sinne führen). (Nietzsche, 1999, 466)

Nietzsche, a keen observer of the *Zeitgeist*, characterises one of Humboldt’s unique traits, which is that he asks his readers to constantly *refocus*, to work on their reading gaze in order to return to the work of the equipped and plural gaze. These traits, in effect, describe Humboldt as a traveller, then as a writer and scholar, moving from the painting of a landscape to the formulation of the general hypotheses that he drew from it. This suggests the extent to which, in Humboldt’s work, the reader is asked to rediscover how to read on several levels, just as Humboldt himself relearned how to conceive the world differently.

That *seeing* – admiring, contemplating – and *reading* – analysing, interpreting – are two practices that cannot exist independently for cosmopoetics. These two facets exemplify the same culture of *looking*, amply suggested by Humboldt's attention to drawing and graphics. This much was evident from the traveller's notebooks *in situ*, overflowing with sketches, to the general atlas that he would have liked to have published in tandem with *Kosmos*, a goal that was only realised posthumously with the joint reissue of Berghaus's atlas in 2004. The practice of comparative paintings, which juxtapose rivers or mountains from distant geographical (but also cultural) eras, hitherto considered incommensurable and alien to each other, in the manner of "group portraits" (Bailly, Palsky and Besse, 2014, 8) on the same page, is a quintessentially Humboldtian affair, and such practice typifies him as the bearer of innovative thought as well as an artistic and picturesque practice with an aesthetic and cosmopoetic dimension. These paintings signify the unity of the physical world of the earth as a diverse whole. In other words, Humboldt's contribution to the emerging field of ecology – and more broadly to the natural sciences and plant geography – lay in his general and comparative approach, which reached its zenith alongside disciplines like comparative anatomy and comparative linguistics.

Humboldt, in his capacity as a historian of literature at a key juncture in its constitution as such (when it was emerging from the *Belles-lettres*, itself undergoing its own metamorphosis), was active at the opportune moment to help conceive and establish modern *comparative* sciences: he was a liberal who had travelled under the protection of the Spanish crown and, increasingly, of his friend Thomas Jefferson's nascent United States of America. He recorded in French as well as in German, at a time when the last embers of a literate French Europe were smouldering, participating as much in a "literature of the North" as in a "literature of the South" (De Staël, 1810), at a time when the "century of comparison" (Chevrel, D'Hulst and Lombez, 2012, 31) was coming to the fore in every field. His enduring mistrust in a writing whose aesthetic appeal might compensate for some scientific shortcoming reveals his profound understanding of the changes underway in the art of writing, which, as a result of the revolutionary upheavals – in which he enthusiastically took part, as shown by his correspondence with Jefferson (Rebok, 2014) – had become an art of expressing new ideas, freed from the formal shackles and convenience of the fixed codes and registers of the *Ancien Régime*.

His specific approach to the geography of plants accords significant importance to local contexts. At the same time, such an approach creates the conditions for a way of thinking that rises to the level of generality, enabling the articulation of specificities across regions. This approach conditioned the advent of what Haeckel called *Oekologie* in 1866 in *Generelle Morphologie der Organismen*, the entire science of the relations of the organism with the surrounding external world, including, in the broadest sense, all the conditions of existence ("[...] *die gesamte Wissenschaft von den Beziehungen des Organismus zur umgebenden Aussenwelt, wohin wir im weiteren Sinne alle "Existenz-Bedingungen" rechnen können*", Haeckel, 1866, Bd. 2, 286). It is this comparatism intrinsic to his method that distinguishes him as a cosmopolitan thinker, but also as a cosmopoetic thinker, the actor and retrospective inventor of a connected history of forms and ideas from the point of view of a knowledge, through the diversity of people and languages, of the unity of the varied natural forms they inhabit.

In the second volume of *Kosmos*, Humboldt is at pains to place the study of descriptive literature, a trans-generic category that he invents, which encompasses poetry and prose, at the heart of a study of nature itself. Descriptive literature is not a collage of so-called 'foreign' fields, instead postulating a human unity in the history of poetic attempts to describe the world, transcending all language barriers. This is a dimension of his work that requires con-

sideration in relation to the work of his elder brother Wilhelm, himself the great architect of a comparative linguistics that is resolutely synchronic and open to an original planetary dimension, going against the grain of diachronic options that only take into account the quest for the origin of Indo-European languages. As founding ecopoetics, Humboldt's work, in the second part of *Kosmos*, synthesises and crowns (and is a part of) the history of descriptive literature, the literary history he outlines in *Kosmos* from the point of view of nature, in particular by proposing a typology of text forms that he relates to his own typology of plant forms. The scholar invents literary genres on the basis of physical geography recaptured as a poetic category.

Sometimes published separately, the expansive second chapter of *Kosmos* introduces, at the beginning of the second volume, a new endeavour: a history of literary and poetic descriptions of nature ("*dichterische Naturbeschreibung*" [Humboldt, 1847, Bd. II, 3]), outlines a fruitful direction for the World Literature ("*Weltliteratur*") in the making. The intention is to illustrate, in small, synthetic, and chronological strokes, the extraordinarily rich permanence of a general feeling for nature, from the earliest sources to the strictly contemporary period of his writing, constituting both a lesson in trans-historicity and trans-area openness. Humboldt himself is a part of a recent trend toward making descriptive discourse more prosaic, echoing its earlier, poetic and rhythmic – if not epic and religious – form. The naturalist ("*Naturforscher*"), who is neither solely historian nor poet, without mentioning literary historian, explains the rise and fall of literary forms by the orientation of the spirit according to which nature is studied through time and requests an equilibrium of faculties, a balance between the poetic ideal on the one hand and empirical requirements on the other.

Gehen wir zu der uns näheren Zeit über, so bemerken wir, daß seit der zweiten Hälfte des achtzehnten Jahrhunderts sich vorzugsweise die darstellende Prosa in eigenthümlicher Kraft entwickelt hat. Wenn auch bei dem nach allen Seiten hin erweiterten Naturstudium die Masse des Erkannten übermäßig angewachsen ist, so hat sie darum doch nicht, bei den Wenigen, die einer hohen Begeisterung fähig sind, die intellectuelle Anschauung unter dem materiellen Gewichte des Wissens erdrückt. (Humboldt, 1847, 65)

If we consider Humboldt's vast empirical contributions to establishing ecology as the science of relationships between organisms and their environments, we see a wealth of experimental results – what we would now call 'data,' though he more often termed them 'observations' ("*Beobachtungen*"), underlining the link between 'objective' things and the 'subjective' observer – with subjectivity always central to the experience. This description of the world is not systematic but instead forms a flexible, poetically innovative whole, an organic structure that reflects a profound intelligence in the relationship between part (the note) and whole (the entirety of *Kosmos*). It is a series of evolving essays, each an invitation to friends, correspondents, and future scholars to continually refine, clarify, and expand upon this shared body of knowledge. This knowledge is networked on a global scale, with a characteristically arborescent way of composing works in which the monument and the dissemination go hand in hand, representing a dialectic of the whole and the detail, which Humboldt's polygraphic writing itself makes capable of apprehending on all levels.

Alongside the Greek and Latin classics – from Homer and Hesiod to Ovid and Pliny – which perfected the poetic art of describing nature and inspired a desire to study it, Humboldt incorporated Persian, Arabic, and Indian works, such as the *Râmâyana* and the *Mahabharata*, into the canon of descriptive literature, which he believed must inherently be global. In *Kosmos*, Camões's *Lusiades* meet the descriptive poetry of Dante, Petrarch, and the Arab poet Amrul Kais. Far from contenting himself with having arrived at a propitious moment in literary history,

Humboldt clarifies his innovative understanding of it by situating himself alongside and in line with the descriptive poets he models:

Ich habe hier die Richtung zu bezeichnen versucht, in welcher das Darstellungsvermögen des Beobachters, die Belebung des naturbeschreibenden Elements und die Vervielfältigung der Ansichten auf dem unermeßlichen Schauplatze schaffender und zerstörender Kräfte als Anregungs- und Erweiterungsmittel des wissenschaftlichen Naturstudiums auftreten können. Der Schriftsteller, welcher in unserer vaterländischen Litteratur nach meinem Gefühle am kräftigsten und am gelungensten den Weg zu dieser Richtung eröffnet hat, ist mein berühmter Lehrer und Freund *Georg Forster* gewesen. Durch ihn begann eine neue Aera wissenschaftlicher Reisen, deren Zweck vergleichende Völker- und Länderkunde ist. Mit einem feinen ästhetischen Gefühle begabt, in sich bewahrend die lebensfrischen Bilder, welche auf Tahiti und anderen, damals glücklicheren Eilanden der Südsee seine Phantasie (wie neuerlichst wieder die von Charles Darwin) erfüllt hatten [...]. Alles, was der Ansicht einer exotischen Natur Wahrheit, Individualität und Anschaulichkeit gewähren kann, findet sich in seinen Werken vereint. (Humboldt, 1847, 71–72)

From the perspective of a reading of *Kosmos* as a model of cosmopoetics, the chapter devoted to descriptive literature, like the one Humboldt devotes to the “Influence of landscape painting on the study of nature”, cannot therefore be considered as mere digressions or as subjects among others in an encyclopaedic undertaking aimed at covering the arts and knowledge. Based on the principle that “the reflection of the Cosmos in human thought” (Grange, 2000, vol. I, 21) or that its representation in the arts provides a glimpse of what the sciences do not see and encourages human beings to take account of the Cosmos as a whole, from which they derive, the scholar undertakes to reread the history of the arts in order, of course, to found his own aesthetic science, while also enticing his contemporaries to better understand and examine “nature”. “Descriptive literature” is not merely a simple hybrid category; it is in fact the recomposition of a literary history that does not immediately exclude from its canons works that do not correspond to its own criteria. We might interpret it as an invitation to reconsider the history of the arts from an ecological perspective (or, in this case, scientific biogeography), even if that means expanding the canon to include works previously deemed non-literary or choosing to highlight writings by canonical authors that have often been overlooked.

Discussing the scarcity of descriptions of nature in Greek and Roman prose writers, Humboldt rapidly pivots to the “great encyclopaedic work of Pliny the Elder”, pointing out that it lacks specific descriptions. Humboldt often deviates, typified by his evoking of the villas built by the Romans and, above all, the “charming descriptions” left by Pliny the Younger (Humboldt, 1847, 232). Instead of the great Roman encyclopaedia, a reference work, the scholar prefers the correspondence of Pliny’s nephew, who devotes each of his letters to a particular theme and, while reworked by the author for publication, is typical of practical, even didactic, literature. A few lines further on, addressing the beginnings of Christianity, Humboldt chooses to quote descriptions borrowed from the Greek Church Fathers, which are less familiar to readers than the Roman texts (Humboldt, 1847, 27). Each quotation is also accompanied by comments in which Humboldt likes to emphasise the type of use that can be made of literature and to condemn the “artificial elegance” of certain productions, such as Ausonius’s *Mosella*, in which poetic form is no more than a borrowed ornament thrown by chance of thought (Humboldt, 1847, 21–22). In other words, the history of ‘descriptive literature’ is also a call in favour of a use of literature or the arts that is neither documentary nor ornamental; true ‘descriptive literature’ is that which expresses a genuine feeling for nature and which fully participates in the necessary taste for nature studies as practised by Humboldt. Literary history is deconstructed

and then reassembled in *Kosmos* to emphasise the role of describing and intimately knowing nature, encouraging readers to follow this path. In a way, Humboldt anticipates the endeavour later undertaken by Estelle Zhong-Mengual in *Apprendre à voir* (Zhong-Mengual, 2021), though his perspective is less focused on the living and more on the cosmos, which fully includes humanity, our thoughts, and our works. Rather than developing conditions for a new way of viewing culture and ‘nature,’ with art as a means of renewal, Humboldt’s work itself embodies the means of overcoming the dichotomy between the arts and sciences, in the spirit of a holistic understanding of the cosmos.

It is not at all surprising, then, that the works of Alexander von Humboldt occupy such a prominent place in a comparative work dedicated to analysing, through their reciprocal uses, the way in which the ‘literary’ and the ‘scholarly’ have been able to articulate and define themselves. The reception of Humboldt’s work exemplifies how the evolution of scholarly disciplines and practices, whether literary or scientific, can retrospectively marginalise works that arguably belong within their canons. More profoundly, Humboldt himself systematically interrogates the enduring conundrum of the division between literary and scholarly discourse, and in each of his texts, he actively experiments with modes of dialogue between the two, avoiding any reduction to a merely ancillary relationship. In so doing, he distinguishes between the ornamental uses of literary forms, the documentary uses that could be made of the texts that make up his retrospective literary history, and uses that are properly epistemic. However, he also clarifies that the conceptualisation of these two spheres, along with the imperative to subvert established interpretive paradigms in order to function as both a scholar and a writer, are pivotal in these various applications, simultaneously rendering the underlying presuppositions of the analysis transparent.

## Bibliography

### Primary Sources

Assing, Ludmilla (ed.), *Briefe von Alexander von Humboldt an Varnhagen von Ense aus den Jahren 1827 bis 1858. Nebst Auszügen aus Varnhagen’s Tagebüchern und Briefen von Varnhagen und Andern an Humboldt*, Leipzig, Brockhaus, 1860.

Darwin, Charles, *The Correspondence of Charles Darwin*, Burkhardt, Frederick, Smith, Sydney, Kohn, David (ed.), Cambridge, Cambridge University Press, 1985, vol. 1.

De Staël, Germaine, *De l’Allemagne*, Paris, Henri Nicolle, 1810.

Dielthelm, Marie-Bénédicte, *Alexandre de Humboldt. Lettres à Claire de Duras (1814–1828)*, Paris, Éditions Manucius, 2016.

Enzensberger, Hans Magnus (ed.), Berghaus, Heinrich, *Physikalischer Atlas [1845]*, Frankfurt am Main, Eichborn Verlag, “Die Andere Bibliothek”, 2004.

Gay-Lussac, Louis Joseph and Humboldt, Alexander von, “Expériences sur la torpille”, in: *Annales de Chimie*, no. 56, 1805, pp. 15–23.

Goethe, Johann Wolfgang von, *Die Wahlverwandtschaften*, Tübingen, Cotta, 1809, vol. 2.

Humboldt, Alexander von:

- *Amerikanische Reisetagebücher*, entry for August 1803, Tagebuch IX, Nachlass Alexander von Humboldt, Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz.

- *Essai sur la géographie des plantes* [1805], La Garenne-Colombes, Éditions Érasme, “Memoria americana”, 1990.
- “Beobachtungen über das Gesetz der Wärmeabnahme in den höhern Regionen der Atmosphäre, und über die untern Gränzen des ewigen Schnees”, *Annalen der Physik*, 24, 1806, pp. 1–49.
- *Ansichten der Natur*, Tübingen, Cotta’sche Buchhandlung, 1808, vol. 1.
- *Voyage aux régions équinoxiales du nouveau continent*, Paris, F. Schoell, 1814, vol. 1.
- *Fragments de géologie et de climatologie asiatiques*, Paris, Gide, 1831.
- *Kosmos. Entwurf einer physischen Beschreibung*, Stuttgart und Tübingen, J. G. Gotta’scher Verlag, 1845, vol. 1.
- *Kosmos. Entwurf einer physischen Beschreibung*, Stuttgart und Tübingen, J. G. Gotta’scher Verlag, 1847, vol. 2.
- *Ansichten der Natur*, Tübingen, Cotta’sche Buchhandlung, 1849, vol. 1.
- *Untersuchungen zu den Gebirgsketten und zur vergleichenden Klimatologie. Zentral-Asien*, Oliver Lubrich (ed.), Frankfurt am Main, Fischer, 2009.

Kassung, Christian and Thomas, Christian (ed.), Humboldt, Alexander von and Kohlrausch, Henriette, *Die Kosmos-Vorlesung an der Berliner Sing-Akademie*, Berlin, Insel Verlag, 2019.

Loménie, Louis de, *Galerie des contemporains illustres*, Paris, A. René et C<sup>ie</sup>, 1842, vol. 5.

Moheit, Ulrike (ed.), Humboldt, Alexander von, *Briefe aus Amerika 1799–1804*, Berlin, Akademie Verlag, 1993.

Nietzsche, Friedrich, *Nachlaß 1875–1879*, COLLI, Giorgio and MONTINARI,azzino (ed.), Berlin, de Gruyter Verlag, 1999.

## Secondary sources

Bailly, Jean-Christophe, Besse, Jean-Marc, and Palsky, Gilles, *Le Monde sur une feuille. Les tableaux comparatifs de montagnes et de fleuves dans les atlas du XIXe siècle*, Paris, Fage, 2014.

Bartalesi, Lorenzo, *Histoire naturelle de l’esthétique*, translated by BURDET, Sophie, Paris, CNRS Éditions, 2021.

Bertrand, Romain, *Le Détail du monde. L’art perdu de la description de la nature*, Paris, Éditions du Seuil, 2019.

Böhme, Hartmut, “Ästhetische Wissenschaft. Aporien der Forschung im Werk Alexander von Humboldts”, in: Ette, Ottmar, Herrmanns, Ute, Scherer, Bernd M., Suckow, Christian (ed.), *Alexander von Humboldt: Aufbruch in die Moderne*, Berlin, Akademie Verlag, 2001, pp. 17–32.

Chevrel, Yves, D’Hulst Lieven and Lombez, Christine, “Le siècle de la comparaison”, *HTLF*, XIX<sup>e</sup> siècle, La-grasse, Verdier, 2012, pp. 31–49.

Dassow Walls, Laura, *Seeing New Worlds: the Concillience of Emersonian Wholes and Humboldtian Science in Henry David Thoreau*, Madison Dissertation Abstracts International, Madison, WI, University of Wisconsin Press, 1993.

Dassow Walls, Laura, “Rediscovering Humboldt’s Environmental Revolution”, in: *Environmental History*, vol. 10, no. 4, 2005, pp. 758–760.

Drouin, Jean-Marc, *Réinventer la nature: L’Écologie et son histoire*, Paris, Desclée de Brouwer, 1991.

Ette, Ottmar, *Alexander von Humboldt und die Globalisierung. Das Mobile des Wissens*, Frankfurt am Main and Leipzig, Insel Verlag, 2009, DOI: [https://www.uni-potsdam.de/fileadmin/projects/romanistik-ette/docs/Download/AvH\\_und\\_die\\_Globalisierung.pdf](https://www.uni-potsdam.de/fileadmin/projects/romanistik-ette/docs/Download/AvH_und_die_Globalisierung.pdf).

- “TransTropics: Alexander von Humboldt and Hemispheric Constructions”, in: *Alexander von Humboldt and the Americas*, Tranvia, Berlin, Verlag Walter Frey, 2012, pp. 209–236.
- Gayet, Mireille, *Alexandre de Humboldt. Le dernier savant universel*, Paris, Vuibert, 2006.
- Ghiselin, Michael T., “Darwin: German mystic or French rationalist?”, in: *History and Philosophy of the Life Sciences*, 2015, vol. 36, no. 3, pp. 305–311.
- Grange, Juliette, “Preface”, in: Alexander von Humboldt, *Cosmos. Essai d’une description physique du monde*, Paris, Utz, 2000, vol. 1, pp. 9–30.
- Haeckel, Ernst, *Generelle Morphologien der Organismen*, Berlin, G. Reimer, 1866, vol. 2.
- Hadot, Pierre, *Le voile d’Isis. Essai sur l’histoire de l’idée de nature*, Paris, Gallimard, 2008.
- Heyl, Bettina, *Das Ganze der Natur und die Differenzierung des Wissens – Alexander von Humboldt als Schriftsteller*, Berlin and New York, De Gruyter, 2007.
- Kehlmann, Daniel, *Die Vermessung der Welt*, Berlin, Rowohlt, 2005.
- Minguet, Charles, *Alexandre de Humboldt. Voyages dans l’Amérique équinoxiale*, Paris, Maspero, 1980,  
— *Alexandre de Humboldt: historien et géographe de l’Amérique espagnole (1799–1804)*, Paris and Montréal, L’Harmattan, 1998.
- Nicolson, Malcolm, “Alexander von Humboldt, humboldtian science and the origins of the study of vegetation”, in: *History of Science*, vol. 25, no. 68, 1987, pp. 166–194, DOI: <https://doi.org/10.1177/007327538702500203>.
- Outram, Dorinda, *Georges Cuvier: Vocation, Science and Authority in post-revolutionary France*, Manchester, Manchester University Press, 1984.
- Pfeiffer, Heinrich, *Alexander von Humboldt. Werk und Weltgeltung*, Munich, Piper, 1969.
- Rebok, Sandra, *Humboldt and Jefferson: a Transatlantic Friendship of the Enlightenment*, Charlottesville, VA, University of Virginia Press, 2014.
- Schultze, Joachim H., *Alexander von Humboldt. Studien zu seiner universalen Geisteshaltung*, Berlin, De Gruyter, 1959.
- Sloan, Phillip R., “‘The sense of sublimity’: Darwin on nature and divinity”, in: *Osiris*, vol. 16, no. 1, 2001, pp. 251–269.
- Weber, Anne-Gaëlle, “Pour une archéologie des usages savants du littéraire: remarques sur les présupposés d’un *literary turn*”, in: *Cédille, Revista de estudios franceses*, no. 18, 2020, pp. 57–77, DOI: <https://doi.org/10.25145/j.cedille.2020.18.04>.
- Zhong-Mengual, Estelle, *Apprendre à voir: le point de vue du vivant*, Arles, Actes Sud, 2021.

