FIGURING NATURE/FIGURING THE (FE)MALE

The Frontispiece to Humboldt’s Ideas Towards a Geography of Plants

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The frontispiece to Alexander von Humboldt’s 1807 Ideas Towards a Geography of Plants (Ideen zu einer Geographie der Pflanzen) is a complex image (figure 3.1). It depicts Apollo, god of art and reason, unveiling a statue of Diana, the multi-breasted goddess of nature. Figurative inscriptions in the form of Egyptian hieroglyphs cover the statue’s lower body, and a stone tablet inscribed with the title of Johann Wolfgang von Goethe’s treatise Metamorphosis of Plants rests at the statue’s base. Humboldt commissioned the frontispiece as a dedication to Goethe from Bertel Thorwaldsen, who proposed the vignette “alluding to the union of poetry, philosophy and natural knowledge” that Humboldt regarded as the characteristic of Goethe’s Geist. The frontispiece seems a strangely iconic engraving for a text that offered a detailed account of plant forms in relationship to their characteristic environments, the physical parameters of which were determined through exhaustive scientific measurements. What is the significance of this mythic imagery fronting a work of science, and drawing a study of plant geography out into a context of fascination with antique cosmotheism and the figure of unveiling the goddess of nature? What role is played by this ornamental parergon, as a supplement to the work, the ergon? This chapter will attend to the frontispiece of Humboldt’s Ideas and try to understand its meanings in relation to nature, science, and gender.

Immanuel Kant discussed the parerga of art in his 1790 Critique of Judgment. He took as examples of ornamental parerga the frames of paintings, the garments veiling statues—extrinsic additions that do not “belong to the whole [representation] of the object as an intrinsic constituent,” yet are able to augment that representation.

He extended his analysis in a note to his 1794 Religion within the Limits of Reason Alone. Here he introduced additions, such as mysteries or miracles, as “parerga of religion within the limits of pure reason; they do not belong within it but border upon it. Reason, conscious of its inability to satisfy its moral need, extends itself to [transcendent] ideas capable of supplying this lack.” Such additions are risky,

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in being uncritical. The *parerga* of art threaten to degrade the work and to degenerate into mere adornment and sensory attraction; the *parerga* of religion threaten to degenerate reasonable religion into superstition or fanaticism. Jacques Derrida draws attention to such marginalia, to ornaments or notes, which although supplementary to the proper domain of a work, "intervene in the inside only to the extent that the inside is lacking from itself," draw a work outside of itself, extending its meaning into unintended realms. Neither simply inside nor outside of a work, standing out against both a work, as ground, and the milieu of a work, as background, they raise the problem of drawing a boundary around any work. The issue of what is essential and what accessory to a work warrants continual interrogation, and thus these framing *parerga* have a thickness worth investigating.

At the turn of the nineteenth century, philosophies of nature acquired significance as new modes of religious expression or as alternatives to religion. Humboldt's work is situated in a complex relationship with such philosophies—with deism, pantheism, masonry and atheism, Goethe's studies of nature, Schelling's *Naturphilosophie*, and Romanticism. None of these philosophies of nature can be equated simply with one another, nor can Humboldt's work be understood in terms of any one, if taking inspiration from many. For the modern reader, his work is of interest because it engaged the philosophies of nature surrounding it, while offering a singular vision of the dynamic unity of nature. Humboldt offered a portrait of nature informed by both aesthetic and instrumental readings of nature, a portrait whose expression in his many writings, maps, and diagrams was also a means of self-fashioning. The frontispiece provides a figurative framing of these characteristics of his vision of nature, its complex iconography at once enhancing the meaning of the text and destabilizing it by drawing it into broader associations.

The first part of this chapter examines the sources and significances of the imagery of the frontispiece. It is consequential that nature is figured and figured as a goddess. For Humboldt and many of his contemporaries, the essence of nature remains indefinite; all knowledge of nature is a figurative representation of its appearances. The contemporary fascination with antique cosmic philosophy, in which Humboldt's frontispiece participated, was in part due to a recognition among adherents that the goddess of nature is but a figure of the nameless power permeating the cosmos. The veil represents debates regarding whether or not the truth of nature might be revealed, the god Apollo suggests that nature is best comprehended through the cultivation of both reason and aesthetic sensibility, and the hieroglyphic inscriptions draw attention to the figures produced in the reading of nature's script. Each of these elements of Humboldt's frontispiece was a common contemporary motif.

The second and third sections of this chapter examine the role of figurative languages in representing nature and representing male and female nature. Through his maps and diagrams, Humboldt tried to develop a graphic vocabulary that could represent nature's empirical laws—his contribution to contemporary initiatives to develop visual scientific languages. A product of both instrumental reasoning and aesthetic appraisal, it offers a means of visual thinking, of figuring out the form of such laws, without thus claiming to go beyond figures to nature itself, to reveal the naked essence of the goddess. This reading of nature as necessarily figured provides a basis for reconsidering the figures of male and female nature at the turn of the nineteenth century. Aesthetic explorations of self-formation emphasized a development from an uniformed or ill-defined to a well-formed character. But contemporary play with gender and sexual ambiguity, whether in artistic appraisal or in new literary forms, suggested a performativity to figuring self. The aesthetic was thus a means for exploring nature, and male and female nature. But as the god of art and science unveils the goddess of nature what can be uncovered is only nature itself in its figurative form.

Unveiling the Goddess of Nature

It is important to note that Humboldt's frontispiece was part of a genre of frontispieces figuring works of science through mythic imagery. The frontispiece of Carolus Linnaeus's *1746 Fauna of Scandinavia*, for example, has a statue of the goddess of nature—multi-breasted, veiled, and encased by figurative inscriptions—now represented as the Nordic Diana (figure 3.2). Above her shines the light of reason, while in one hand she holds a snake biting its tail as a symbol of the eternal return of life and in the other the moon as a symbol of her original significance as an ancient Italian moon goddess. The motif of the unveiling of the goddess of nature also can be found in seventeenth-century works, such as the frontispiece to Gerhard Blasius's 1681 *Anatomy of Animals* (figure 3.3). Here it is zoology, also personified as female, who unveils nature through the instruments of science, a lamp guiding her head and a scalpel and a magnifying glass her hands. Surrounded by diverse animals, two *putti* at her feet study them through dissection. A statue of the veiled goddess of nature similarly is found in the frontispiece to Georg Forster's *1790 Views of the Lower Rhine*, his account of his travels with Humboldt (figure 3.4). The image of Apollo also appears in frontispieces of eighteenth-century texts on natural history and
natural philosophy. In the frontispiece of Linnaeus's 1747 *Hortus Cliffortianus*, for example, Linnaeus is depicted as Apollo unveiling Minerva, the Roman goddess of wisdom and the arts. One could multiply examples of such frontispieces containing imagery similar to Humboldt's, indicating the thickness of the significances attached to its figures.

The background to the proliferation of such frontispieces was a revival of interest in antique cosmotheism through new historical studies of ancient Egypt and polytheism in the late seventeenth and eighteenth centuries. Such scholarship was a part of debates regarding the relationships between reason and revelation, nature and scripture, stimulated by controversies surrounding Spinozism, deism, atheism, and masonry. These studies of antique cosmotheism...
should be distinguished from the fascination with Egypt during the Renaissance. The Renaissance revival of Egypt through individuals such as Marsilio Ficino and Athanasius Kircher reconstructed Hermetic philosophy as ancient Egyptian theology and celebrated it as an originary wisdom older than Moses and as a counter to Biblical tradition. Jan Assmann emphasizes that once Isaac Casaubon exposed the Corpus Hermeticum as a late compilation and possible Christian forgery in 1614, a new phase of interest in Egypt and antique cosmic-theism occurred in the late seventeenth and eighteenth centuries. These later scholars worked through the criticism of Casaubon and the hostile reactions of orthodox, and built their reconstructions on careful historical criticism. Ralph Cudworth and William Warburton, for example, were interested in Egypt as the historical background of Moses, and in questions of the relationships between monotheism and polytheism, revelation and idolatry. They argued that the hidden truth of antique polytheism was that there is only one God, and also found in the idea of nature the basis of an original, non-revealed monotheism. These scholars drew upon classical authors who presented an engaging picture of intercultural translatable or syncretism and cosmos-theism among the diverse religions of antiquity. Although languages, the shapes of gods, and forms of worship varied from one culture to another, the deities of different religions were recognized as having common roles, especially those with cosmic functions. For example, one can find in the Metamorphosis of Apuleius the equation of Diana with Isis and other nature goddesses. Similarly, Plutarch, in his treatise Isis and Osiris, argued that behind the differing names is always a common cosmic phenomena. Egyptian theology in particular was represented as based on the principle of "One and All." The relativization of different names of deities as surface phenomena to be set off against the background of a common universal religion, as figurative representations of a supreme and hidden cosmic power that remained nameless, was thus understood to be typical of antique cosmos-theism.

The idea of nature as the source of an original, non-revealed monism and of an ancient cosmos-theism with uncovered knowledge of nature appealed tremendously to deists and pantheists and those developing new philosophies of nature in the late eighteenth century. Karl Leonhard Reinhold, for example, used the ideas of Warburton in his 1786 masonic treatise The Hebrew Mysteries, or the Oldest Religious Freemasonry. Reinhold wrote this work before converting to Kantianism and taking a position as a professor of philosophy in Jena. In it he offered a positive image of antique religions, arguing that the problems of idolatry, superstition, and animal worship are only surface phenomena, and praised the priests of
ancient Egypt for their knowledge of the foundations of physics, mathematics, astronomy, and geography. Friedrich Schiller, a colleague of Reinhold's in Jena, developed an interest in secret societies through close friends who were masons. In his 1790 essay *The Mission of Moses*, he drew upon Reinhold's work, emphasizing his claim that the god of philosophy and Enlightenment rationality was identical to the deity of the Egyptian mysteries. Especially in Germany, the late eighteenth century was a time of distinction between true and false religions, and a time of secrecy for supporters of Spinoza and deism. To those rejecting official religions or even the need for religion, antique cosmotheism or philosophies finding the source of truth within nature and esoteric insights reserved for initiates offered important alternative systems of meaning. New philosophies of nature often invoked the iconography of antique cosmotheism, hence the appeal to the goddess of nature as a figuration of a nameless cosmic power, to her veil as an image of the hidden essence of nature, to Egyptian hieroglyphs as representing the secret knowledge of ancient cosmotheism and nature's own script, and to the role of both art and science in the unveiling of nature, as in Humboldt's frontispiece.

The Egyptian goddess Isis was identified with the Italian goddess Diana and the Greek goddess Artemis, all being regarded as nature goddesses. Artemis, as the goddess of wild nature and animals, often was depicted with animals. Wild and uncanny herself, she was inviolable and vindictive to those who thwarted her. Associated with transitional marginal places, and with transitions in life and natural death, she presided over the transformation of youths into adulthood. A virginal goddess, with jurisdiction over virgin nature, hunting, and war, she demanded of hunters that they be pure and chaste. She also presided over the transformation of girls from virginity to fully aculturated and tamed womanhood, and over childbirth. The goddess thus became a female face of nature—at once wild, fecund, and virginal. Diana took over these associations from Artemis. In European art, the goddess Diana has been a symbol of nature since the Renaissance. Raphael, for example, depicts the goddess of nature on the steps of the throne of philosophy as a representation of the physical part of philosophy in a 1508 fresco. Thorwaldsen could have taken as his model the statue in the Villa Albani in Rome of the Temple of Ephesia Artemis, or the frontispiece of Giovanni Piranesi's influential 1765 work on the ruins of antiquity.

The image of Apollo stands in sharp contrast to that of Diana in Humboldt's frontispiece. Apollo is figured as a graceful youth of harmonious beauty, Diana as a grotesque form; the god is depicted as a living man in the act of unveiling, the goddess as encased in stone, more a statue than a living being. In classical mythology, the beautiful Apollo has numerous love affairs with nymphs and mortals. Standing on the threshold of manhood, he presides over the initiation of youth into society. He is the god of healing and purification, and of poetry and music—his instrument is the lyre, with its harmonious, well-ordered rhythms. Apollo is Artemis's twin brother, although few mythical stories mix the two. Nevertheless, Apollo is depicted with Diana in several sixteenth- and seventeenth-century Italian paintings, as well as in paintings by Düer, the elder Cranach, and Poussin. Apollo acquired particular import in the eighteenth century through the writings of the German art historian Johann Joachim Winckelmann, who claimed the Apollo Belvedere as the highest exemplar of antique art. Winckelmann highlighted the aesthetic indeterminacy of the statue, its masterful incorporation of tension between an ideal marble form and a sensual, graceful, living body, between art and nature. As the face of the aesthetic, Winckelmann contends Apollo is only ambiguously male, representing rather adolescent sexual liminality. Thorwaldsen would have been familiar with both the Apollo Belvedere and Winckelmann's characterization. In Humboldt's frontispiece, Apollo is figured as high culture, a refined rationality and sensibility.

The iconography of the veil was foreign to Artemis and Diana in antiquity, but many antique sources, such as Apuleius's *Metamorphoses*, depict Isis with a veil or robe. Plutarch's treatise *Isis and Osiris* places the goddess before the Temple at Sais, on which is found the inscription: "I am all that has been, and is, and shall be, and my robe no mortal has yet uncovered." In antiquity, the veil thus was read as a symbol of a distinction between inner truth and outer appearance, between the hidden and the visible. The idea that the nature wisdom of antiquity in general and Egypt in particular was veiled behind figural modes of expression was taken up by eighteenth-century scholars of antique cosmotheism. In Germany, the veiled figure of nature became a common trope in the literary and critical texts. Schiller, for example, published the poem "The Veiled Image at Sais" in 1795, which warned against attempting to lift the veil of the goddess before becoming fully spiritually uplifted. In a fragment from 1800, Friedrich Schlegel also represented the difficulty of unveiling the goddess and the shock of the hidden truths unveiled: "It's time to tear away the veil of Isis and reveal the mystery. Whoever can't endure the sight of the goddess, let him flee or perish." By the late eighteenth century, the depiction of the veiled goddess of nature, either Isis or Artemis/Diana, also became common in works of science as an allegory of the secrets of nature, emphasizing either their impenetrability or the possibility of their penetration through new instruments of inquiry.
Humboldt’s depiction of the unveiling of Diana is but one example of such representations, with the revelation now mediated by art and science rather than by a priest.

The figurative inscriptions surrounding the base of the statue of Diana in Humboldt’s frontispiece reflect the association of Artemis/Diana with animals and wild nature, but they also can be read as Egyptian hieroglyphs, in accordance with the association of the goddess with Egyptian cosmotheism. An interest in hieroglyphs was a part of studies of Egypt in the eighteenth century and they were regarded as a potential source of ancient natural knowledge. The hieroglyphic script was not deciphered until 1822 by Françoise Champollion. Prior to that, most scholars read them as expressing religious concepts and natural knowledge, but put in the form of iconic symbols to conceal these mysteries from the vulgar folk as a means of maintaining social and political stability. In keeping with the motif of veiled truth, the hieroglyphs were a symbol of the distinction of idolatrous surface phenomena from esoteric, intrinsic truth. In other words, they acted like carnell frontispieces, ornamental parerga to the meaning in the interior.17 Warburton, however, argued that the development of symbolic hieroglyphs for the purposes of secrecy was a late development in Egypt, provoked by extraneous factors, a foreign invasion of Egypt and the decision of priests thus to conceal their learning.18 He saw hieroglyphs as universal and necessary development of language—moving from pictorial, representational images, through hieroglyphs, to arbitrary marks and eventually alphabets—and thus as a “natural way” for humans to communicate thoughts. To explain their continued use by the Egyptians, Warburton appealed to the notion of the distinct genius of its people, arguing that the Egyptians were extremely imaginative and thus naturally inclined to symbolic figures. He noted that the Egyptian hieroglyphs, which pictured things and used the properties of things to denote indecipherable meanings, required a vast knowledge of physics. As opposed to other scripts, Egyptian hieroglyphs remained a “script of nature” and thus a codification of cosmological knowledge; hence forms of writing, by turning to conventional codes, lost this connection with the natural world. Warburton took as his example of a symbolic hieroglyph the multi-breasted Diana, interpreting it as a hieroglyph of universal nature. Although he was mistaken—in that this image never appeared as a hieroglyph and was not Egyptian—it was identified with the veiled image of Sais and the iconography of the goddess of nature.19

Building on Warburton’s work, as well as on his brother Wilhelm’s study of the natural development of language as intertwined with the development of the mind and culture, Humboldt discussed hieroglyphs at length as a part of his research on Mexican artifacts in his 1810 Views of the Cordilleras and Monuments of the Indigenous Peoples of America.20 He compared the graphic scripts of the new world unfavourably with those of the old. He noted in particular that Mexicans were unfamiliar with simple hieroglyphs and hence needed a large number of symbols to convey ideas, that they mixed real hieroglyphs with natural depictions of action, and that they had failed to develop an alphabetic script. More generally, Humboldt was critical of the crude depiction of figures in Mexican paintings, arguing that it was an art still in its infancy, dominated by mechanical representation rather than a cultivated aesthetic sensibility. Thus, although demonstrating an interest in the arts and traditions of non-European cultures unusual for his time, he argued that the primitive state of Mexican art and writing indicated a low state of cultural development.21 The more cultivated aesthetics of the old world had enabled more refined languages of nature, first in simple and pure hieroglyphic scripts, later in the development of alphabetic languages and languages of science.

It is, now possible to begin to see how complex the frontispiece used by Humboldt to frame his text on the study of nature is. It should be read through the context of a fascination with ancient Egypt and cosmotheism, through the understanding of deities such as Diana as specific figurations of an indefinite cosmic divine power, through the image of Apollo as a representation of a refined science and aesthetic, and through notions of veiled truths and symbolic scripts. If Humboldt was not a mason or religious, his interest in nature as a source of meaning suggests that the iconic image is not at odds with his text. In the frontispiece, nature is figured as female and the act of her unveiling as a male activity. The rather grotesque form of the goddess was due partly to the historical accrual of symbolic significances—the many breasts, the figures of wild animals, the feminine as wild and fecund. But in the frontispiece Humboldt also can be seen as presenting the argument that nature should not be left in its crude appearances, nor could it be known in its essence, but is unveiled through the “union of poetry, philosophy and natural knowledge,” through the cultivated sensibility of art and reason, largely male domains at the time.22 Humboldt’s geography of plants was to be such a figuring of nature. He introduced diagrams and maps as a means of representing and thinking about nature’s empirical laws. As Egyptian hieroglyphs were a part of the natural development of human language and thought, Humboldt’s figures were to be a part of the development of scientific language and thought.
Goethe's study of metamorphosis, developed in the years after his return from Italy, was to provide a similar method of disciplined perception for making evident the primordial forms in nature. Such a rational empiricism would make intuitable how phenomena necessarily appear. The Urform that is the basis of all plant forms and formation was a “symbolic plant,” a primordial image, Urbild, representable in a concrete visual figure. In a symbolic plant, “the particular represents the general” law, so appearance is transformed into an idea, and the idea into an image [Bild]. It was a figurative form for both perception and intellect.24 These precepts guided Humboldt's study of plant form in his Ideas.

Humboldt's geography of plants argued that there is a physiognomy peculiar to every region of the earth, based on a few original forms that determine the overall “character of the vegetation and thus the impression that the sight of plants and their groups make on the observer.”25 In this appeal to Urformen, the influence of Goethe's Metamorphosis of Plants on his geography of plants can be seen. But unlike Goethe, Humboldt proceeded to investigate how the plants of a specific region deviate from the basic plant forms under the influence of the environmental parameters of that region. In emphasizing the collective vegetation of a region, Humboldt drew upon the ideas of his teacher Karl Ludwig Wildenow, Kant's lectures on geography, and Johann Reinhold Forster's observations during his travels with Cook; the term “physiognomy” for the collective impression of phenomena as a measure of its character had been popularized by Johann Caspar Lavater.26 Humboldt was interested in how vegetation and physical conditions combine to produce the character of a region, and in how the collective phenomena of vegetation varies over time and space with changing environments. His geography of plants was a part of his larger project of a physics of the earth, which tracked the laws of nature in the interactions of forces, to provide a unified portrait of nature.27

Like Goethe, Humboldt argued that the impression that the vegetation of a geographical region makes on the mind of an observer is an aesthetic impression. Indeed, the unique character of the plants of a specific environment is to be found in the influence that the plants have on the fantasy and artistic sensibility of the people of that region. In characterizing this visual aesthetic, however, Humboldt appealed to the contemporary developing fashion for landscape painting rather than the individual classical masterpieces that Goethe studied. He claimed that the value of landscape painting lay in its more “earthly tendency” in combining the contemplation of nature with the forces of the imagination, an aesthetic sensibility particularly suited to portraying the collective phenomena of vegetation that

Figurative Languages of Nature

In Humboldt’s frontispiece, a stone tablet resting at the feet of the statue of the goddess of nature is inscribed with the “Metamorphosis of Plants,” in reference to Goethe’s study of plant formation. Goethe’s work provided directives for the study of plants based on their perceptible forms disciplined through aesthetic appraisal. Humboldt’s geography of plants expanded Goethe’s project by seeking an aesthetic view of the collective phenomena of vegetation and combining it with their instrumental investigation. Humboldt developed new graphic techniques to harmonize his aesthetic vision with precise measurement and to write nature’s laws in a figurative language. He used his diagrams and maps as analytic as well as communicative instruments, as a way of figuring out nature’s empirical laws and as a new graphic form of representation. But Humboldt made no claim to reveal the naked figure of the goddess of nature, nature in its essence; his figurative language of nature aspired to articulate nature solely in its phenomenal appearance.

In The Metamorphosis of Plants, Goethe sought to determine the laws of metamorphosis, “the laws of [transformation] by which nature produces one part through another, creating a great variety of forms through the modification of a single organ.” Goethe regarded primordial forms [Urformen] as the necessary forms of organic bodies in which the specific forms realized by specific organisms are contained as possibilities. Identifying the leaf as such an Urform, he described how it can be discerned in the seed, and traced in its successive metamorphoses into the stem, leaves, flower, and organs of fructification: “By the transformation of one form into another, it ascends . . . to the pinnacle of nature propagation through two [sexes].” Goethe “investigated the outer expression of the forces by which the plant gradually transforms one and the same organ, without any pretense of uncovering the [fundamental or internal force] behind natural phenomena.”23 He deemed speculation regarding hidden or essential forces as too subjective, emphasizing instead perceptible and hence objective forms of plant formation. Significant to Humboldt’s project as represented in his frontispiece, Goethe developed his method for the study of metamorphosis by appeal to notions of aesthetic appraisal. He argued that the ideal forms of nature could be intuited on a similar basis as the ideal forms in art. He first developed these ideas in his study of classical art during his Italian journey (1786–1788) under the guidance of Winckelmann’s writings, admiring in particular his emphasis upon combining sensible response with rational study, the sensual and the formal, through a disciplined perception of works of art such as the Belvedere Apollo.
interested him in his geography of plants. In his appreciation of landscape painting, Humboldt was influenced by the landscape artist Joseph Anton Koch whom Humboldt met in Rome in 1805. Koch emphasized the interrelationships of the phenomena of nature in his art and the close relationship between the environment of a people and their cultural development. The contrast that Humboldt perceived between the aesthetics of the new world and the old he similarly attributed to their respective environments. Humboldt argued that in the new world the vegetation is so lush that it overwhelms inhabitants and thus they have not been able to develop beyond simple forms of aesthetic sensibility and representation.

Kant linked aesthetic judgments to judgments of the collective phenomena of nature in his 1790 Critique of Judgment. In aesthetic judgments, imagination plays a predominant role; lacking a concept for a given intuition, judgment holds the imagination up to the understanding so that a concept can be exhibited and a harmonious relation sensed between the two cognitive powers. In judgments where a concept is available to determine phenomena, the imagination still plays a role, but unconsciously, providing schemata as mediators between intellect and intuition. In judgments of nature in its wholeness, a concept also is lacking and hence judgment provides itself with a principle, the principle that nature is purposive for our intellect, to guide its reflective movement between phenomena and its conceptualization. Although for Kant nature cannot be known in itself, schemata and the principle of purposiveness act as instruments of judgment, enabling the relation of concepts with phenomena corresponding to the limited capacities of human understanding. In a note to his Critique of Judgment, Kant refers to the frontispiece of Johann Andreas von Segner’s 1770 Natural Science that depicts “The Sciences, Measuring the Footprints of Nature” through the iconography of Isis (figure 3.5). The frontispiece emphasizes that although the face of the goddess cannot be regarded directly, or nature known in itself, her footsteps, the manifest phenomena of nature, can be studied through the instruments of science, as depicted by the three paths measuring her movements.

Humboldt would seem to agree with Kant and Segner. On his travels, he carried with him an impressive array of the latest scientific instruments, investing considerably in their purchase, in the acquisition of the requisite skills for their use, and in transporting them through the often inhospitable environs of the tropics. With these instruments, Humboldt measured exactly all accessible physical parameters of the different regions he visited, at different altitudes and different times of day. Humboldt used these measurements as instruments of judgment—instruments for reading the various physical conditions of the natural world and translating those diverse phenomena into an image of the total impression of a region in which diverse forces interacted.

A tension exists, however, between Humboldt’s aesthetic view of the collective phenomena of vegetation and his detailed instrumental measurements. This tension is illustrated by the tableau physique that accompanied the Ideas, in which the central portrait of the Andes is framed by tables of measurements (figure 3.6). In producing this image, Humboldt struggled with the opposing requirements of scientific precision and painterly effect, of representing the exact environmental parameters of basic plant forms and the impression of the collective phenomena of vegetation. Given Humboldt’s shared appreciation with Goethe of aesthetic judgment as a highly cultivated perception, the two facets of Humboldt’s tableau cannot be read simply as the view of the layman in contrast to the scientific expert. Indeed, the figure of Apollo in the frontispiece of the work represents the refined sensibility of European culture and the role of both art

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3.5 Frontispiece to Johann Andreas von Segner, Natural Science (1770). Courtesy of Georg-August-Universität Göttingen.
and science in disclosing nature's laws. Humboldt's ambition seems to have been to combine mensurative and aesthetic judgments, and to represent the interconnection of phenomena in an image that encompasses both their precise empirical measurement and artistic appreciation. He was seeking a figurative vocabulary as an instrument to guide judgment and to depict the linkage of phenomena described in his text, a language that was neither solely mathematical nor solely artistic, but a new graphic form of representation.

Humboldt's efforts to develop a "script of nature" were not isolated. At the turn of the nineteenth century, different forms of visual representations—from thematic maps and diagrams to tabular data and graphs—were being explored. These new figurative languages of nature only became articulate during the nineteenth century, and lacked precise conceptual form lest alone categorical distinctness at the end of the eighteenth century. Yet the power of these visual scripts to depict natural knowledge and as instruments of thinking was recognized by those advocating their use.22 Novalis, for example, argued that such figures are not just representations of experiments or illustrations of texts, but an "instrumental language" or nonverbal argument. As experiments are a means of theorizing phenomena and of experiencing a theory, so these symbolic inscriptions stand in for both thoughts and phenomena. They thus help the investigator to visualize ideas and to re-experience and reflect upon experiences.23 Humboldt similarly did not understand these forms of symbolic writing as nature speaking directly, for they were dependent for their expression on the cultivated sensibility of European art and science. Like Goethe's symbolic images, they combined percept and intellect; like Kant's schemata, they were imaginative instruments of judgment linking phenomena and their conceptualization. Humboldt saw these figures as a means to make visible the laws of nature at once aesthetically and instrumentally.

In later publications, Humboldt developed a figurative depiction of the instrumental readings framing his view of the characteristic vegetation of the geographical regions of the Andes. It had become standard practice during the eighteenth century to organize measurements taken during sea voyages, results from experimental trials, and statistical information on human populations in tabular displays. Humboldt's isothermal map of 1817 demonstrated how such tables of numbers might be transformed into a graphic figure displaying the patterns between phenomena, giving an impression of the laws of heat distribution at a glance (figure 3.7). In developing his map, Humboldt cited the influence of Edmond Halley's maps of magnetic declination from the early eighteenth century, which introduced isolines to represent the spatial variation of magnetic phenomena.24 As Anne Godlewska has noted, Humboldt's isothermal map, constructed on a plane chart and showing only a few place names, is a systematic rather than geographical space structured to reveal the relationships between phenomena.25 In fact, it has the appearance of a graph, simply substituting space for time. In developing his "map," Humboldt was influenced by Johann Heinrichs Lambert, who was one of the first to make use of graphical displays of
measurements. In *Pyrometric*, a study of heat published posthumously in 1779 upon which Humboldt drew, Lambert offered his most elaborate graphs (figure 3.8). Lambert argued that his graphs could be used not only to display data figuratively, but also to reveal regularities of nature by tracing smooth curves averaging a mass of measurements. Like Lambert, Humboldt saw his figures as representing physical laws, in this case the differential variation of average annual temperature with latitude. Humboldt also drew upon graphic techniques developed in the late eighteenth century by William Playfair and August Friedrich Wilhelm Crome, who presented graphs of the gradual progress and comparative amounts of the commercial products and populations of nations. Playfair saw in such figures the possibility of a universal language, analogous to figurative language like Egyptian hieroglyphs, which offered abstract pictographs that could be read in any language. Humboldt's isothermal map also might be read as an attempt at such a universal figurative script, analogous to the hieroglyphs found in his frontispiece. Rather than nature's own script, it was its symbolic inscription, drawing upon both cultivated sensibility and systematic empirical science, combining percept and intellect. Only thus was the impression of the whole, the laws of the phenomena of heat, to be discerned.

In the preface to the German edition of *Ideas*, Humboldt distinguished his investigations of nature from Friedrich Wilhelm Joseph Schelling's *Naturphilosophie*, which promised a portrait of "a higher sort" in seeking to penetrate to the hidden fundamental forces of nature. Kant's note on Segner's frontispiece alluded to the impossibility of attaining such higher knowledge by invoking the "sublime" inscription at the Temple of Sai's associated with the goddess of nature: "I am all that is, that was, and that will be, and no mortal has lifted my veil." For Schiller, the sublimity of the veiled goddess of nature lay in her anonymity; being beyond language "[a]ll names are (in)appropriate." The essence of nature thus remains nameless, without figurative representation. In *The Novices at Sai's*, Novalis also spoke of the ultimate indecipherability of nature, the impossibility of articulating its essence in any other language than nature's own figures:

Many are the paths that human beings travel. Whoever traces and compares them will see strange figures taking shape; figures that seem to belong to that great cipher script that one sees everywhere on wings and on egg shells, in clouds, snow, crystals and rock formations, . . . on sheets of glass when stroked, in iron filings around a magnet, in oddities of coincidence. One has the presentiment in these figures of the key to this wondrous script, of its very grammar; but the presentiment will not adapt itself to any fixed form, and seems to resist becoming a higher key.

These lines speak to how the language of nature, its figures, defies any simple reading. One is left with *Schein*, appearances in which nature in its essence appears to shine through, but which remain mere appearances rather than nature in its essence. The language of nature resists understanding because that understanding can be expressed only in another language; one cannot get beyond language to the thing itself. One remains caught in the gesture of unveiling.

Humboldt regarded the value of his geography of plants as lying in its combination of instrumental and aesthetic judgments of nature, as figured by Apollo. His maps and graphs were an attempt to develop a figurative language that could assist in both displaying and figuring out nature's laws. But the script of nature thus articulated, if representing nature's empirical laws, did not claim to unveil the naked truth of the goddess of nature. The significance of Humboldt's frontispiece lies in its expression of the figurative form that knowledge of nature apparently necessarily takes.

**Figuring the (Fe)male**

Humboldt's frontispiece appears to give the male figure, the god Apollo, the active role as unveler of nature. The goddess of nature appears to be depicted in a familiar form—wild, fecund, mysterious, to be penetrated by the higher light of male reason and art—
her passivity only accentuated by being figured as a statue. Such a reading of the frontispiece conforms to then-dominant conceptions of the roles that males and females should play in society, and necessarily play in biological reproduction. But in light of Humboldt's own ambiguous sexuality—his close friendships with men, his purported homosexuality, always veiled—how did he understand the representation of the god and goddess in his frontispiece? What alternative forms of self-figuring were being explored at the turn of the nineteenth century with regard to gender and sexual identity? As studies of nature questioned whether nature could be unveiled in its innermost essence, so the disclosure of an essential male or female nature was questioned in German aesthetic theory. As Humboldt's geography of plants offered a reading of nature's script based on a wedding of instrumental to aesthetic judgment, and an articulation of that reading in an explicitly figurative form, so representations of males and females in Romantic literature dressed their nature in a performative play with different figurative forms, both veiling and unveiling identity. Aesthetics and literature offered spaces for exploring different gender and sexual roles, and the possibility of confounding the binary opposition of male and female nature.

Historians writing about gender and sexuality at the turn of the nineteenth century predominantly have described a growing entrenchment of differences between males and females. Thomas Laqueur, for example, claims that the shift to a two-sexed model of reproduction established the female reproductive sexuality as different from the male, and gave it a more passive and vegetative role. Londa Scheibinger contends that Linnaeus reflected the differences between males and females by reading the laws of nature through the lens of the sexual hierarchies, implicitly by using gender to structure botanical taxonomy and explicitly by using human sexual metaphors to depict plant reproduction.44 Lisbet Koerner argues that Goethe "postulated as natural fact" the association between women and nature and raised to a founding axiom "the essentialist theory of gender complementarity that gathered force in the Romantic era."45 Wilhelm von Humboldt also grounded sexual difference in biological necessity—casting the masculine as the active and independent and the female as the receptive and dependent—and made this difference the foundation of natural and social order. Both he and Schiller utilized sexual metaphors for figuring aesthetic theory as the union of form and matter, freedom and necessity, male and female characteristic.46

New social functions of the marriage vow also reconfigured relationships between males and females; making marriage a choice made in the name of love, it also led to an expectation to realize oneself through one's lover and spouse, and in the process censored alternative sexual or gender relationships.47 But new scholarship attending to aesthetic theory and its expressions in literary forms suggests a more complex understanding of male and female at the time. As Catriona MacLeod has argued persuasively, just at the point when sexual difference appeared to be inscribed as a scientific fact and social concern, the androgyny became an important figure in German aesthetic theory. Winckelmann's influential figuring of Apollo articulated an androgynous ideal of beauty. Although lying outside nature as a purely aesthetic construct, Winckelmann argued that the Apollo Belvedere approaches this ideal through the statue's duplicitous character—its rigidity and fluidity, hardness and softness, petrification and animation—and through its representation of adolescent sexual liminality. His descriptions of the statue of Apollo are highly erotic and emotional, reflecting his own well-known proclivity for beautiful boys. In classical myths, Apollo also was known for his boy lovers. Winckelmann's aesthetic androgyny at first suggests all possibilities of development and self-figuration; his beautiful boys, however, are fit into a hierarchy of life stages conceived wholly from a male developmental perspective. Nevertheless, Winckelmann established the mystique of androgyny, with its aesthetic and erotic indeterminacy, as an important figure in German aesthetic theory and literature.48

Goethe's attitudes toward gender and sexuality are also more complex than Koerner claims. Indeed, his literary works offer interesting arrays of female characters, such as those found in Wilhelm Meister's Apprenticeship, his seminal Bildungsroman published in 1795. The novel is set in the context of a theatrical troupe, a group of actors presenting works of art in human form at the same time as they play with the nature of human identity. Living at the margins of social respectability in the nineteenth century, actors were able to transgress entrenched social boundaries and norms. MacLeod draws attention to the particularly provocative role that Goethe gave to the costumes that the female characters in the troupe adorn as a veil, allowing them to disguise their sex and to adopt different gender roles. Transvestism, as Judith Butler has noted, reveals the performativity of gender and sexuality in the contingent link between the purported original and its imitation. This perpetual displacement allows a fluidity of identities, an openness to resignification and recontextualization, that deprives the dominant culture of its claim to naturalized gender identities. Mignon, the radically androgynous figure in Goethe's text, continually resists dress that would fix her amorphous identity as female and feminine. The fruit of a monstros, incestuous love, the hideous secret of this unnatural being is veiled throughout the novel.
Wilhelm understandably takes some time to identify her as female and to decide the nature of his relationship to her, and even the narrator of the tale seems perplexed by her disguises, referring to her in both pronominal forms. Like the metamorphosis of plants, Wilhelm develops through a series of transformative relationships to a final sexual pairing with an idealized female, Natalie. This conventional douze—seemingly supersedes the role with alternative gender roles that had taken place earlier in the text. Indeed, Mignon dies, suggesting that she, like the garments of her cross-dressing, are false elements in Wilhelm’s self-figuring, a process now revealed to be guided by a masculine society to its true fulfillment. Yet Goethe treats the elements of this closure ironically, and Wilhelm and Natalie never consummate their love, leaving the ending ambiguous. In such literary texts, Goethe thus presents a complex figuration of gender and sexuality.

Schlegel’s 1799 novel of sexual self-figuring, *Lucinde*, offers the most scandalous contemporary exploration of male and female figures. During the course of the novel, the main character, Julius, engages in highly polymorphous sexual explorations. He develops relationships with all manner of women—from a mother to aubescent girl, from a prostitute to a reserved woman—like Goethe’s Wilhelm Meister, all as an apprenticeship for manhood. But Julius also develops passionate friendships with men that are tainted with homoeroticism. Although his novel unfolds from a male, heterosexual perspective, MacLeod claims that what concerns Schlegel is again the radical aesthetic and sexual possibilities opened up by the figure of the androgynous. *Lucinde* also suggests Butler’s performativity of gender and sexuality, but in a far more radical form than Goethe’s transvestite females. Perhaps, as Marc Redfield argues, the real scandal of Schlegel’s text is its unruliness, its ironic treatment of male and female nature; its obscurity is its absence of form. “The text thematizes a sexual, aesthetic, and hermeneutic ‘obscenity’ that . . . it also performs.” In “A Reflection,” near the end of *Lucinde*, Schlegel gave a cosmic dimension to the problem of figuring of the (fe)male:

> The life of cultivated and meditative [human beings] is a continual cultivation and meditation on the lovely riddle of [their] destiny. [They] are continually defining it anew for [themselves], for that is precisely [their] whole destiny, to define and be defined. . . . But what, then, is the definor or the defined itself? For the man it is the [nameless]. And what is the [nameless] for the woman? The indefinable . . . Who can measure and who can compare two things that are infinitely valuable, when both are joined by the real definition that is destined to fill all lacunae and be the mediator between the individual man and woman and eternal [humankind]? . . . The universe is only a plaything of the definite and the indefinite; the real definition of the definable is an allegorical miniature of the warp and woof of ever-flowing creation.

The passage parodies the excesses of German idealism and suggests an affirmation of pantheism: “the omnipresence of the [nameless] unknown Godhead.” But through the question of gender, Schlegel highlighted the performative character of the transformation of the indefinite into the definite. Man and woman are opposites capable of creating a universe. But as Redfield notes, sex and gender are always figures, manifold and mutable, and since “the inscription of the figure occurs via the uncertainty of the [nameless], [it] names the impossible condition of the production of meaning.” Schlegel praised antiquity for finding a good way to name the nameless through the language of myth. He turned to new literary forms and aesthetics for a similar figurative vocabulary.

The nameless in Schlegel’s text is sex; same-sex desire in particular remained unnamed at the turn of the nineteenth century. There remains a continued reluctance to name Humboldt’s sexual orientation, or to examine its relationship to his work. Eve Sedgwick argues that veiling or unveiling same-sex desire, or inevitably being caught in the gesture of veiling or unveiling with each new encounter, is defining for identity. She also discusses how ignorance, or the posture of ignorance, can be determinative of dynamics of power. For most of the eighteenth century, male sexual relationships had no distinct denomination, but were included with diverse forms of anatomical penetration of women and beasts categorized as sodomy, designating religious blasphemy and a crime punishable by death. At the end of the century, the laws concerning private sexual behavior were liberalized, however, and the category of sodomy began to intersect with concepts of the homoerotic, homosocial, and homoplatonic. Goethe reportedly commented during a discussion on contemporary same-sex relationships that “Greek love” was as old as humanity and thus seems to be at once rooted in nature and against nature. Humboldt kept his sexuality veiled, yet his passionate male friendships were known. His most intense male relationship was with Lieutenant von Haefen, an infantry officer he met in 1794. As Michael Shortland has discussed, the two travelled and lived together, maintaining a close intimacy until Haefen married late in 1795, and even then Humboldt expressed a desire to continue that intimacy in some form. Perhaps it was the nature of those friendships that led Forster to object to the frontispiece for his work on his travels with Humboldt (figure 3.4); produced by his publisher without his consent, it included a vignette of a temple of friendship in the background. Such friendships were an important mode of sexual and self-expression in the eighteenth
century, and certainly important in Humboldt’s self-figuring. 25 Shortland has suggested that Humboldt also explored his self-figuring through the rigors of travel, which allowed for the expression of both the masculine virtue of heroism and feminine virtues of endurance, perseverance, and resignation, and an aesthetic of negative pleasure. 26 Certainly it was through the aesthetic that different figures of male and female could be expressed as Humboldt under- took a study of nature and his own nature.

What, then, is to be made of Humboldt’s vignette for his frontispiece of Apollo unfrocking Diana? In classical myths, the figure of Apollo is duplicitous—he was Artemis’s twin, and he was known for his relationships with young men as well as women and nymphs. Thus Winckelmann’s reading of Apollo as a figure for sexual indetermination is not simply a product of his own sexual preferences or his response to the Belvedere Apollo. But his emphasis on the aridog- nous, ambiguous aesthetic of Apollo stimulated various ways of figuring sexuality and gender at the turn of the nineteenth century that challenged dominant normative and naturalized conceptions of the male and female. As attempts were made to define gender and sexual nature, an aesthetic developed that represented their definite forms as but figures of an indefinite essence. Humboldt’s own self-figuring could draw upon these alternative articulations.

Humboldt’s frontispiece, with the antique image of the god of art and reason unveiling the goddess of nature inscribed with a hiero- glyphic script, seems not merely part of a fashion for Egyptian iconography at the turn of the nineteenth century. What lay behind that fashion, and behind Humboldt’s frontispiece, was an appreciation of the symbolic significances of that iconography. The fascination with antique cosmotheism was with its figuration of the problem of knowing nature and of finding a language in which that knowledge could be expressed.

Humboldt’s figurative languages of nature were both a means of displaying empirical laws formed through mensurative and aesthetic judgments, and a means of figuring out those laws. They were modes of visual thinking that were also modes of instrumental and artistic experimentation in conceptualizing phenomena, and a central part of Humboldt’s vision for a unity of “poetry, philosophy and natural knowledge.” Aesthetic explorations of different forms of self-figuring offered similar experiments with conceptualization, but in this case of male and female nature. These figures played with the various expressions that gender and sexuality might take, enabling a veiling and unveiling of the self. In both cases, the contrast was drawn between the unknown, unnamed essence of nature and the figurative form of what could be known and named.
15. Friedrich Schiller, Schiller’s Werke, 1:254–56; Friedrich Schlegel, Philosophical Fragments, tr. Peter Firchow (Minneapolis: University of Minnesota Press, 1991), 84.
22. Letter from Bertel Thorwaldsen to Goethe, February 6, 1826: Geiger, Goethes Briefwechsel, 297.
40. Humboldt, Ideen, 43–45.
41. Kant, Critique of Judgment, 185; Assmann, Moses, 134–36.
42. Novalis, Schriften, 1: 79.
44. Thomas Laqueur, Making Sex: Body and Gender from the Greeks to Freud (Cambridge, Mass.: Harvard University Press, 1990), ch. 5; Londa


57. Michael Shortland, "'Was He or Wasn't He? Eros and Kosmos in the World of Alexander von Humboldt," Lecture at York University, October 1997.


59. Shortland, "'Was He?'"