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*Humboldt, Mendelssohn,  
and Musical Unity*

*R. Larry Todd*

If a scholar of unusual interdisciplinary breadth – I suspect there are some in attendance today – were to write a comparative monograph about prominent historical figures who happened to be polymaths, surely one full chapter would concern the remarkable life of Alexander von Humboldt. Often described as the last great universalist, Humboldt traversed with a facility that strains credulity an astonishing number of disciplines – astronomy, geology, botany, zoology, climatology, meteorology, oceanography, anthropology, geography, cartography, and political science, and the list could continue. His overarching purpose – to study the interconnectedness of phenomena, to lay bare the underlying unity of nature – inspired his prolific output as an author, including the *Personal Narrative of Travels to the Equinoctial Regions of America*, the popular account of Humboldt’s New World expedition (1799 to 1804), the bicentenary of which we are celebrating. His life’s work culminated in the colossal, five-volume *Kosmos*, over which the scientist ruminated for decades before releasing in 1845 its first volume, with the unassuming subtitle, *Entwurf einer physischen Weltbeschreibung*, or *Sketch of a Physical Description of the World*. In the preface, Humboldt acknowledged his purpose – “the earnest endeavor to comprehend the phenomena of physical objects in their general connection, and to represent nature as one great whole, moved and animated by internal forces.” (*Cosmos: A Sketch of A Physical Description of the Universe*, trans. E. C. Otté, London, 1849, I, ix.) Invoking classical authority, Humboldt placed on the title page an apposite quotation from the *Naturalis Historia* of Pliny the Elder, who centuries before in his *Natural History* had compiled an elephantine compendium of knowledge. Humboldt found his theme near the beginning of Pliny’s seventh book, where, after concluding a six-volume description of the natural world, the Roman paused before taking up human

kind to comment, “Indeed, everywhere the power and majesty of the nature of the universe defies belief if one contemplates only parts of it and not the whole.” (Pliny, *Naturalis Historia*, vii: 6)

The German states of Humboldt’s time produced few other polymaths worthy of comparison. One who springs to mind is Goethe, who in addition to his undisputed role as the reigning German literary laureate cultivated a wide variety of interests, including, with Humboldt’s encouragement, the sciences. Another was the composer Felix Mendelssohn Bartholdy (1809-1847), grandson of the Jewish Enlightenment philosopher Moses Mendelssohn, son of the banker Abraham Mendelssohn Bartholdy, and through his family befriended with Alexander and his older brother Wilhelm. While the composer is usually remembered as a musical genius whose precocity rivaled if not surpassed that of Mozart, Felix possessed a vigorous intellect that ranged comfortably over many musical and non-musical fields (see most recently, the new biography, R. Larry Todd, *Mendelssohn: A Life in Music*, N. Y., 2003). In addition to his international stature as a composer, pianist, organist, and conductor, Mendelssohn was also an accomplished violinist, and a skilled draughtsman and painter whose watercolors impressed his nemesis Richard Wagner as products of a “landscape-painter of the first order.” (Eduard Dannreuther, “Wagner,” *Grove’s Dictionary of Music and Musicians*, London, 1893, IV, 369.) Mendelssohn was a polyglot who spoke several languages fluently, a classical scholar, poet and translator, and a polished prose stylist whose vivid letters rival in imagination the writings of his contemporaries, Robert Schumann and Hector Berlioz, both professional music critics. Deeply religious and well versed in theology, Mendelssohn took an active part in preparing and editing the libretti of his two major oratorios, *St. Paul* and *Elijah*, and described himself as a disciple of the Protestant theologian Schleiermacher, whose sermons Mendelssohn heard in Berlin. The composer’s career, which unfolded principally in Berlin and Leipzig between 1829 and 1847, overlapped with Humboldt’s return in 1827 to Berlin, where he served two Prussian monarchs, Frederick William III and IV, as court chamberlain and cultural advisor. But despite the many connections between Humboldt and Mendelssohn’s family, there has been relatively little inquiry into the question of whether Humboldt’s work influenced the composer in any substantial way. Today I shall review their relationship, introduce the cantata Mendelssohn composed for Humboldt in 1828, and briefly propose a connection between Humboldt’s search for cosmological unity and Mendelssohn’s treatment of musical unity in his larger compositions.

How Humboldt first met the Mendelssohns is cloaked in some mystery. According to Meyer Kayserling, the nineteenth-century biographer of Moses Mendelssohn (*Moses Mendelssohn: Sein Leben und seine Werke*, Leipzig,

1862), the philosopher played a decisive role in educating the adolescent Humboldt brothers. In 1785 Moses published the *Morgenstunden* (Morning Hours, or Lectures on the Existence of God), seventeen lectures in dialogue form offering justifications of God. Kayserling claimed that Alexander and Wilhelm attended these lectures, designed by Moses for the religious education of his fifteen-year-old son, Joseph. Though recent research has challenged Kayserling's assertion (see Peter Honigmann, *Der Einfluß von Moses Mendelssohn auf die Erziehung der Brüder Humboldt*, Mendelssohn Studien 7 [1990], 39-76), we do know that the seventeen-year-old Alexander attended the funeral of Moses Mendelssohn in 1786, and that early on Joseph and Abraham Mendelssohn numbered among Alexander's childhood friends. We may offer today a new, confirming piece of evidence: in an unpublished condolence letter Alexander wrote to Felix on December 7, 1835 after the death of Abraham, Alexander states unambiguously that like Joseph, Abraham was a friend from the earlier years of the scientist's youth ("er war, wie Joseph, der Freund meiner ersten Jugendjahre;" Oxford, Bodleian Library, M. Deneke Mendelssohn Collection, Green Books, IV, 177).

In 1806, having returned to Paris from his voyage to the Americas, Alexander helped secure funding for the engineer Nathan Mendelssohn, Moses Mendelssohn's youngest son, who established a Berlin workshop to develop astronomical and geodetic instruments. Three years later, the Hamburg banking firm of Joseph and Abraham, Gebrüder Mendelssohn & Co., provided a line of credit to shore up Alexander's own finances, considerably weakened by the costs of his expedition and various publication projects. Strained relations and hostilities between Prussia and France during the Napoleonic period and culminating German War of Liberation of 1813 curtailed meetings between Alexander and the Mendelssohns, but the post-1815 Restoration afforded new opportunities to renew the old friendship, as did Humboldt's return to Prussia in 1827, and he soon became a regular visitor at the Mendelssohns' residence. Alexander was among the contributors to the *Gartenzeitung* (*Garden-Times*), a mock literary journal founded by Felix and his friends in August 1826, just weeks after he finished, at age seventeen, the *Midsummer Night's Dream Overture*. According to the young theology student Julius Schubring, Humboldt's conversations were especially prized: a circle would form around him, and "he could go on, for hours together, without a pause, relating the most attractive facts from out the rich stores of his experience." (Julius Schubring, *Reminiscences of Felix Mendelssohn-Bartholdy* [1866], in R. L. Todd, ed., *Mendelssohn and his World*, Princeton, 1991, 222.)

We can document several more ties between Humboldt and Felix's family during the late 1820s. Between November 1827 and April 1828, the scientist

gave sixty-one weekly lectures on the physical sciences at the University of Berlin, highly fêted events that strengthened his resolve to undertake the writing of the *Kosmos*. By popular demand Humboldt condensed and repeated the lectures before an audience that included not only Prussian royalty but commoners of various socio-economic classes and – most unusual for the time – women. Felix, who had matriculated in 1827 at the University of Berlin (his professors included the philosopher Hegel), attended the lectures there, while his sister Fanny, like Felix a musical prodigy, was among the audience for the simplified versions delivered twice a week at the Berlin Singakademie, the same hall where in 1829 Felix would conduct for the first time in one hundred years J. S. Bach’s St. Matthew Passion, the seminal event that triggered the modern Bach Revival. Reporting to a friend about Humboldt’s lectures, Fanny observed how they were attended “by everybody who lays any claim to good breeding and fashion, from the king and the whole court, ministers, generals, officers, artists, authors, beaux esprits (and ugly ones, too), students, and ladies, down to your unworthy correspondent.” And then, in defense of her sex, “Gentlemen may laugh as much as they like, but it is delightful that we too have the opportunity given us of listening to clever men.” (Fanny to Karl Klingemann, December 23, 1827, Mendelssohn Family, I, 151). According to Felix, a thousand auditors were entertained by Humboldt’s engaging accounts of fire-spewing volcanoes and “loathsome animals” – i.e., seals. And, Felix continued, when a Berlin mädchen tried to buy some material for a ribbon, and the clerk asked her to specify the size, she answered with an unusual astronomical measurement – two widths of the star Sirius. (Felix to Klingemann, February 5, 1828, in Karl Klingemann, Jr., ed., *Felix Mendelssohn-Bartholdys Briefwechsel mit Legationsrat Karl Klingemann in London*, Essen, 1909, 47).

In September 1828 Humboldt convened an international conference of naturalists and physicians. Presiding over this early example of scientific collaboration, he welcomed six hundred colleagues converging on Berlin, including the Englishman Charles Babbage, who in 1833 would design his prototypical calculator, and the great mathematician Carl Friedrich Gauss. From Warsaw came the Polish zoologist F. P. Jarocki, accompanied by a young, introverted pianist, Frédéric Chopin. At the opening session, Humboldt gave an address on the social utility of science, and Mendelssohn conducted a new cantata commissioned by Humboldt for the event, and heard in its belated American premiere this evening.

To approach the cantata, I shall begin with its most striking feature, the unusual orchestra that supports the chorus and soloists. In lieu of a conventional orchestra with full complements of woodwinds, brass, and strings, Felix scored for a considerably reduced ensemble that conspicuously avoids

flutes, oboes, bassoons, violins, and violas. What is more, the chorus calls for only tenors and basses. Fanny mused about the omissions in gender-specific terms: “As the naturalists follow the rule of Mahomet and exclude women from their paradise, the choir consists only of the best male voices of the capital; and as Humboldt, whose forte music is not, has limited his composer as to the number of musicians, the orchestra is quite original; it consists only of double-basses, violoncellos, trumpets, horns, and clarinets.” (Fanny to Klingemann, September 12, 1828; Sebastian Hensel, *The Mendelssohn Family*, I, 162.) We should note one small correction – there is in addition a part for two timpani. Mendelssohn’s use of the male choir seems designed to invoke the sounds and traditions of male singing societies then popular in Prussia, and associated since the Napoleonic wars with German nationalism. Whether the male chorus might in some way signal Humboldt’s preference for male companionship must remain open to conjecture. But it is fair to say that the unusual, reduced orchestra under girds the male tessitura of the chorus and soloists, and not infrequently presents musical figures of speech that in the culture of the time would have been understood to connote masculine imagery – e.g., fanfares for the horns, trumpets, and drums, which sound vaguely militaristic but also stately and ceremonial, and horn calls, associated in German musical romanticism with male hunters in natural, open-air settings.

The text of Mendelssohn’s cantata is by Ludwig Rellstab (1799-1860), a music critic and poet who in 1819 had founded with Mendelssohn’s former piano instructor, Ludwig Berger, a male singing society in Berlin. Rellstab’s music criticism shows a distinct bias for the German romantic opera of Carl Maria von Weber, in particular *Der Freischütz*, premiered in Berlin in 1821, and teeming with images of the hunt, forests, the supernatural, and the conflict between the diabolical and divine. Weber’s romanticism left a strong mark as well on the forming style of the young Mendelssohn, and emerges in several pages of the Humboldt Cantata, especially in the choruses reminiscent of the German part-song tradition.

Though Rellstab’s verses for the cantata may impress few as poetry of the first order, he did win considerable fame for supplying Schubert with several texts, including seven poems which the terminally ill Viennese composer set in his proto-cycle *Schwanengesang* of 1828, indeed, at about the same time when Humboldt’s scientific colleagues were gathering in Berlin. And, we should note, it was Rellstab who in the 1840s would compare the opening movement of Beethoven’s Op. 27 No. 2 to a moonlit scene on Lake Lucerne, thereby transforming what Beethoven viewed as a non-descript piano sonata into the immortalized “Moonlight” Sonata.

Rellstab's cantata text treats a familiar theme that would have resonated with Humboldt and his circle – the progress of the natural world from chaos to unity. Earlier composers had already explored this topic, most notably Haydn in his oratorio "The Creation" (1798), which begins not with a traditional overture but an extraordinary orchestral depiction of chaos (*Vorstellung des Chaos*) that explodes eighteenth-century musical conventions before the opening choral pronouncement from Genesis, "And there was light," reintroduces the boundaries of Viennese classicism as a kind of musical corrective. The progression from darkness to light preoccupied as well the young Beethoven, who in his cantata on the death of the Emperor Joseph (1790) used the metaphor to compare the Austrian monarch to an enlightened philosophe contending with the destructive forces of fanaticism. The darkness/light polarity also seems to have inspired, albeit in abstract, purely instrumental terms, the last two movements of Beethoven's Fifth Symphony (1808), with which Rellstab and Mendelssohn of course would have been familiar. But Rellstab's text reads as though he were an avid member of the audience attending Humboldt's 1828 lectures. Thus, after a celebratory chorus of welcome to the conference delegates, the text begins by sketching the disarray of the elements, in which fire, wind, and waves are in unrestrained conflict. Toward the center of the cantata, we suddenly encounter the sound of a new voice, as the raging discord subsides, and the "wondrous clarity of light bursts forth from ethereal dreams." In the second half, the "kindred forces" (*verschwisterte Kräfte*) and "united powers" (*vereinte Kraft*) form the "glorious" world, and a higher, radiant purpose (*leuchtend hohes Ziel*) resolves the previous dissonance into unity (*Einheit*). The text concludes with an invocation to God to bless the creation, and a doxology-like verse of praise.

Mendelssohn appears to have composed the music for the cantata in considerable haste; the autograph (*Staatsbibliothek zu Berlin, Mendelssohn Nachlass 48*) is dated September 12, 1828, only six days before its performance at the conference, and is fraught with corrections, as though the composer were working quickly against the looming deadline. To be sure, Felix did not exhaust his most inspired efforts on the music, which, though through-composed, and thus performed without breaks between individual movements, in the main alternates somewhat predictably between choral movements and solo numbers, including recitatives and an *arioso*. And there is no evidence in his surviving correspondence that he later gave serious thought to revising or publishing his score. For Mendelssohn the cantata was simply an occasional work, and once the occasion had passed, he evidently lost interest in the composition.

Nevertheless, the careful listener will discern how the music parallels the binary, chaos/unity division of the text, and how Mendelssohn imposed upon the composition an overarching musical plan (see Diagram 1). After the brightly scored opening choral movement, in D major, he introduces two minor keys, G minor (bass solo) and D minor (chorus), and a good bit of rather obvious storm imagery to depict the natural strife; in addition, the D-minor chorus contains passages of fugal writing, in which the voices musically contend with one another. The dramatic interruption of the tenor recitative shifts the music from the minor to major mode, and prepares the following two movements, for tenor solo and for tenor answered by the chorus. Here the palette of keys brightens to A major and E major, as Mendelssohn exploits the minor vs. major tonalities as musical counterparts to the progression from chaos to unity (concomitantly, the earlier dissonance level of the music now drops considerably). In the penultimate movement, the D major chords that had heralded the opening bars of the work return, and lead into the finale. Here Mendelssohn introduces a fresh fugal subject, and then recalls that of the earlier D-minor chorus, now woven into the celebratory conclusion. Through the technique of thematic recall Mendelssohn thus brings together different musical strands from the first half of the score in order to effect in the closing pages a new musical order and unity, in keeping with Rellstab's text and Humboldt's vision.

The 1828 Berlin conference brought Humboldt into closer contact with the Mendelssohns in another way. When the mathematician Gauss urged his friend to continue his geomagnetic experiments, Humboldt had a copper hut constructed in the garden of the Mendelssohn mansion on Leipzigerstraße. Here, in 1829, while the composer rehearsed Bach's St. Matthew Passion, Humboldt made his meticulous recordings, all part of a grander scheme to chart the earth's magnetic field. The recently published diaries of Fanny Hensel confirm the experiment: according to one entry, on January 31, 1829, Humboldt supped with the Mendelssohns and then excused himself to observe, that is, make hourly measurements in his hut between 3:00 P.M. and 7:00 A.M. (Fanny Hensel, "Tagebücher", ed. H.-G. Klein and R. Elvers, Wiesbaden, 2002, 6).

There remains for brief consideration the question of whether Humboldt's theories about natural unity could have influenced in a general way Mendelssohn's approach to musical form. Though regrettably the composer left no detailed reactions to Humboldt's lectures, we do know that Mendelssohn was especially drawn to the work of the geographer Carl Ritter (E. Devrient, *My Recollections of Felix Mendelssohn Bartholdy and His Letters to Me*, trans. Natalia Macfarren, London, 1869, 33), Humboldt's friend and colleague at the University of Berlin, whose massive *Erkunde (Geography)*,

begun in 1822 and destined by 1859 to fill some 20,000 pages, presented a vision of the globe in which “the winds, waters, and landmasses” acted “upon one another like animated organs, every region having its own function to perform, thus promoting the well-being of all the rest.” (W. L. Gage, *The Life of Carl Ritter*, N.Y., 1867, 208.) It is surely not insignificant that in 1827, 1828, and 1829, that is, the years of Mendelssohn’s matriculation at the University, and the height of his association with Humboldt and Ritter, he composed or conceived a series of instrumental compositions that reveal “organic” approaches to musical form. Furthermore, two of these works, the concert overtures *Calm Sea and Prosperous Voyage* (1828) and the *Hebrides* (1829), concern natural phenomena, in the case of the former, Goethe’s description in two short poems of a becalming at sea; in the latter, Mendelssohn’s own impressions of the Hebridean islands of Mull, Iona, and Staffa (Fingal’s Cave), with its extraordinary formations of plicated, hexagonal basaltic columns. Among Humboldt’s circle was the young mathematician Gustav Lejeune Dirichlet, now remembered for his work on number theory (see, most recently, John Derbyshire, *Prime Obsession: Bernhard Riemann and the Greatest Unsolved Problem in Mathematics*, N. Y., 2003, *passim*). After Humboldt introduced him to the Mendelssohns in 1828, Dirichlet became enamored of Felix’s younger sister, Rebecka, and a few years later married her (Dirichlet, by the way, would later fill Gauss’s position at the University of Göttingen after his death in 1855). In 1829 Humboldt brought to the Mendelssohns the news of Wilhelm Hensel’s appointment as a Hofmaler, or court painter, clearing the way for his marriage to Felix’s sister Fanny. And finally, it was likely Humboldt who advised Frederick William IV to award Felix in 1842 the *Ordre pour le mérite*, an honor also accorded Franz Liszt. But perhaps the most remarkable testament to Humboldt’s friendship with the Mendelssohns came in 1844. When Humboldt’s landlord decided to sell his property, and thereby threatened to displace the scientist, Felix’s uncle Joseph Mendelssohn quietly bought the residence, so that Humboldt could continue his research undisturbed. We do not know for certain, but it seems likely that Humboldt was among the many mourners who thronged to Felix’s funeral, when he was interred at the Berlin cemetery of Trinity Church on November 8, 1847; only a few months later, in March 1848, after the outbreak of the Revolution in Berlin, Humboldt would lead a procession mourning the first casualties of the barricades.

Each of these compositions begins with a compact motive which, subjected to continuing repetition, development, and transformation, forms the basis for the thematic complex of the entire composition and acts as a unifying agent. To be sure, theories of organicism in the arts abounded in early nineteenth-century German critical thought, in the writings of Novalis,

Wackenroder, Goethe, and in the music criticism of E. T. A. Hoffmann (see most recently, Holly Watkins, “From the Mine to the Shrine: The Critical Origins of Musical Depth,” in *19th Century Music* 27 [2004], 179-207). But in Mendelssohn’s overtures is it too much to imagine that the relationship between the particular and the general, between the individual musical gesture and the overarching musical design owed something to Humboldt’s determination to discover in natural phenomena the keys to unlocking a vision of a comprehensive unity? Indeed, Humboldt’s vision may be seen to have transcended science to embrace art, an idea that he proposed on the very first page of the first chapter of the *Kosmos*, which Mendelssohn may well have read in 1845: “May the immeasurable diversity of phenomena which crowd into the picture of nature in no way detract from that harmonious impression of rest and unity, which is the ultimate object of every literary or purely artistic composition.” (*Kosmos*, I, 62.) Thus the genius of one polymath may well have touched that of another.

TABLE 1-1. Felix Mendelssohn Bartholdy, Humboldt Cantata (1828)

Chorus	Bass recit.	Chorus	Tenor recit.	Tenor & chorus	Bass & tenor
Chorus					
			& arioso		recit.
Chords					Chords
		Fugato			
Double fugato with recall					
D major	G minor	D minor	A major	E major	D major
D					

