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Frank Baron

From Alexander von Humboldt to Frederic Edwin Church:
Voyages of Scientific Exploration and Creativity

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Herausgeber:

Prof. Dr. Ottmar Ette
Universität Potsdam
Institut für Romanistik
Am Neuen Palais 10
14415 Potsdam

Prof. Dr. Eberhard Knobloch
Alexander-von-Humboldt-Forschungsstelle der Berlin-
Brandenburgischen Akademie der Wissenschaften
Jägerstraße 22/23
10117 Berlin

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Technische Redaktion:

Tobias Kraft
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From Alexander von Humboldt to Frederic Edwin Church: Voyages of Scientific Exploration and Creativity

Frank Baron

Abstract

Stephen Jay Gould wrote recently that „when Church began to paint his great canvases, Alexander von Humboldt may well have been the world’s most famous and influential intellectual.“ Humboldt’s influence in the case of the landscape artist Church is especially interesting. If we examine the precise relationship between the German explorer and his American admirer, we gain an insight into how Humboldt transformed Church’s life and signaled a new phase in the career of the artist. Church retraced Humboldt’s travels in Ecuador and in Mexico. If we compare the texts available to Church and the comparison of Church’s paintings and the texts and images of Humboldt’s works we can arrive at new perspectives on Humboldt’s extraordinary influence on American landscape painting in the nineteenth century.

Zusammenfassung

Der amerikanische Wissenschaftshistoriker Stephen Jay Gould stellte fest, daß Alexander von Humboldt um die Mitte des neunzehnten Jahrhunderts vielleicht der berühmteste und einflußreichste Intellektuelle gewesen sei. Zu diesem Zeitpunkt bietet Humboldts Einfluß auf den Landschaftsmaler Church einen besonders interessanten Fall. Wenn wir die Beziehungen zwischen dem deutschen Entdeckungsreisenden und seinem amerikanischen Bewunderer näher betrachten, erfahren wir, wie die Impulse von Humboldt das Leben und die Karriere des Künstlers in ganz neue Richtungen führten. Church besuchte mehrere von Humboldt beschriebene Orte in Ekuador und Mexiko. Der Vergleich der veröffentlichten Texte und Abbildungen Humboldts mit den Gemälden von Church liefert neue Perspektiven, in welcher Weise Humboldt die amerikanische Landschaftsmalerei des neunzehnten Jahrhunderts beeinflusst hat.

Resumen

El historiador norteamericano Stephen Jay Gould afirmó que Alexander von Humboldt fue posiblemente el más famoso e influyente intelectual a mediados del siglo XIX. Para ese entonces, la influencia de Humboldt sobre el paisajista Church ofrece un caso especialmente interesante. Si analizamos las relaciones entre el explorador alemán y su admirador norteamericano con mayor detalle, nos enteramos cómo los impulsos de Humboldt llevaron la vida y carrera del artista por carriles totalmente nuevos. Church visitó varios de los lugares descritos por Humboldt en Ecuador y México. La comparación de los textos e ilustraciones publicados de Humboldt con las pinturas de Church ofrece nuevas perspectivas acerca de la extraordinaria influencia de Humboldt en la pintura paisajista norteamericana del siglo XIX.

* * *

Über den Autor

Frank Baron ist Professor für Deutsche Literaturgeschichte an der University of Kansas (Lawrence) und Leiter des Max Kade Center for German-American Studies. Buchveröffentlichungen über Peter Luder, Stephan Hoest, Joachim Camerarius, Albert Bloch und die literarische Faust-Tradition. Aufsätze zur deutschen und ungarischen Literaturgeschichte (unter anderem über den historischen Faustus, Paracelsus, Hermann Hesse, und Thomas Mann). Forschungsstipendiat der Fulbright-Stiftung, der National Endowment of the Humanities, der National Science Foundation und der Alexander von Humboldt-Stiftung.

From Alexander von Humboldt to Frederic Edwin Church: Voyages of Scientific Exploration and Artistic Creativity

Frank Baron

1. Introduction

A history of Humboldt's influence in the nineteenth century would have to delve into the lives and works of major figures in numerous disciplines. Perhaps the most remarkable evaluation of Humboldt's significance came to light only recently. While Charles Darwin repeatedly accorded Humboldt credit for having inspired him with his *Personal Narrative of Travels*,¹ the lesser-known Alfred Russel Wallace, who was about to embark on his own pioneering discoveries about evolution, was also inspired, independently, by the same work. Darwin's enthusiasm may be characteristic of the kind of reaction the *Personal Narrative of Travels* inspired.

Humboldt's glorious descriptions are and will forever be unparalleled; but even he with his dark blue skies and the rare union of poetry with science which he so strongly displays when writing on tropical scenery, with all this falls short of the truth. The delight one experiences in such times bewilders the mind; if the eye attempts to follow the flight of a gaudy butterfly, it is arrested by some strange tree or fruit; if watching an insect one forgets it in the stranger flower it is crawling over; if turning to admire the splendor of the scenery, the individual character of the foreground fixes the attention. The mind is a chaos of delight, out of which a world of future and more quiet pleasure will arise. I am at present fit only to read Humboldt; he like another sun illumines everything I behold.²

In the constantly shifting perspectives of the *Personal Narrative of Travels*, both Darwin and Wallace found thought-provoking passages with insights about the way each new locality reflected unique modes of plant and animal adaptation to its environment. The concept of evolution owes much to Humboldt's critical analyses of the environmental impact on plant and animal life. The fame of Darwin and Wallace soon displaced that of their „teacher.“

On the occasion of the 100th anniversary of Humboldt's birth, naturalist and geologist Louis Agassiz, professor of zoology at Harvard University, spoke at length about Humboldt's importance for the United States. Having been an avid student and personal friend of Humboldt's, Agassiz, along with Ralph Waldo Emerson and Oliver Wendell Holmes, expressed great admiration for Humboldt. Agassiz's words, underlined by Emerson and Holmes, reflect a broadly established reputation. Agassiz asserted: „All the fundamental facts of popular science, beyond the merest elementary education, we owe to him. We are reaping in every school throughout this broad land, where education is the heritage even of the poorest child, the intellectual harvest sown by him.“³ For John Muir, one of the pioneers of the conservation movement, Humboldt was a model. He exclaimed: „How intensively I desire to become a Humboldt!“ Like Darwin and Wallace before him, he read Humboldt's *Personal Narrative*. Sensitivity to and respect for the environment, which is evident in all of Humboldt's works, characterized Muir's career and legacy.⁴ Humboldt's outspoken views against slavery proved to be a force that gave momentum to the abolitionist movement in the United States.⁵

2. Frederic Edwin Church Retraces Humboldt's Footsteps in the Andes

Understanding Humboldt's equally remarkable influence on the artist Frederic Edwin Church presents unique challenges. In Church's case, scientific, humanistic, and artistic aims merged. Although Church, too, owned a copy of the *Personal Narrative*,⁶ this fact alone does not explain how Humboldt transformed Church's life and signaled a new phase in the career of the artist. We need to examine at least a few other works in Church's personal library to understand why and how Humboldt shaped the painter's work.

The *Personal Narrative* covered Humboldt's exploration of South America, primarily in Venezuela and Cuba,

only to the point of his arrival in Colombia. Church, who retraced Humboldt's travels, did so only *after* this point; he followed the path Humboldt had taken in Colombia, then in Ecuador, and finally in Mexico.

Even *Cosmos* and *Aspects of Nature*,⁷ also in Church's personal collection, contain only brief and widely scattered references to the areas the artist visited. Nevertheless, it is important to realize that *Aspects of Nature* contained a passage that was of special interest to the artist personally. Humboldt observed:

It would be an enterprise worthy of a great artist to study the aspect and character of all these vegetable groups, not merely to hothouses or in the descriptions of botanists, but in their native grandeur in the tropical zone. How interesting and instructive to the landscape painter would be a work which should present to the eye, first separately, and then in combination and contrast, the leading forms which have been here enumerated!⁸

Such a passage as this one made it clear that Humboldt's guidance opened a new way of approaching art work. Church took this guidance seriously; one of Humboldt's books in Church's library provided specific geographical orientation. The crucial information for following Humboldt's footsteps was in Heinrich Klencke's biography of the German explorer. Church owned a copy of the volume.⁹ Although much has been written about Humboldt's influence on Church, the role of this book has been overlooked. The biography supplies details about the places of greatest interest, and it is instructive to review the narration of Humboldt's travels through the countries that interested Church the most. The following passage of the biography describes Humboldt, along with Aimé Bonpland, exploring Colombia and Ecuador. The inserted italics in the text of Humboldt's itinerary below show the points where Church sketched and painted during his two trips. The correspondences provide strong evidence that Church had information to retrace Humboldt's most dramatic experiences.

. . . the treasures of science he had collected on the Orinoco stream encouraged him to undertake a similar trip on the *Magdalen[a] stream, a river flowing through the beautiful and majestic valleys of New Granada*, and entering the sea by several mouths not far from Carthagená. They took a boat, and went up the stream into the country as far as Honda, where *Bonpland explored the rich botanical treasures of the shore*, while Humboldt drew a chart of the river district, in spite of the torments of insects, climate, and dangerous localities. At Honda they landed, to proceed to the capital, St. Fe de Bogotá, on mules, almost the only traveling convenience on the continent of South America. They had been traveling on the river and in the valleys for thirty-five days, and remained in Bogotá till September, occupying themselves with botanical and geographical researches, and *admiring and studying the magnificent natural formations of the rocks and waterfalls of Tequendama*, the mines, and the picturesque remains of former earthquakes. On a dangerous path over the inconvenient pass of the Andes of Quind[ío], whose highest point is 11,500 English feet above the sea, they proceeded to Popay[án]; in the rain, quite wet through, and barefoot on the soft soil, sleeping under the free heaven at night, and awaking exhausted in the morning, they passed through the Cauca valley, *visited the snow-covered volcanoes, Pur[esé]* and Sotara, through Pasto, a little town situated at the foot of a burning volcano, crossed the equator, and arrived at Quito on the 6th [of] January, 1802, after a journey of four months.

Here Humboldt soon recovered from the effects of the dangers and privations of the journey, in the highly agreeable and equable climate of this country, and he employed his stay of nearly nine months, in geological and botanical studies; *his sense for natural beauty and cheerful landscapes finding abundant food for gratification in the enchanting situation of the place, opposite long ranges of gigantic snowy mountains*. He ascended the crater of the volcano *Pichincha*, though not without trouble and several unsuccessful trials. On it, he made experiments on the electric, magnetic, and hydraulic properties of air, measured altitudes, and, indeed, studied the chain of the Andes, in a geognostic point of view, so fundamentally that his works became the most important materials for the foundation and prosecution of the study of modern geognosy. *He wandered the majestic snowy tops of the Antisana, and of the Cotopaxi, the highest volcano of the Andes, whose thunders are often heard at a distance of*

*200 English miles, at Honda, on the river Magdalen[a]; he ascended Tunguragua with Bonpland and a young enthusiast for science, named Mont[úfa]r, who accompanied him on this journey, and on the 23rd [of] June, 1802, he [Humboldt] even ascended the Chimborazo, where he climbed to a height of 8036 toises, an elevation to which no man before Humboldt had ascended.*¹⁰

On August 26, 1853, when he first crossed into Ecuador, Church found confirmation of the vision of spectacular scenery, which Humboldt's observations had suggested. He wrote in his diary:

After a disagreeable journey across an elevated plain with a cold piercing wind and a sprinkling of rain we finally came to the edge of an eminence which overlooked the valley of Chota. And a view of such unparalleled magnificence presented itself that I must pronounce it one of the great wonders of Nature. I made a couple of feeble sketches this evening in recollection of the scene. My ideal of the Cordilleras is realized.¹¹

Major works of art soon came into being: a scene on the Magdalena River, the falls of Tequendama, and the mountains Puresé, Cayambe, Pichincha, Cotopaxi, and Chimborazo. The huge painting (10 x 5½ feet) *Heart of the Andes*, 1859, may be considered a summing up of what Church, under Humboldt's guidance, discovered in the Andes.

3. Humboldt's Sketches and Church's Paintings

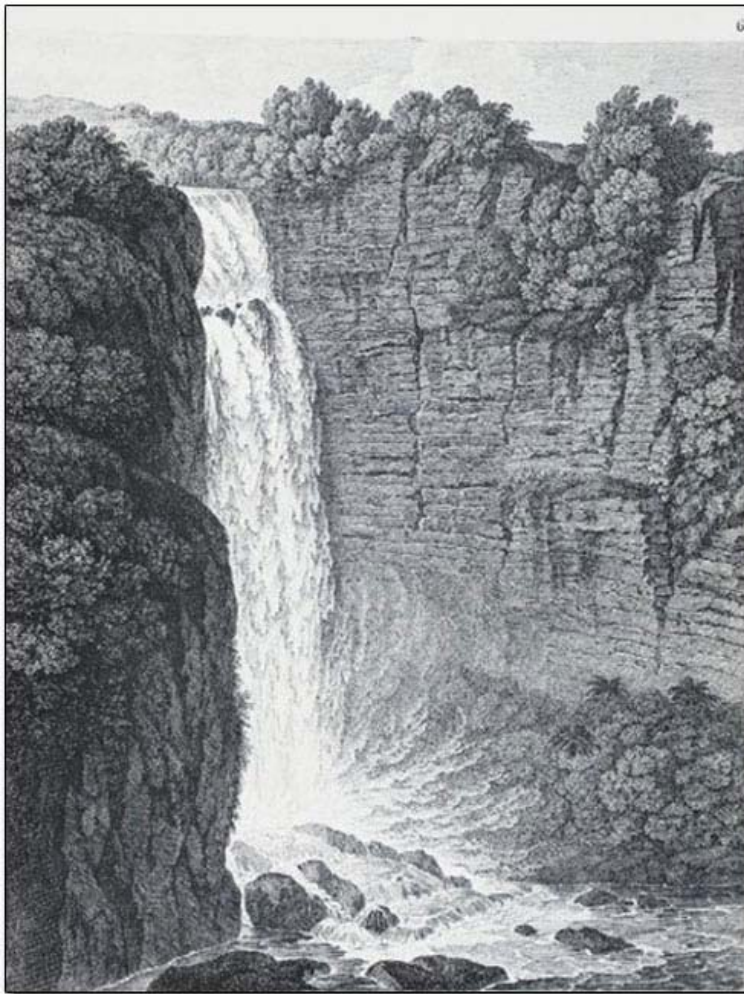


Fig. 1 Alexander von Humboldt, *Tequendama* (1810), *Vues des Cordillères*

The inspiration certainly did not come only from the books in Church's library. Did Church not see Humboldt's version of the Tequendama Falls, the magnificent scenic wonder that he sought to reach and view at considerable effort?¹² When we compare Humboldt's image with Church's painting, it becomes evident that Church looked for and located the point from which Humboldt had made his sketch. The comparison suggests that Church had to move back somewhat to be able include lush vegetation and express the explosive power of the water as it struck below and continued its flow toward the observer.

It was evidently not easy for Church to establish the ideal position from which to plan his painting. Considerable work in demolishing entwined branches and vines, and even clearing trees was necessary. Hired hands cleared away the obstructions, and as tree after tree fell, they „disclosed the magnificence of Tequendama. We were wrap[ped] in wonder when finally the whole view was exposed.“¹³

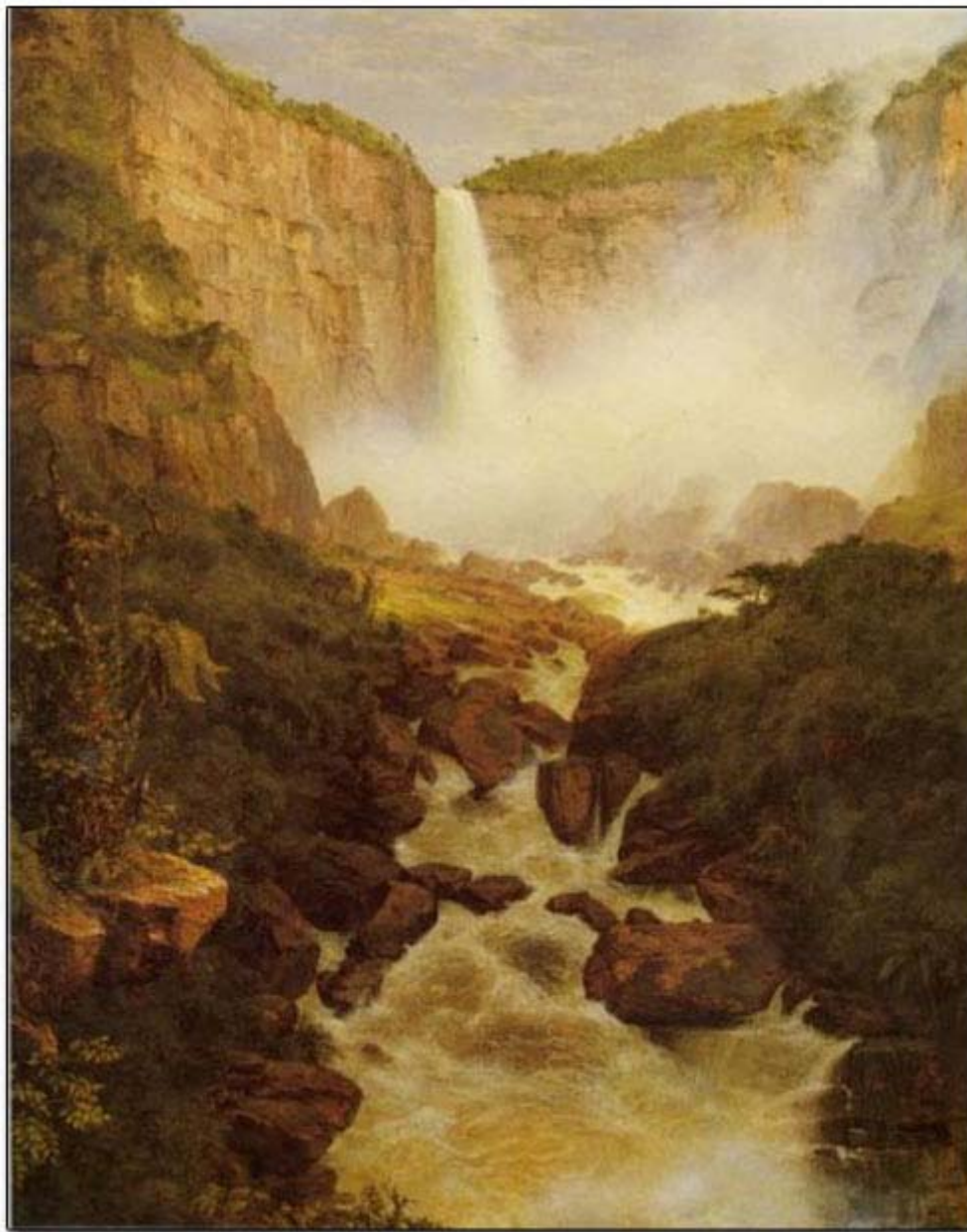


Fig. 2 Frederic Edwin Church, Falls of the Tequendama near Bogotá, *New Granada* (1864)

For Church, Tequendama became magnificent only when the canvas was able to articulate a sense of drama. The „whole view“ included the water rushing toward the observer.

Is it likely that Church would have embarked on the diversion to the Cayambe volcano, if he had not seen its impressive outline in Humboldt's sketch?¹⁴ The preparations for the South American travels certainly included research in libraries or the borrowing of Humboldt's impressive folio volumes.¹⁵ Gerald M. Carr considers it likely that Church consulted Humboldt's *Essai sur la géographie des plantes* (1805) and *Vues des Cordillères* (1810).¹⁶ As in the case of Tequendama, Church appears to step back from the plains that Humboldt faced. This allowed him to show segments of a river, lake, and the tropical plants he experienced as typical for these areas. His painting becomes increasingly complex; Church adds a mysterious quality by placing a neglected, ancient monument in one segment of the foreground.¹⁷



Fig. 4 Frederic Edwin Church, *Cayambe* (1858), The New York Historical Society



Fig. 3 Alexander von Humboldt, *Cayambe* (1810), *Vues des Cordillères*

In combination with printed illustrations, the narrative of Humboldt's travels provided Church with a strategy for finding ideal locations. Church realized that Humboldt's illustrations were only distantly related to the scenes they described. They were based, after all, on rough, hurried sketches, which were then translated into lithographs by Paris artists. They were interpretations of interpretations and lacked details. The challenge for Church was to devote his exclusive attention to the landscapes that the narratives and lithographs suggested.

The paintings of Chimborazo and Cotopaxi deserved special attention and experimentation. In the context of *The Heart of the Andes*, probably the most famous landscape of the nineteenth century, the Chimborazo is a part of what a critic has called „the long-lost Garden of Eden, a nascent world left untouched since the creation.“¹⁸ In other paintings Church composed a framework that made the mountain the central actor on his „stage,“ as in the case of a canvas from the year 1864.



Fig. 5 Alexander von Humboldt, *Chimborazo* (1810), *Vues des Cordillères*

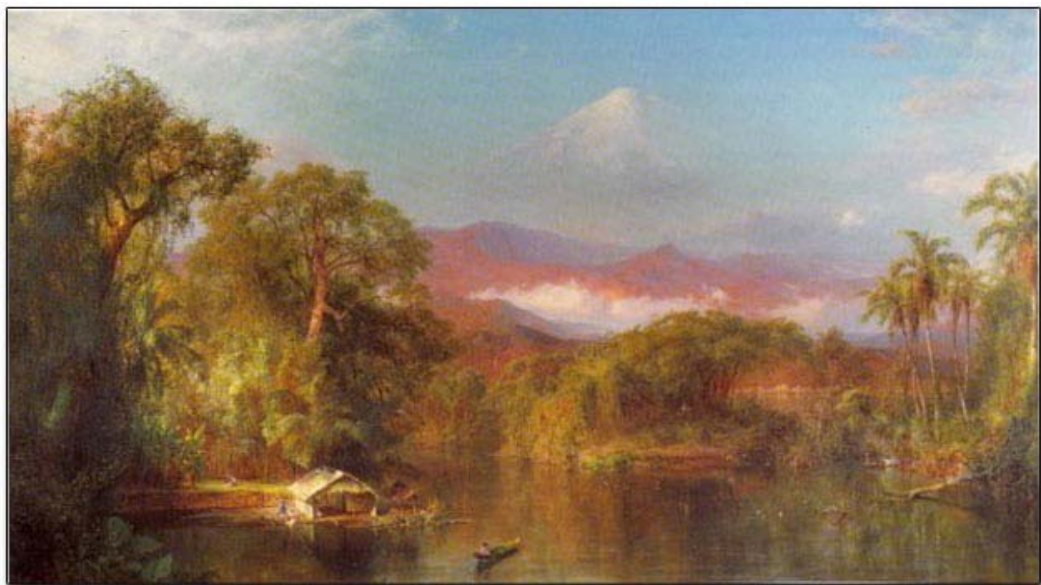


Fig. 6 Frederic Edwin Church, *Chimborazo* (1864), Virginia Steele Scott Foundation, Huntington Library, and Botanical Gardens, San Marino, California

4. Going beyond Humboldt: The Cotopaxi Paintings

The juxtaposition of Humboldt and Church helps to show how the painter sought to go beyond the inspirational basis that Humboldt had provided. Church's *Cotopaxi* of 1855 and 1857 display a mountain with its conical form in relative peace, just as Humboldt must have experienced it.¹⁹ Church's sketch of June 26, 1857 shows smoke emanating from the crater, but there is no sign of a major eruption. Later paintings, however, reflect a radical transformation. In the painting of 1861, the mountain is in the midst of an ominous eruption that darkens much of the sky. Finally, in 1862, Church painted an even greater explosion of smoke (now covering part of the sun); the artist was close to suggesting a cataclysmic event.²⁰ Because neither Humboldt nor Church actually experienced the eruption in that extreme form, Church undertook a fictional dramatization of an event he observed in connection with another mountain.

During this second stay in Ecuador, Church was able to experience the eruption of the volcano Sangay. His description of this phenomenon shows how it impressed him.

Gradually the clouds broke away, the sun shone and gilded with refined gold every slope and ridge that it could touch. Patches of open sky revealed the most lovely blue in contrast to the rich coloring.

My sketch finished, I turned my face, and Lo! Sanga[y], with its imposing plume of smoke stood clear before me. I was startled. Above a serrated, black, rugged group of peaks which form the crater, the columns arose, one creamy white against an opening of exquisitely blue sky, delicate white, cirrus formed, flakes of vapor hung about the great cumulus column and melted away into the azure. The other, black and somber, piled up in huge, rounded forms but sharply against the dazzling white of the column of vapor and piling up higher and higher, gradually was diffused into a yellowish tinted smoke through which would burst enormous heads of black smoke which kept expanding, the whole gigantic mass gradually settling down over the observer in a way that was appalling.

I commenced a sketch of the effect, but constant changes rapidly followed and new beauties were revealed as the setting sun created the black smoke with burnished copper and white cumulus cloud with gold. At intervals of nearly four in five minutes an explosion took place; the first intimation was a fresh mass of smoke with sharply defined outlines rolling above the dark rocks followed by a heavy, rumbling sound which reverberated among the mountains. I was so impressed by the changing effects that I continued making rapid sketches; but all the time I had from the moment I saw the first of them until the sunset was twenty minutes. Dense clouds again settled over the mountains and night took the place of day. The curtain had dropped.²¹

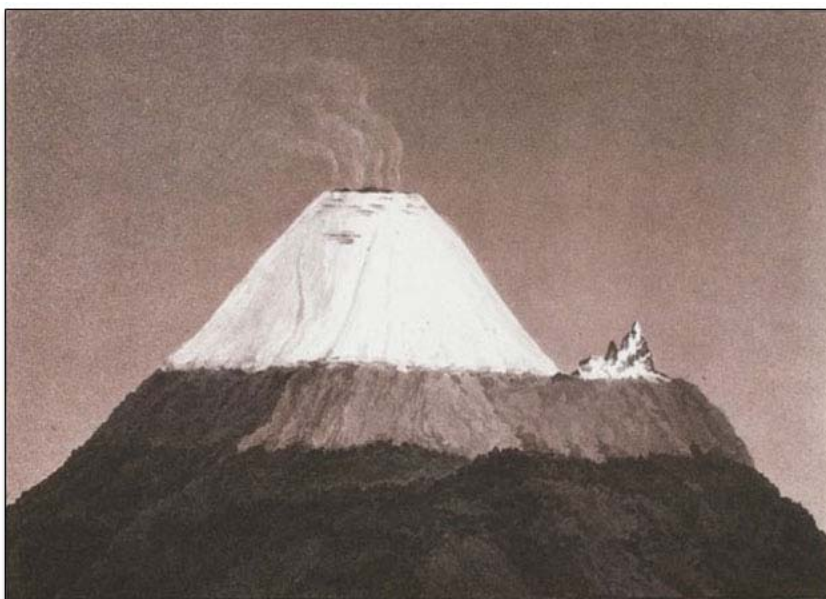


Fig. 7
Alexander von Humboldt, *Cotopaxi*
(1810), *Vues des Cordillères*

Church filled five sheets with sketches. His intense excitement seems to have been infected by Humboldt's scientific exploration of volcanoes. Carr has shown that Church had studied Humboldt's discussion of this volcano in *Cosmos*.²² Church even took risks to climb up the mountain to solve what he understood to be the „Sangay problem.“²³

Although Humboldt, like Church, was well aware of Cotopaxi's history of devastating eruptions, neither was able to observe a serious outburst from the mountain. During his second trip Church was at least able to make sketches of fire, smoke, and stones spitting. His narrative comes close, however, to expressing the excitement and drama of a cataclysmic event. The paintings of *Cotopaxi* in the years 1861 and 1862 became the beneficiaries of imaginative transferences and projections that Sangay and the history of Cotopaxi suggested.²⁴



Fig. 8 Frederic Edwin Church, Oil Study for *Cotopaxi* (1861), Collection of Nelson C. White

Such juxtapositions could be extended to others. A selection may suffice to show that Humboldt's images served as guideposts in a search for ideal locations in the tropics. They were points of departure for experimentation and exploration. Because Church's most spectacular works were the result of his South American trips, scholars have paid little attention to Church's many visits to Mexico, where he was also seeking out sites that Humboldt had visited and written about. Church was in Mexico for the first time in 1883 and subsequently made fourteen more winter excursions there. Again, Klencke's biography becomes a guide:

After a journey of thirty days, they [Humboldt, Bonpland, and Montúfar] arrived in Acapulco, a western port of New Spain. . . . He [Humboldt] found a milder and fresher climate on the plains of Chilpanzingo and Ta[x]co, lying about 6000 or 7000 toises above the level of the sea, and whose rich silver mines he visited; thence their journey lay over *Cuernavaca*, and through the fog exhalations of Guchilaque to the beautiful town of Mexico [City]. . .

In January 1804 Humboldt set out on a more extensive excursion, to examine the eastern side of the Cordilleras, of Mexico; the altitudes of *the volcanoes Popocatepetl and [I]ztaccihuatl*, were trigonometrically measured, as well as the pyramid of Chohila, which was once built of

bricks, by the Tulteks, and which was ascended on account of the beautiful view it affords on the snow-covered tops of the mountains and the smiling valleys of Tlascala. After these investigations, Humboldt proceeded to Xalapa, over Perote, and had to pass through almost impenetrable forests of oak and fir trees, through which a road was subsequently made according to his plans, in consequence of his three-times-repeated barometric measurements of the locality. *Cofre, a mountain, situated near Perote, and 162 toises higher than the peak of Teneriffe, was also ascended and measured, and also the peak of Orizava*, past which his way led him. After a stay in these regions, which had proved most fertile in scientific studies and their results, Humboldt and Bonpland returned to Vera Cruz on the [B]ay of Mexico, fortunately escaped the yellow fever, raging in this sterile and waterless plain, and set sail for Hava[n]a, on a Spanish frigate, to take possession of the collections left there in the year 1800.²⁵

We observe the previously discussed pattern relating to Colombia and Ecuador. Again, Church seems to have consulted Humboldt's folio volumes to locate important sites.²⁶ Church's repeated visits reflect Humboldt's persistent guiding hand. The artist's work in Mexico no longer presents radical and adventurous departures, however. The landscapes contain fewer surprises; the attention to detail no longer appears important. Nevertheless, the juxtaposition of Humboldt's illustrations and Church's sketches and paintings may aid in the evaluation of these lesser-known works of the artist.

In the second volume of *Cosmos*, Humboldt treats landscape painting.²⁷ Church might have paid close attention to a theoretical segment that pointed to the exciting artistic possibilities of the Andes. In the interpretation of this moment of enlightenment, as Stephen Jay Gould sees it, Church came to the realization that science and art were compatible and that a great painter had to become, in a sense, a scientist. Gould asserts that „Church was the most scientific of painters,“ admired for „his penchant for accuracy in observation and rendering, both for intricate botanical details in his foregrounds and geological forms in his backgrounds.“²⁸

5. Church, a Scientific Artist?

In what sense did Church become a scientist? To what extent was he putting into practice Humboldt's science and aesthetics? What was Church's unique contribution?

The manner in which Church retraced Humboldt's steps certainly reflects an effort to understand the explorer's scientific world. Although these travels constantly demanded the ideal locations to set up an easel, Church soon realized that successful work with the tropical scenery required concentrated study. He could not accomplish what he was seeking during his first trip, to Ecuador, the most promising location for his work, in a trip of only four weeks. A second trip was necessary. This stay lasted seven weeks, and it made the ascent on the Sangay possible. Even during his first stay he had undertaken hikes up the sides of the Pichincha and Chimborazo mountains. Although these ascents were not part of a strictly scientific program, they did provide Church with significant artistic impulses.

On the whole, however, the “science” that Church practiced focused on the contrasts of colors and outlines. His narrative style is not unlike the descriptive passages in which Humboldt had expressed his excitement about all volcanoes, but especially those that were erupting. As an artist, Church was not simply reproducing what Humboldt had observed and recorded; he made his own unique contribution. The key to success required the imaginative translation of dramatic encounters with nature into works of art.²⁹

Church's sketches from this period also depict individual flowers, leaves, and trees; these were studies that prepared the artist to render the Andes accurately, if not scientifically. On the other hand, Church certainly recognized the relationship of science to poetic and artistic spheres in Humboldt's work. Always shifting back and forth between scientific and humanistic discourse, Humboldt's narrative revealed to Church the ways in which his art might be compatible with the work of the scientist. Humboldt the scientist and Church the artist shared a concern for two elements: diversity of the environment and the interconnectedness of all forms of being. For Humboldt, diversity is a constant theme. Because of the varied plant forms, the Andes, according to Humboldt, surpass by far what Europe has to offer.

Are we not justified in hoping that landscape painting will flourish with a new and hitherto unknown brilliancy, when artists of merit shall more frequently pass the narrow limits of the Mediterranean, and when they shall be enabled far in the interior of continents, in humid mountain valleys of the tropical world, to seize, with the genuine freshness of a pure and youthful spirit, on the true image of the varied forms of nature?³⁰

As Humboldt continued, he made clear that art works, which had not been possible up to now, had to embrace individual forms in relationship to totality.

Those noble regions have hitherto been visited mostly by travelers whose want of artistic education, and whose differently directed scientific pursuits afforded few opportunities of their perfecting themselves in landscape painting. Only very few among them have been susceptible of seizing on the total impression of the tropical zone, in addition to the botanical interest excited by the individual forms of flowers and leaves.³¹

Humboldt had been motivated by a realization that Europeans were too insular and limited to gain a profound understanding of nature. It would be a mistake, however, to see the task of the artist as primarily descriptive. Timothy F. Mitchell has shown that Humboldt's conception of a new science had direct implications for art when „the study of relationships replaced pure description.“³² As he embarked for the Americas, Humboldt wrote:

I shall collect plants and fossils and make astronomic observations with excellent instruments. I will conduct chemical analyses of the atmosphere. . . . But all that is not the main purpose of my expedition; above all, I will observe the interaction of forces and the influence of the inanimate environment on plant and animal life. My eyes will constantly focus on this harmony.³³

6. Conclusion

The tropics offered a wider range of perspectives and the prospect of their integration of all diverse elements. Humboldt believed that the great diversity of insights he gained through his scientific exploration would ultimately contribute to understanding the underlying unity in nature. This strong faith he shared with Goethe. When the thirty-year old Humboldt embarked on his trip to the Americas in 1799, Goethe was enthusiastic and expressed his confidence that the trip would be of incalculable value.³⁴ Perhaps Goethe's *Faust* was in the back of his mind when Humboldt repeatedly stressed interconnectedness and harmony in nature. Faust's magic was Goethe's and Humboldt's science. Just as Faust had given himself to magic, so Humboldt committed himself to scientific exploration. The ultimate aim, however, was the same:

Dass ich erkenne, was die Welt
Im Innersten zusammenhält. (Lines 382–83)
That I might discover, what binds the world
In its innermost being.

Church's paintings of the Andes reflect the mysterious interconnectedness in the midst of the greatest imaginable diversity. Church accepted the challenge of showing living and inanimate forms between the burning glow in the valleys at the lowest tropical level and the constantly snow-covered summits of the Andes. In *The Heart of the Andes* he might have come closest to this kind of all-embracing composition with diversity and harmony, Humboldt's aesthetic ideal.

It would be unfair to emphasize Humboldt's influence to the exclusion of Church's own creative work. *The Heart of the Andes* and *Cotopaxi* show that Church was able to weave imaginative plots into landscapes. He created dramatic tension. It is also easy to understand why he might have wanted to take *The Heart of the Andes* to Europe in 1859. He wrote to a friend: „[The] principal motive in taking the picture to Berlin is to have the satisfaction of placing before Humboldt a transcript of the scenery which delighted his eyes sixty years ago—and which he had pronounced to be the finest in the world.“³⁵ Ironically, Humboldt died on May

9, just three days after Church had written the letter. We can, nevertheless, see the significance of a meeting that might have taken place. Church had invested years of his life in an artistic project for which Humboldt had set the stage. The artist was seeking confirmation of his own unique achievement and yet giving credit, at the same time, to Humboldt's inspiring legacy.

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Endnotes

- ¹ „I formerly admired Humboldt, I now almost adore him; he alone gives any notion, of the feelings which are raised in the mind on first entering the Tropics.“ R. D. Keynes, ed., *The Beagle Record* (Cambridge, England, 1979), p. 38. Darwin's admiration for Humboldt survived for many decades. In August 1881 he wrote to J. D. Hooker: „I believe that you are fully right in calling Humboldt the greatest scientific traveller who ever lived[.] I have lately read two or three volumes again.“ Francis Darwin, ed., *The Letters of Charles Darwin, Including an Autobiographical Chapter*, vol. 2 (New York: Basic Books, 1959), p. 422.
- ² *The Beagle Record*, p. 41. Also quoted by Gould in Franklin Kelly et al., Frederic Edwin Church (Washington, D.C.: National Gallery, 1989), p. 102, and Stephen Jay Gould, *I Have Landed: The End of a Beginning in Natural History* (New York: Three Rivers Press, 2002), p. 103.
- ³ Louis Agassiz, *Address Delivered on the Centennial Anniversary of the Birth of Alexander von Humboldt* (Boston: Society of Natural History, 1863), p. 5.
- ⁴ Linnie Marsh Wolfe, *The Life of John Muir* (New York: Knopf, 1945), p. 96. Frederick Turner, *John Muir: Rediscovering America* (Cambridge, MA: Merloyd Lawrence, 1958), pp. 65–66.
- ⁵ Philip S. Foner (ed.), *Alexander von Humboldt on Slavery in the United States*, a dual-language text. Trans. Ingo Schwarz (Berlin: Humboldt-Universität, 1984).
- ⁶ *Personal Narrative of Travels to the Equinoctial Regions of America*. Translated from the German by Thomasina Ross. Huntington reports that Church owned volumes 1 and 3 of the 1852 London edition, but that volume 2 was missing. David Carew Huntington, „Frederic Edwin Church (1826–1900): Painter of the Adamic New World Myth“ (Ph.D. diss., Princeton University, 1960), 40. In his dissertation Huntington cites important information and passages from Church's writings. These materials are no longer found in books and articles Huntington published later.
- ⁷ Church owned *Aspects of Nature in Different Lands and Different Climates, with Scientific Elucidations* (London: Longman, 1849). Huntington, pp. 39–40.
- ⁸ *Aspects of Nature*, p. 244. In a note Humboldt refers to his *Cosmos*, from which he quotes: „Hence landscape painting must be a result at once of a deep and comprehensive reception of the visible spectacle of external nature, and of this inward process of the mind,“ p. 363.
- ⁹ Heinrich Klencke, *Alexander von Humboldt: A Biographical Monument*, trans. Juliette Bauer (London: Ingram, 1852). Huntington, p. 40.
- ¹⁰ Klencke, pp. 76–78.
- ¹¹ Huntington, „Frederic Edwin Church (1826–1900): Painter of the Adamic New World Myth,“ p. 45.
- ¹² See the image of the waterfall based on Humboldt's drawing in Alexander von Humboldt: *Briefe aus Amerika. 1799–1804*, ed. Ulrike Moheit (Berlin: Akademie Verlag, 1993), p. 146. The original lithograph is in *Vues des cordillères* (Paris: F. Schoell, 1810), plate 6.
- ¹³ Huntington, „Frederic Edwin Church (1826–1900): Painter of the Adamic New World Myth,“ pp. 42–43.
- ¹⁴ See the lithograph by Louis Bouquet in the *Vues des cordillères*, plate 42. Reproduced in Alexander von Humboldt, *Die Wiederentdeckung der Neuen Welt*, ed., Paul Kanut Schäfer (Berlin: Verlag der Nation, 1989), p. 128. In the essay that accompanies this plate Humboldt writes, „The summit of Cayambe is traversed by the equator. We may consider this colossal mountain as one of those eternal monuments, by which nature has marked the great divisions of the terrestrial globe.“ *Researches, Concerning the Institutions and Monuments of the Ancient Inhabitants of America* (London: Longman et al., 1911), p. 100.
- ¹⁵ Church visited the estate of the noble family of Carlos Montúfar, who accompanied Humboldt on his travels and followed him to Europe. Kevin J. Avery, *Church's Great Picture: The Heart of the Andes* (New York: Metropolitan Museum of Art, 1993), p. 26.

- ¹⁶ Gerald M. Carr, *Frederic Edwin Church. Catalogue Raisonné of the Works of Art at Olana State Historic Site*, vol. 1 (Cambridge: University Press, 1994), pp. 212–46.
- ¹⁷ Another version of Cayambe in the Museum of Fine Arts, Boston, shows a lake more distinctly, but the monument is missing. The date of this painting is uncertain (1853 or 1858). Katherine Emma Manthorne, *Tropical Renaissance: North American Artists Exploring Latin America, 1839–1879* (Washington, D.C.: Smithsonian Institution, 1989), p. 102.
- ¹⁸ Manthorne, *Tropical Renaissance*, p. 11. Mary Sayre Haverstock, „The Cosmos Captured,“ *Américas* 35 (January–February 1983), pp. 37–41.
- ¹⁹ Manthorne, *Tropical Renaissance*, p. 71. Cf. David Huntington, *The Landscapes of Frederic Edwin Church: Vision of an American Era* (New York: Braziller, 1966), pp. 11–20.
- ²⁰ David C. Huntington, *The Landscapes of Frederic Edwin Church: Vision of an American Era* (New York: Braziller, 1966), Illustrations III, 31, and 38.
- ²¹ Huntington, „Frederic Edwin Church (1826–1900): Painter of the Adamic New World Myth,“ p. 103.
- ²² Carr points out that in Church's copy of Collection of Nelson C. White *Cosmos*, the corner of vol. 5, p. 249, is folded over. Church found Humboldt's description of Sangay there: „The most active of the South American volcanoes, and indeed of all those which I have here specially indicated, is the Sangay, which is also called the Volcan de Macas, because the remains of this ancient city, so populous in the early period of the Conquista, are situated upon the Rio Upano, only 28 geographical miles to the south of it. . . I myself have heard it thunder for months together, especially in the early morning, in Chillo, the pleasant country seat of the Marquis de Selvalegre [Montúfar, de Selva Alegre] near Quito . . . „ Carr, p. 244.
- ²³ Huntington reports: „Church had intended to go all the way to the volcano in order to settle 'the Sanga[y] problem' by exposing 'the wild stories about the mountain,' but eight inches of wet snow that night and the prospect of the hazards of a quick melting induced him to abandon the venture even though 'so near completion' and 'to return without delay.'“ Huntington, „Frederic Edwin Church (1826–1900): Painter of the Adamic New World Myth,“ p. 104.
- ²⁴ Katherine Emma Manthorne, „Legible Landscapes: Text and Image in the Expeditionary Art of Frederic Church,“ in Edward C. Carter II, ed., *Surveying the Record: North American Scientific Exploration to 1930* (Philadelphia: American Philosophical Society, 1999), p. 140.
- ²⁵ Klencke, pp. 80–82.
- ²⁶ Carr shows numerous examples of sketches that show connection to the places that Humboldt had visited or written about. The excursion to Oaxaca, for example, might have been inspired by Humboldt's description of the immense cypress tree: „ . . . there is an enormous trun[k] of cupressus disticha (sabino) of 36 meters.“ *Political Essay on the Kingdom of New Spain*, trans. John Black, vol. 2 (London: Longman et al., 1811), p. 237. See Carr, vol. 1, p. 482. Humboldt himself never visited the tree and had the information about it secondhand. Margot Faak, ed., *Alexander von Humboldt. Reise auf dem Río Magdalena durch die Anden und Mexico*, vol. 2, (Berlin: Akademie-Verlag, 1990), p. 365. Church made ink and graphite tracings of Mayan art, an interest that could have been inspired by Humboldt's many plates. Carr, vol. 1, pp. 454–57.
- ²⁷ *Cosmos: A Sketch of a Physical Description of the Universe*, trans. E. C. Otté (New York: Harper, 1863), pp. 82–98. According to Huntington, Church owned volumes 1, 2, and 4 of the 1849 London edition and volume 5 of the New York 1859 edition. Huntington, p. 40.
- ²⁸ Kelley et al., p. 99 and Gould, p. 99. Cf. Albert Ten Eyck Gardner, „Scientific Sources of the Full-Length Landscape: 185[9],“ *Bulletin of the Metropolitan Museum of Art* 4 (1945): 59–65.
- ²⁹ „Humboldt's discussion of the various aspects of light in the tropics stands as a major theme alongside his evocations of exotic tropical vegetation and the cordilleras. In the tropical paintings of Church, the quality of light is startling. Diffused through a palpable atmosphere, light illuminates landscapes that are incredibly rich in detail, yet form an easily grasped, total prospect. Church transformed Humboldt's prose evocations to the vivid canvases that Humboldt knew could be painted of the tropics.“ Emunds V. Bunkøe, „Humboldt and an Aesthetic Tradition in Geography,“ *Geographic Review* 71 (1981): 145.
- ³⁰ Alexander von Humboldt, *Cosmos*, vol. 2 (New York: Harper, 1863), p. 93.
- ³¹ Ibid.

- ³² Timothy F. Mitchell, *Art and Science in German Landscape Painting. 1770–1840* (Oxford: Clarendon Press, 1993), p. 134. See also Ottmar Ette, „'Eine Gemütsverfassung moralischer Unruhe.' Humboldtian Writing: Alexander von Humboldt und das Schreiben in der Moderne.“ In: *Alexander von Humboldt—Aufbruch in die Moderne* (Berlin: Akademie Verlag, 2001), pp. 33–55.
- ³³ Alexander von Humboldt's letter of June 5, 1799 to Karl Ehrenbert von Moll: „Ich werde Pflanzen und Fossilien sammeln, mit vortrefflichen Instrumenten astronomische Beobachtungen machen können; ich werde die Luft chemisch zerlegen. . . . Das alles ist aber nicht Hauptzweck meiner Reise. Auf das Zusammenwirken der Kräfte, den Einfluss der unbelebten Schöpfung auf die belebte Thier- und Pflanzenwelt, auf diese Harmonie sollen stets meine Augen gerichtet sein!“ Quoted from Karl Bruhns, *Alexander von Humboldt: Eine wissenschaftliche Biographie* (Osnabrück: Zeller, 1969, based on the 1872 edition) p. 274.
- ³⁴ „Bei seinem Genie, seinem Talent, seiner Tätigkeit, ist der Vorteil seiner Reise für die Wissenschaften ganz inkalkulabel, ja man kann behaupten, dass er über die Schätze, deren Gewinn ihm bevorsteht, künftig dereinst selbst erstaunen wird.“ Johann Wolfgang Goethe in a letter of May 26, 1799 to Wilhelm von Humboldt. Karl Robert Mandelkow, ed., 2nd ed., *Goethes Briefe* (Hamburg: Christian Weyner, 1968), p. 380. Although Schiller's initial reaction to Humboldt was unfavorable, he soon realized that the young man had much to offer. He invited Humboldt to contribute to the *Horen* and referred to him as the foremost German expert in the field of natural philosophy. Cf. Norbert Oellers and Fritjof Storck, eds., *Schillers Werke. Briefwechsel*, vol. 29 (Weimar: Böhlau, 1977), pp. 112–13 and 450, and Bruhns, p. 205.
- ³⁵ Kelly et al., p. 94 and Gould, p. 91.