

*From the desk of Pierre Beaudry
The Hudson River School Series.*



FREDERIC EDWIN CHURCH: THE ART OF MEASURING UNIVERSAL CHANGE

by Pierre Beaudry, 4/22/2008

INTRODUCTION: PAINTING THE IMPOSSIBLE!

“In order to depict nature in its exalted sublimity, we must not dwell exclusively on its external manifestations, but we must trace its image, reflected in the mind of man, at one time filling the dreamy land of physical myths with forms of grace and beauty, and at another developing the noble germ of artistic creations.” (Alexander von Humboldt, Introduction to Volume II of *Cosmos*, 1847.)



Figure 1. Frederic Edwin Church, *Niagara*, (1857)

Frederic Edwin Church (1826-1900) was of the Plymouth Colony ancestry of Massachusetts, and was raised in Hartford Connecticut. At the age of twenty, he did his apprenticeship for two years at the home of the leading landscape artist of the time in the United States, Thomas Cole (1801-1848), in the Catskill Mountains on the Hudson River. Church's method of painting can be simply characterized as being truthful and Promethean. As he put it himself: "Grasp nature in one hand and do what you like with the other." But, that was not a liberal call to do your own thing. He was also warning against what may be lurking at the end of a rainbow.

Church introduced in his *Niagara* the same irony of light/shadow/light projections in successive waves that he used in most of his landscapes, but, in this case, it was with an extraordinary effect that reflected the challenge of the impossible. Examine closely this fairly large painting 42 ¼ x 90 ½ inches. The entire expanse of the Horseshoe Falls, viewed from the Canadian side, depicts a point of view that cannot have been taken by the human eye. One reason is that the perspective has been shortened proportionately, in order to bring the whole expanse of the near and the far sides of the falls into a single dramatic view, on the left side of the painting. However, there is another reason why this view is impossible and could not have been taken from that position. The reason lies in the Alexander Humboldt idea of the "heroic landscape painting."

The view of *Niagara* is so realistic and fascinating that some people were afraid to approach the painting. Why? The painting shows, simultaneously, a dramatization of both the height and the width of the falls that the spectator does not discover, until it is too late. You are attracted, dangerously close to the edge of the abyss, by the dynamics of the troubled waters. Then, the purpose of the artistic composition strikes you. You are in it! You are a part of it! The flow does not go along the base line of the canvas, as if there were a shoreline there. There is no shore. There is no resting place for your feet. The water flows where you stand and then drops into the abyss, only a few feet away into the canvas.

The position of the spectator then becomes impossible to bear because there is no foreground, and his viewing experience is such that his eye, following the curve of the horseshoe, from left to right and then back to left again, leads him to realize the greatness of his fall at the far end of this half circle. If it is that deep at the far end, how deep must it be where I am standing? Similarly, the position of Church, painting this scene, was completely impossible, since he would have had to have his own two feet in the rushing waters in order to capture that view! That is the most important dramatizing aspect of the whole composition. Why did Church do that?

Church treated his painting like a classical drama in which the barrier between art and reality breaks down and forces the viewer to consciously change and become a better person. You will have become a more alert-minded person after having stood in front of such a "heroic landscape;" but it won't be because of your fear of the rushing water. The waterfall is merely a means to make you conscious of something else. It's a metaphor. The purpose of the "heroic landscape" is not to warn the spectator against the dangers of waterfalls, of volcanoes, or things of that nature. The purpose is not to produce in the

viewer some artificial rise in adrenalin. And, moreover, it would also be wrong to attribute to this painting a Cecil B. DeMille type of cinemascope effect on the spectator, as many negative art critics have done. This is all nonsense. The purpose of the “heroic landscape” is to replicate an axiomatic change, by dramatizing the universe in such a manner that the spectator cannot escape, and is forced to make a subjective discovery of principle.

Niagara is a dramatization, in a classical theatrical sense, that Church established consciously, and scientifically, in American landscape painting; that is, with the same theatrical intention that a classical tragic composition unfolds, as in the cases of Aeschylus, Shakespeare, and Schiller. The purpose of the “heroic landscape” is to transform the spectator into becoming a better human being by implicating him into changing the universe through the creative process of artistic composition, and change the rotten culture he lives in. As in the purpose of a true republic, the citizen is not a foreign subject to be submitted to a manipulative governing process from the outside. Similarly, the viewer is no longer an outsider looking in. The spectator has become an integral part of the process of subjective discovery that classical artistic composition requires the observer to make ever since that measure of change was discovered by Piero della Francesca and Leonardo Da Vinci. The idea is to participate in the highest form of creative proportionality that unifies the four incommensurable domains of the non-living, the living, the cognitive, and the divine. Such is the quadratic universe we live in and that Church has introduced us to.

This aspect of American culture is crucial to establish in order to distinguish an American Renaissance form of art as fundamentally distinct from a European oligarchical form. If the spectator becomes a participant in the creative process of artistic composition, as he participates in the responsibility of self-government, he is no longer someone who wishes to be entertained or be subjected to the whims of an oligarchy’s parliamentary system, for example. That form of entertainment is anti-American and should be despised as being the lowest form of narrow-minded practice of empiricism. The discovery, here, that Church is inviting the spectator to participate in, by means of classical artistic composition, is the extraordinarily overwhelming idea of Alexander von Humboldt’s *Cosmos*.

1. CAPTURING THE COSMOS OF HUMBOLDT ON A CANVAS

Just when you thought that Frederic Church had done the impossible by painting *Niagara*, you discover that he has accomplished more than the impossible in painting *The Heart of the Andes*. Church did not believe in thinking small: he was the Prometheus of American painters. The highest challenge after *Niagara* was to paint the entire universe in a single scene. Alexander von Humboldt’s *Cosmos*, a book about everything, inspired Church into tackling this seemingly impossible task. Humboldt had ranked painting as among the three highest forms of human celebration of nature’s beauty, because it could capture everything, including mankind itself.

In his introduction to volume II of *Cosmos*, Humboldt established the three forms of celebrating nature: poetic description, landscape painting, and cultivating exotic plants. This was the call that led Church to travel to South America (Columbia-Ecuador) from April to October 1853. He was 27 years old and his entire life's mission was, then and there, designed by him in the spirit of Humboldt. Church was fascinated with the idea that the Andes region of Quito in Ecuador (where Church stayed in the house that Humboldt had lived in nearly sixty years before) represented the smallest possible area of our planet with the greatest diversity of beings in all of creation. Humboldt put it this way:

“This portion of the surface of the globe affords in the smallest space the greatest possible variety of impressions from the contemplation of nature. Among the colossal mountains of Cundinamarca, of Quito, and of Peru, furrowed by deep ravines, man is enabled to contemplate alike all of the families of plants, and all of the stars in the firmament. There, at a single glance, the eye surveys majestic palms, humid forests of bambusa, and the varied species of Musaceae, while above those forms of tropical vegetation appears oaks, medlars, the sweet-brier, and umbelliferous plants, as in our European homes. There, as the traveler turns his eye to the vault of the heaven, a single glance embraces the constellation of the Southern Cross, the Magellanic clouds, and the guiding stars of the constellation of the bear, as they circle around the arctic pole. There, the depths of the earth and the vaults of heaven display all the richness of their forms and the variety of their phenomena. There, the different climates are ranged the one above the other, stage by stage, like the vegetable zones, whose succession they limit; and there, the observer may readily trace the laws that regulate the diminution of heat, as they stand indelibly inscribed on the rocky walls and abrupt declivities of the Cordilleras.”
(Alexander von Humboldt, *Cosmos*, Vol. I, p. 33.)

When Church read those words, in the same edition that this writer is copying them from at this moment, he was totally perplexed to discover that he had the whole universe in one hand and he had to figure out what to do about it with the other.

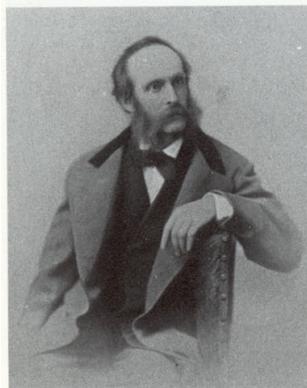


Fig. 1. Sarony and Company, *Frederic Edwin Church*, c. 1860, photograph, 9 x 7 (22.9 x 17.8), New York State Office of Parks, Recreation, and Historic Preservation, Olana State Historic Site, Taconic Region

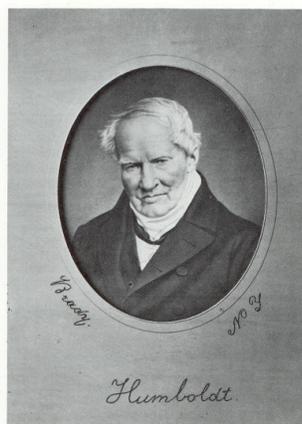


Fig. 2. Studio of Mathew Brady, *Alexander von Humboldt*, c. 1862, posthumously issued carte de visite, Library of Congress; Fig. 3. Title page from Alexander von Humboldt, *Cosmos*, London, 1849

Figure 2. Frederic Edwin Church and Alexander von Humboldt.

This discovery of principle by Church, in the form of Humboldt's *Cosmos*, was the best way to polemically eradicate from the American painting movement, and from the American culture as a whole, the reductionist corrosion of narrow empiricism that had been promoted by Ruskin and British liberalism during that period. Church established, for the first time on American soil, a universal axiom busting form of artistic composition. Thus, by extending the scope of the human mind to the boundary condition of its natural limit, the universe as a whole, Church refuted, as Humboldt put it, "this empiricism, the melancholy heritage transmitted to us from former times," because it "invariably contends for the truth of its axioms with the arrogance of a narrow-minded spirit." (Humboldt, *Cosmos*, Vol. I, p. 38.)

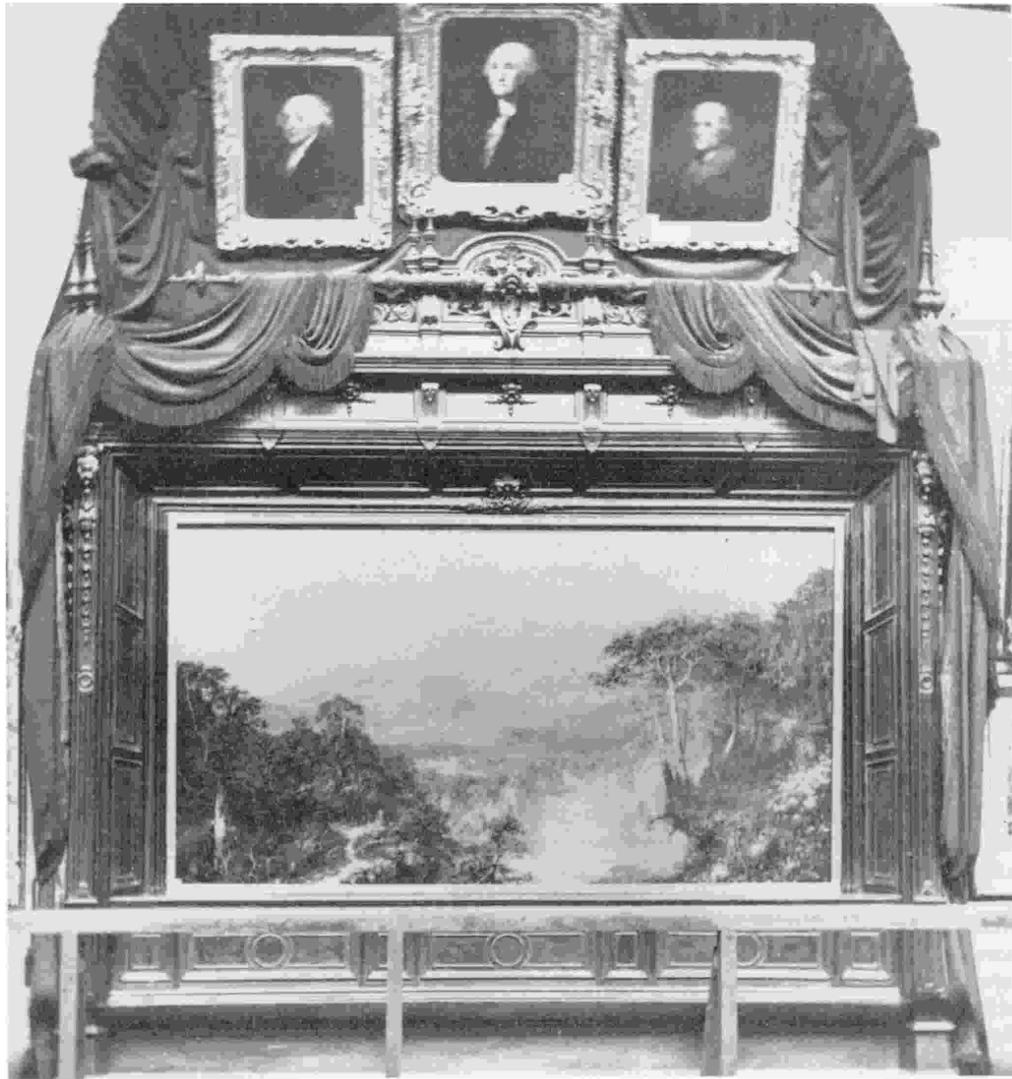


Figure 3. Frederic Edwin Church, *Heart of the Andes* (1859). On exhibition at the Metropolitan Fair in aid of the Sanitary Commission, New York, April 1864. Stereograph from The New York Historical Society, New York. Note the portraits of the first three Presidents, George Washington, John Adams, and Thomas Jefferson and the black drapes for gaslight viewing.

Humboldt's high regard for nature and humanity had so impressed the young Church that, immediately after he had exhibited his most famous painting, *The Heart of the Andes*, in New York City, he made plans to send his masterpiece to Berlin for the ninety year old Humboldt to see. "The 'Andes' will probably be on its way to Europe, before you return to the City," wrote Church to Bayard Taylor. "[The] principle 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." (F. E. Church letter to B. Taylor, May 9, 1859.) However, Humboldt died that same year, before the painting was sent.

For Church, Humboldt represented the ideal of the unity of scientific work and of classical artistic composition brought together into a single format, that is, the unity of the rigorous truthfulness of reason, and the mastery of emotions with respect to nature. Humboldt's Books I and II of *Cosmos* reflected his unswerving intention of developing a powerful congruence between those two domains based on the same principle of universal natural law that is reflected in nature itself. "I have considered Nature in a two-fold point of view" wrote Humboldt. "In the first place, I have endeavored to present her in the pure objectiveness of external phenomena; and secondly, as the reflection of the image impressed by the senses upon the inner man, that is, upon his ideas and feelings." (Alexander von Humboldt, *Cosmos: A Sketch of a physical description of the Universe*, translated by E. C. Otte, New York, 1852, III, p.5.) This is what Church had completely internalized in his translation of nature into a landscape painting.

It is important, here, to discover the proper bond that brings man and nature together by means of a universal physical principle and to break away from the impressionistic subjective effects, as well as from the meticulous copying of objective nature. This is how Church brought a true renaissance of artistic composition in the United States during the nineteenth century. Humboldt made the crucial point on the universal nature of willful human intervention as follows:

"Thus, do the spontaneous impressions of the untutored mind lead, like the laborious deductions of cultivated intellect, to the same intimate persuasion, that one sole and indissoluble chain binds all nature.

"It may seem a rash attempt to endeavor to separate, into its different elements, the magic power exercised upon our minds by the physical world, since the character of the landscape, and every imposing scene in nature, depends so materially upon the mutual relation of the ideas and sentiments simultaneously excited in the mind of the observer.

"The powerful effect exercised by nature springs, as it were, from the connection and unity of the impressions and emotions produced; and we can only trace their different sources by analyzing the individuality of objects and the diversity of forces." (Alexander von Humboldt, *Cosmos*, Vol. I, John Hopkins University Press, Baltimore, 1997, p. 27.)

This principle of interaction between man and nature as reflected by the artistic composition of *great pictures* could be called a *principle of reciprocity* in the same sense that Max Planck had ascribed to the universal dynamic of sub atomic particles with the interference between the wave-particle that someone is observing and the illumination that is essential for the measurement. Although it is impossible to distinguish the “thing in itself,” this is not a handicap, but the very happy feature of the *reciprocity* of measuring change in the universe by means of a change in the measuring instrument. Man cannot be separated from nature no more than nature can be separated from man. This is a crucial reflection of man created in the image of God. In that very same manner, God cannot be separated from the process of change in the universe as a whole.

This was explicitly the moral code of Frederic Church’s aesthetics, based on the universal humanist principle that Humboldt promoted, which meant that every human being was fundamentally endowed with such harmony of emotions and intellect, whose naturally infectious progress grows by reciprocal reinforcement and through increasing capability for solving paradoxes and anomalies relating to non-living, living, cognitive, and divine. Thus, the individuality of every object must be examined from that quadratic vantage point and from a no lesser harmonic field of perspective.

Moreover, though different peoples from different countries may differ culturally, all ethnic groups were capable of similar progress. In a very significant statement of American republican reciprocity, as embodied in J.Q. Adams’ *Monroe Doctrine*, Humboldt stated: “While we maintain the unity of the human species, we at the same time repel the depressing assumption of superior and inferior races of men. There are nations more susceptible of cultivation, more highly civilized, more ennobled by mental cultivation than others, but none in themselves nobler than others. All are in like degree designed for freedom; a freedom which in the ruder conditions of society, belongs only to the individual, but which, in social states enjoying political institutions, appertains as a right to the whole body of the community.” (Alexander von Humboldt, *Cosmos*, Vol. I, p. 358.) Therefore, it was with this paradoxical intention that Church’s *Heart of the Andes* was to put the entire range of our planet into a single painting!

As a result of this fundamental humanist principle, none of the scenes that Church painted in his tropical paintings represented a specific location, but they were rather captured from the vantage point of the interaction between the sphere of universal nature and the sphere of universal man; the integration of the Biosphere with the Noosphere; thus, including in our quadratic universe, the non-living, the living, the cognitive, and the divine. These integrated Vernadskian phase-spaces represented, therefore, the dynamic interaction between natural wilderness and willful human interventions. No matter what scene Church chose to paint, his idea was to represent the intervention between the human spirit and the unknown wilderness; that is, the axiomatic transmutations reflected between those four domains. Church’s first teacher, Thomas Cole, put this same idea somewhat more romantically, but nonetheless characteristically, when he said: “And whatever scene is chosen, one spirit pervades the whole: light and darkness tremble in the atmosphere, and each change transmutes.” (Thomas Cole quoted by Charles Dudley Warner, *An Unfinished Biography of the Artist*, in *Frederic Edwin Church*, in *Frederic*

Edwin Church, National Gallery of Art Washington, 1990, p. 187.) American Landscape painting, thus, became a measure of axiomatic change in the universe as a whole.

The Heart of the Andes represents a panoramic view of the Andes Mountains and valley taken in the mid-morning equatorial light, with a semi-covered sky casting mild shadows over a mixture of a Tropical, American, European, and Northern scenes all combined into one. The spectator is viewing the landscape from a similarly impossible position as in *Niagara*, but this time, he has been uplifted to the level of a bird's eye view of the entire scene, as if he were suspended in mid-air above a brook, and from which he were looking down a pathway into a valley surrounded by the lush Central American vegetation. Unlike *Niagara*, however, this scene does not actually exist anywhere in the universe. It is a composite of several scenes of other real areas that are brought together in the mind of the artist and submitted to the spectator for scrutiny and evaluation. So, from this vantage point, don't look at this painting as a landscape. Look at it as the mind of Frederic Church.



Figure 4. Frederic Edwin Church, *The Heart of the Andes* (1859).

The main focus in the foreground is oriented towards the anomaly of varied species of tropical animal life and European plants growing to the right and to the left of the painting. Then, the eye is attracted, almost simultaneously, towards two off-centered features: a very brightly lit waterfall to the right and a similarly brightly lit road-cross to the left, which seems to indicate the location of a burial site where two people are seen paying their respect to a loved one who might have perished nearby. The attention of the viewer is ambiguously directed in both of these directions at once, one down and up a

forest pathway and the other down and up a brook, as if to indicate that there might be some dramatic event that related the two pathways. Both directions lead further beyond the lush vegetation, where they appear to have originated from a lake in the center of a valley, and on the outer shore of which is located a church in the center of a village, half-way hidden in the trees.

Now, examine *The Heart of the Andes* closely. From front to back, the scene reflects the three climatic zones of our northern hemisphere, in correspondence with the isothermal concept that Humboldt had established for mean climate temperatures around the world. The foreground shows aspects of tropical animal and plant life from the tropical zone. The middle ground reflects a typical mid-western American plane with its temperate climate. The background shows Mount Chimborazo reflecting the northern climate. (See **Figure 6**. Humboldt's profile view of Mount Chimborazo and his concept of different altitudes/latitudes for living species.) Thus, Church integrated the three regional climates of our planet's hemisphere into a single scene, including the respective types of living characteristics and geological formations, with the presence of man, in each of those levels. Everything is presented to the viewer very simply and truthfully without any ostentation. The whole integrates the quadratic phase-spaces of our self-differentiating universe as viewed by Humboldt in his *Cosmos*.

Conceptually, Church developed this paradoxical idea of congruence between nature and man, the Biosphere and the Noosphere. Most of his South American landscapes include such idealized places, encompassing a foreground of tropical vegetation from the lowlands, a middle ground for human habitation located in the temperate region, and a background made up of the geological complexity of snow-capped mountain peaks: the whole setting reflecting the architectonic unity of the three climatic zones of an entire hemisphere of our planet. In other words, Church's paintings capture changing moments of interactions between the Biosphere and the Noosphere, from the equator to the North Pole. You see in one glance, the equivalent range of 5,000 miles of Biosphere! Thus, the equatorial scenery of our planet represents, for both Humboldt and Church, the only place in the world where one can encompass the greatest variety of living species that nature has created in this unique relationship where latitude and altitude can be made to intersect, simultaneously, the totality of nature with the willful and artistic intervention of man. The Himalayas and the Alpine regions, for example, are located too much to the north to provide for such a rich abundance of biospheric material.

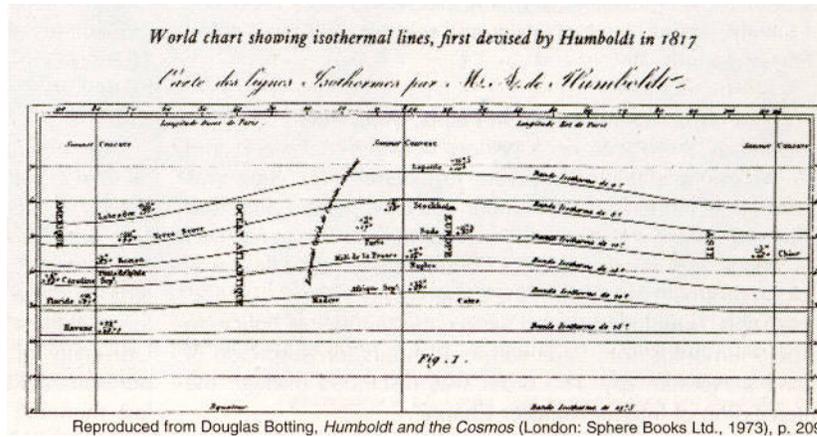


Figure 5. Humboldt’s Chart showing isothermal lines he invented for the purpose of locating mean temperatures around the world. Tim Rush emphasized the importance of this latitude/altitude anomaly. “He (Humboldt) made more precise the insight that rising altitude in the tropics, mimicked increasing latitude toward the pole: Traveling 50 miles from the coast of Ecuador up to the top of the Andes, was the equivalent of traveling 5,000 miles to the north or south.” (Timothy Rush, *Alexander van Humboldt: A Republican Scientist in the Tradition of Franklin*, 21st Century, Spring 2002, p. 22.)

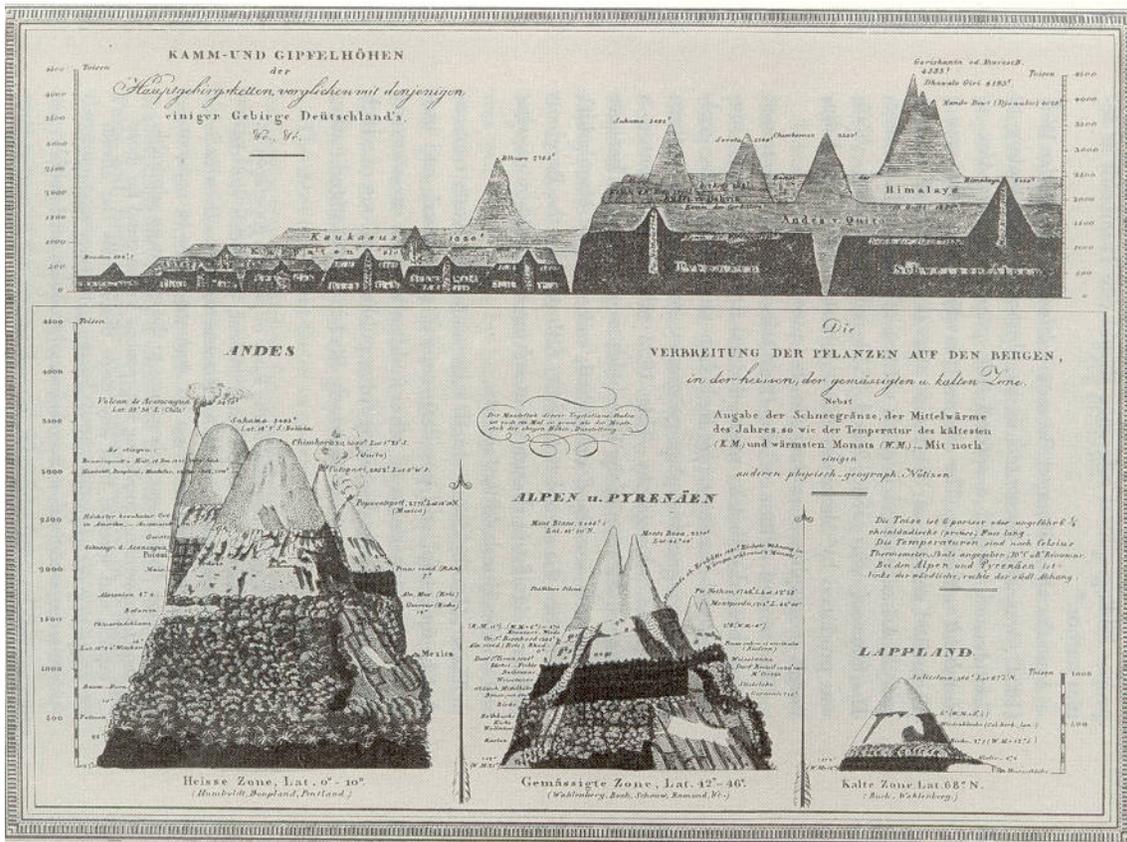


Figure 6. Humboldt’s concept of physiographic integration and distribution of vegetation according to both altitude and latitude. The Andes profile of Mount Chimborazo and the Cotopaxi volcano indicate the diversity of plant life at different altitudes. (Alexander von Humboldt, *Cosmos*, Vol. I, p. xvii.)

This form of quadratic integration was also the means by which Church understood and applied Fenimore Cooper’s idea of “inroads of civilization,” with respect to natural wilderness. As the scientist and art critic, Stephen Jay Gould, put it: “Humboldt’s theory of aesthetics is rooted in this idea of mutual reinforcement. A great painter must also be a scientist, or at least committed to the detailed and accurate observation, and to the knowledge of causes, that motivate a professional scientist. For the visual arts, landscape paintings are the principal mode of expressing the unity of knowledge (as poetry serves the literary arts and cultivation of exotic plants the practical arts). A great landscape painter is the highest servant of both nature and the human mind.” (Stephen Jay Gould, “Church, Humboldt, and Darwin: The Tension and Harmony of Art and Science,” in, *Frederic Edwin Church*, National Gallery of Art, Washington, 1989, p. 99.) This is what James Fenimore Cooper had identified as “inroads of civilization.”

Another art critic, Franklin Kelly, called this painting the greatest scenery painting of the century. He wrote: “It was in Humboldt’s terms, an image of an entire region of the planet (‘A complete condensation of South America...into a single focus of magnificence,’ observed Reverend Theodore Cuyler), epic in scope, but precise in detailed depiction of the physical facts of plant and animal life, geography, light, and atmosphere. [...] *The Heart of the Andes* thus succeeded, perhaps more than any other American painting of the nineteenth century, in addressing a broad spectrum of ideas and issues and in appealing to a large and diverse audience. It was an ‘intellectual feast’ presented by an artist who had ‘caught the simple truth and exalted poetry of nature and transferred them to the canvas.’ In short, it was precisely what so many of Church’s contemporaries proclaims it: ‘a master-piece.’” (Franklin Kelly, *A passion for Landscape: The Paintings of Frederic Edwin Church*, in Op. Cit. p. 58.) Thus, *The Heart of the Andes* fulfilled admirably what Humboldt had called the creation of a “heroic landscape painting,” that is, a landscape that represented in one regional scene the all of the dimensionalities of the universe.

2- CHURCH AND BIERSTADT: LANDSCAPE ART AS DRAMA.

Not only were Bierstadt’s *The Rocky Mountains, Lander’s Peak* (1866) and Church’s *The Heart of the Andes* (1859) about the same size, but for a long time they were exhibited together, one facing the other, in the same exhibition room of the Tenth Street Studio, in New York City, and the two paintings were draped with elaborate dark curtains in the same dramatic theatrical setting (See **Figure 3**). The lighting was carefully arranged so that the picture was always brightly lit with reflecting gaslights, functioning as theater lights, while the rest of the room, where the spectators stood, was

in the dark. Bierstadt's painting was accompanied with Indian paraphernalia, while Church's painting was accompanied with equatorial vegetation and artifacts that he had brought back from South America. The visitors were given the impression, in both cases, that they were looking through great windows into the real Andes or into the real Rocky Mountains themselves. In reality, they were looking into the creative minds of the two greatest artists of the American system.

As in the Dusseldorf School principle that Bierstadt had so beautifully replicated from the American West, Church would use the same idea of waves of sunlight and shadows, though with less pronounced contrasts, to create a sublime sense of depth and height in a large format painting of five by ten feet. In fact, both Bierstadt and Church had worked out this strategy together in order to impart on the spectator a true sense of classical artistic composition; that is a sense of truthfulness conveyed through paradoxes or ironical anomalies that involved the participation of the viewer into a lawfully changing universe.

In fact, Bierstadt and Church worked together so well that when Church first brought his famous *Niagara* to the Tenth Street Studio, in New York City, he asked Bierstadt to examine it thoroughly and to identify for him all of the mistakes that he might have made. Church wished to correct all of his errors before exposing the painting to the public. This was the kind of collaborative deliberation that the leadership of the Hudson River School required for their association.

Their collaboration was also captured in a very unique painting that Church did, while working in the same Tenth Street Studio in the same year that Bierstadt painted *A Storm in the Rocky Mountains, Mount Rosalie* (1866). Church's extraordinary composition was *Rainy Season in the Tropics* (1866). For anyone who paid the twenty-five cents entry fee to the Studio exhibition, it was a real treat, because he or she was in the presence of a feast of interacting ideas to discover between the two paintings. The first notable correspondence between the two was probably the unmistakable presence of Bierstadt *Mount Rosalie* being reflected in the blue-sky section of Church's painting.



Figure 7. Frederic Edwin Church, *Rainy Season in the Tropics* (1866).



Figure 8. Details from Albert Bierstadt's *A Storm in the Rocky Mountains, Mount Rosalie* (1866), left, and from Frederic Church's *Rainy Season in the Tropics* (1866), right. If ever those two paintings were exhibited together, the two peaks, facing each other, would have appeared almost as mirror images of one another.

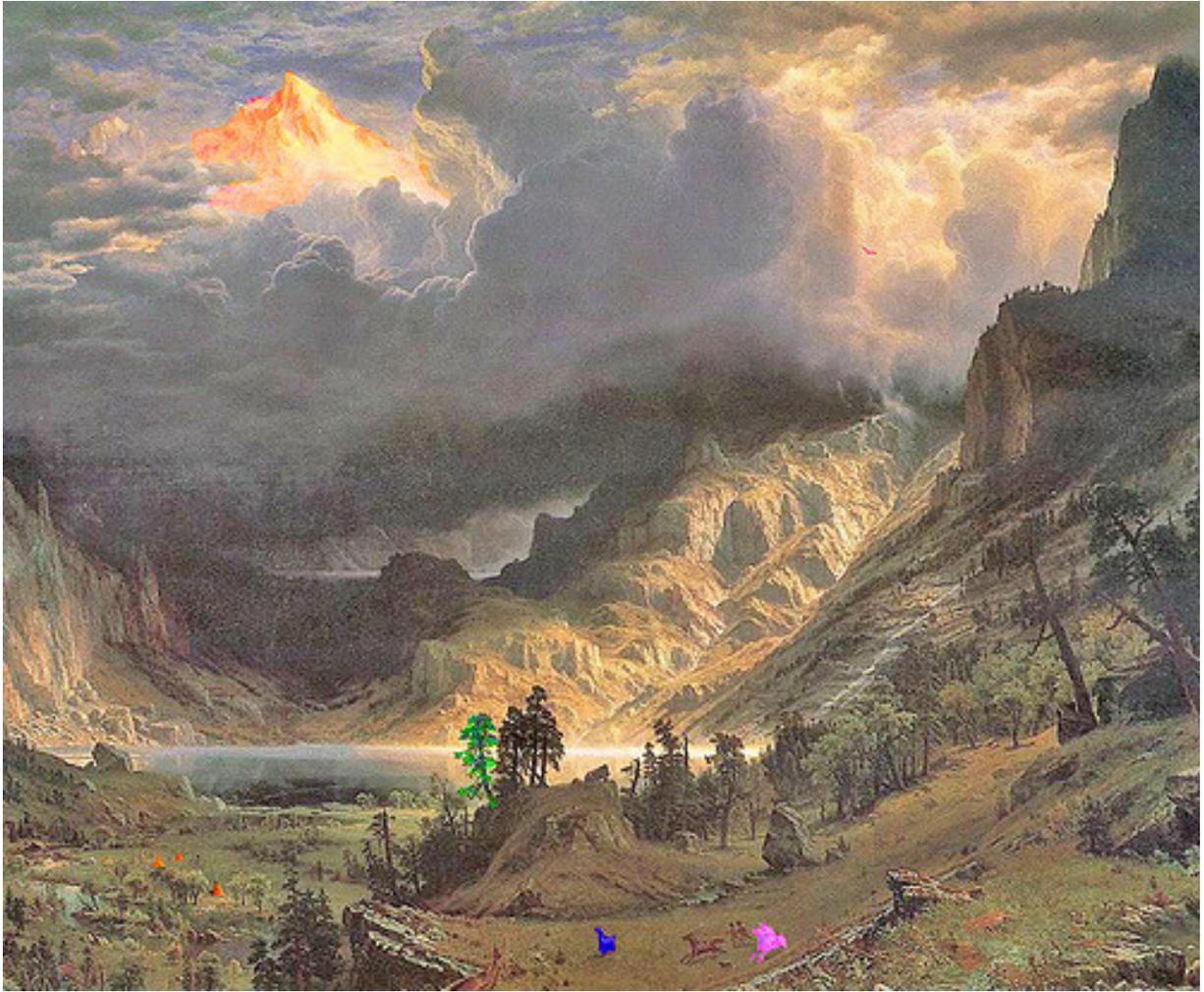


Figure 9. Albert Bierstadt's *A Storm in the Rocky Mountains, Mount Rosalie* (1866)

The Church painting is having a playful dialogue with the Bierstadt painting based on different effects of the idea of a mirror image. The first mirror image is that of the climatic difference between the two hemispheric regions of the globe, which can be seen in the dramatic mood of the sky, but also in the drama of the people and animals portrayed in the two scenes. The two scenes relate to the presence of Indians and their concern with the apparently strange behavior of their animals. Two of the three donkeys in the Church painting have turned back, apparently fearing some danger ahead. Similarly, in the Bierstadt painting, two of the three horses have been frightened by the storm, and the Indians are attempting to recover them before they reach a precipice in the center-left part of the foreground. Why is this correspondence a reflection of a typical irony of classical artistic composition? The irony seems to be that if ever your life were in danger, the best way to respond to that danger would be to start by making a joke! The saving grace of a joke, of course, is to clear the air of unsavory obstructions.



Figure 10. Details from Albert Bierstadt's *A Storm in the Rocky Mountains, Mount Rosalie* (1866) and from Frederic Church's *Rainy Season in the Tropics* (1866). Both scenes are actually very masterful jokes!

The key to *Rainy Season in the Tropics* lies in the ironies that Church has derived from the mirror principle of the rainbow. Church replicated, here, a scientifically accurate meteorological phenomenon known as the double refractive rainbow in which the phenomenon of dispersion of refracted light through rain drops cannot occur if the sun's elevation is lower than 42 degrees above the horizon for the minimum angle of the internal rainbow, or if it is higher than 54 degrees for the maximum angle of the external rainbow. This twelve-degree span begs an interesting question, which is that since the equatorial rainy season, occurs during the equinox periods of March or September, at what time of day did Church make his observation?

There is however, a more important epistemological question that Church raised in his *Rainy Season in the Tropics*, and it goes directly against the melancholic heritage of the empiricist axiomatic tendencies in the viewer. Church revealed an incredible paradox that must leave a curious spectator in a completely riveted state of perplexity. The scene is divided into two separate parts: the lush tropical jungle to the lower right is separated from huge rocky cliffs on the left, by the misty chasm of a rushing waterfall. Again, this whole scene becomes impossible when the viewer discovers that the non-living and the living parts of the painting are linked, in the background, by this prismatic bridge of a great double rainbow. But, this apparent unity of effect is soon shattered when the viewer suddenly discovers that the right side of the double rainbow leads his eye to discover an ominous danger in the lower section of the right foreground. The painting as a whole becomes an untenable paradox. Even the ever-elusive end of the double inverted rainbow hides a momentous illusion that the donkeys seem to have a premonition of! What is going on? Let's have a closer look.



Figure 11. Frederic Edwin Church, *Rainy Season in the Tropics*. Detail

Why is this donkey not moving forward? Does he see something that the two men don't see? Where are the donkeys heading for? Why are they moving in two opposite directions at the same time? Is that a double rainbow effect? Where is the waterline of the reflecting pool in the foreground? Where is the foreground? Who cut this trail off?

Observe the behavior of the three wise donkeys. They don't intend to go any further along that wet and slippery road. Why? Because they have discovered a paradox in which they perceived that the reflexive pool in the foreground, just in front of them, might not be a pool at all, but actually a precipice! The spectator can easily see, from his own secured vantage point, that the two Indians and the donkey moving in his direction are each reflected in the water in the foreground; yet, the rock formations and vegetation around them are not similarly reflected. That is strange. If my image were being reflected into a pool and nothing else around me were seen reflected in that same pool, I would pause for reflection, for a moment, and think seriously about this predicament.

“To go ahead, or not to go ahead?” That has to be the question.

Is this an illusion or did Church simply forget how a reflecting mirror image works? Is this merely another form of the reflective image of the double rainbow? Are we in front of an innocent irony, here, or are we looking down at the edge of a political precipice? What are we looking at in this paradox? Is this the fate of American landscape painting? Could this double rainbow be the warning sign against the danger of a sudden

political dislocation of the fragile American system in the Americas at that time? This ironically divided scene may carry some overtones of the tragedy facing the two American hemispheres represented by the recently ended civil war in the United States and the 1865 assassination of President Lincoln, which was still fresh in everyone's memory, when that scene was being painted. Here, Church resembles Leibniz and his discovery of his method of the calculus. Leibniz was not necessarily looking for any specific object when he discovered his characteristic triangle from Pascal. He had discovered a method that had the merit of giving to others openings that no one had looked for before he did, but which could only be found, as if by accident, if the spectator were to have trained himself to look for them.

At any rate, although this author has not found anything in Church or Bierstadt's papers pertaining to these political matters, an anomaly of this magnitude does not reflect a state of business as usual. It has been calculated. Historically speaking, the period shows that the dangers of European imperialist interventions was everywhere looming, again, across the two hemispheres, and that the unity of the community of principle established by J.Q. Adams' "Monroe Doctrine" was in serious danger of being challenged. All of these questions must have weighed heavily on Church and Bierstadt's minds during that decisive year while they were discussing and painting their respective landscapes.

But, the donkeys were not fooled, since the first one had come to a dead stop and the other two had already turned back, and were walking away in the opposite direction. They appear to be thinking: "Only a fool would attempt to put a single hoof into those contradictory waters!" Tongue in cheek, Church seemed to have come to the inevitable conclusion that even donkeys could not be fooled by whatever is to be found at the end of a rainbow.

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