

THE WALL STREET JOURNAL.

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.

<http://www.wsj.com/articles/turning-science-into-art-1463433045>

OPINION | COMMENTARY | CULTURAL COMMENTARY

Turning Science Into Art

How the scientist Alexander von Humboldt inspired Frederic Edwin Church's artistic brilliance.

'The Heart of the Andes' (1859), by Frederic Edwin Church. *PHOTO: BEQUEST OF MARGARET E. DOWS*

By **ANDREA WULF**

May 16, 2016 5:10 p.m. ET

The last days of April 1859 saw long lines of people outside Manhattan's Studio Building waiting to see "The Heart of the Andes," a painting by the young American artist Frederic Edwin Church.

It depicted the Andes in all their glory on a huge 51/2 -by-10 foot canvas. The river rapids in the center were so realistic that people could almost feel the spray of the water. Trees, leaves and flowers were all rendered so accurately that botanists were able to identify them precisely.

Two weeks later, Church wrote to his friend, the travel writer Bayard Taylor, that he planned to send the painting to Berlin so that the celebrated Alexander von Humboldt could see the "scenery which delighted his eyes sixty years ago"—for it was Humboldt who had inspired Church to travel to South America and to paint the magnificent landscape.

Alexander von Humboldt was born in 1769 in Berlin, the second son of a wealthy Prussian family. Just before his 30th birthday, he went on a five-year exploration of Latin America, a voyage that would shape his life and thinking, and make him a legend. He paddled along the Orinoco River deep in the rainforest in Venezuela, risked his life

experimenting with electric eels that could discharge shocks of 600 volts, and climbed some of the highest volcanoes in the Andes.

After his return to Europe in 1804, Humboldt experimented, gave lectures and wrote dozens of books—many of which were translated and became international best sellers. He was the most famous scientist of his age, influencing some of the most important thinkers of the time—figures such as Thomas Jefferson, Henry David Thoreau, John Muir and Charles Darwin.

It was during his expedition in Latin America that Humboldt came up with the revolutionary idea that the natural world was a web of life—“a natural whole animated and moved by inward forces.” Humboldt was obsessed with measurements but also insisted that feelings and imagination were equally important. He talked of the connection between knowledge and artistic feeling. No scientist had looked at nature that way before.

Humboldt insisted that travel was needed to understand the natural world. He urged scientists to leave their desks and books in order to explore. His call to action for artists was similar.

More than any other painter, Church answered this appeal. He first went to South America in 1853 for almost seven months and then again four years later, for a little longer than two months. Church saw the same waterfalls and landscapes and climbed the same volcanoes as Humboldt. He even sought out one hacienda near Quito, Ecuador, where Humboldt had stayed half a century previously.

Church also sketched Chimborazo, a volcano some 100 miles south of Quito that had been essential to Humboldt’s ideas when he had climbed it in June 1802. Reaching almost 20,000 feet Humboldt realized, for example, that the journey from Quito and then up Chimborazo was like a botanical journey from the Equator to the poles. In the valleys, he had seen palms and humid bamboo forests; further up, he had found conifers and oaks similar to those in Europe; and even higher, there were alpine plants like those he had collected in Switzerland and lichen that reminded him of specimens from Lapland near the Arctic Circle. Where other scientists had viewed plants through the narrow lens of classification, Humboldt’s nature was a global force and Church was deeply influenced by Humboldt’s descriptions. “The Heart of the Andes” showed everything from the lush tropical species in the valley and the temperate zone higher up to the snow covered peaks of the mountains.

During the 1850s and ’60s, Church painted several stunning South American scenes. His most famous painting, though, was “The Heart of the Andes,” which combined beauty

with the most meticulous geological, botanical and scientific detail—this was Humboldt’s concept of interconnectedness writ large on canvas. Even in its enormous size, “The Heart of the Andes” followed Humboldt’s ideas, for in his book “Cosmos” he had written about “the improvement in landscape painting on a scale of large dimensions.”

“Cosmos,” which made Humboldt internationally famous when the first volume was published in 1845, was the book that influenced Church most. Humboldt took his readers on an incredible journey from distant nebulae to the core of the Earth, from geography to poetry, from the migration of the human races to the magical beauty of the aurora borealis.

In a second volume, Humboldt took his readers on a voyage of the mind and human history from ancient civilization to modern times. He wrote about poetry and landscape painting, about Hindu philosophy and medieval perceptions of nature, as well as about voyages of discovery and Hebrew texts.

Most significantly for Church, the book was also Humboldt’s rallying call for the importance of landscape painting. Humboldt wrote that it linked the external and the internal world—it brought together nature, science, and imagination.

Here, in the second volume of *Cosmos*, Church received instructions that seemed tailored entirely to him. Humboldt called for “highly-gifted young artists” to travel to the tropics to seize “the living image of the manifold beauty and grandeur of nature in the humid mountain valleys of the tropical world.”

Humboldt was so keen on landscape painting that he supported artists whenever he could. More than any other painter, though, it was Church who incorporated Humboldt’s vision of nature on his canvas.

Clearly proud of the success of “The Heart of the Andes,” Church longed for Humboldt to see the painting. His friend Bayard Taylor, who had met Humboldt in Berlin, wrote to the aging scientist, describing “The Heart of the Andes” as a “masterpiece.” Church, he wrote, “was several years ago moved—by your descriptions of the tropical Nature in ‘Cosmos’—to make a sketching expedition to Quito,” and added that the artist intended to send the painting to Berlin.

But the celebrated scientist never received Taylor’s letter, nor did he see “The Heart of the Andes,” because he had died in Berlin 10 days earlier at the age of 89. When news reached the U.S., Church told Taylor that it “touched me as if I had lost a friend.”

Ms. Wulf is the author of “The Invention of Nature: Alexander von Humboldt’s New

World.” This is adapted from her essay for the exhibition “Capturing the Cosmos: Frederic Church Painting Humboldt’s Vision of Nature” at Olana, the artist’s former home in Hudson, N.Y., May 15-Oct. 30.

WHAT TO READ NEXT...



ENVIRONMENT & SCIENCE

Men and Women’s Genes Help Explain Why Cancer Affects Them Differently



SPORTS - GOLF

Golfers Join the Rest of World, Use Data



PRIVATE PROPERTIES

David Mamet Relists Longtime Vermont Home



CMO

Facebook to Sell Video Ads on Behalf of Other Firms