
Humboldt and the Visual Arts in America

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The writings and theory of Alexander von Humboldt served as inspiration for American art, from the celebrated 19th-century Hudson River School painter Frederick Edwin Church, to the esoteric 20th-century surrealist artist and theorist Wolfgang Paalen. Direct evidence of Paalen's knowledge of Humboldt can be found in his eyewitness account of the 1940 eruption of the Mexican volcano Parícutin that was modeled upon Humboldt's, which drew in turn upon a still-earlier eyewitness account. For Humboldt, the study of volcanic manifestations was one of the objectives of his journey to the equinoctial regions of America (1799-1804). The reader of his work will learn of his ascent of Teide Peak in Tenerife and of other climbs to several volcanic summits in South and Central America. It is hard to imagine that the motif of vulcanism that figured so highly in the works of his Romantic contemporaries and was a prime model of the theory of the sublime, did not have some bearing on his explorations.

It is well known that Church read Humboldt's influential *Cosmos: Sketch of a Physical Description of the Universe in 1849* and sought to visually represent his theory that the unity, harmony and complexity of the natural world were the result of a divine order. This theory that was the basis of the Romantic worldview was related to – but not the same as – the theory of the sublime that originated in the late 18th century and dominated philosophical and artistic discourse throughout the 19th century. The Romantic poets and “natural philosophers” (as they were called) who formulated the theory of the sublime like Johann von Goethe and Friedrich Schelling, professed that the unifying principle of the universe was found in the eternal World Spirit present in every object and force of Nature, which man could never discern through logic alone. Humboldt, a child of the Enlightenment as well as of Romanticism, wished to balance this metaphysical doctrine with the reason and obser-

vation of scientific method, and to supplant tyranny and slavery with humanism and social progress by forming a bridge between the rational and intuitive modes of understanding the universe. Touched by the Romantic spirit of the age, Humboldt combined scientific rigor and meticulous observation with inspired description and an enduring passion for the transcendental beauty of what he observed – unflagging in his aesthetic appreciation complemented by pure reason in order to grasp the true nature of the world.

Nature herself is sublimely eloquent,” Humboldt wrote, “The stars as they sparkle in the firmament fill us with delight and ecstasy and yet they all move in orbit marked out with mathematical precision.” This methodology that unified observation with passion was of considerable importance to visual artists.

Two papers in this conference have just revisited the subject of Humboldt and Church. So I will not dwell on this topic, except to say that after reading *Cosmos*, Church literally followed Humboldt’s path through the Ecuadorian Andes in order to view nature as “one great whole, moved and animated by internal forces” and “to seize...on the true image of the varied forms of nature, available in the tropical world.” Church pictured the “sublime” landscapes of America in awe-inspiring paintings with much the same intention as his German Romantic counterpart, Caspar David Friedrich.

The result of Church’s initial journey, *The Andes of Ecuador*, finished in 1855, was a monumental canvas of 4 feet by nearly 7 feet that combined Church’s typically 19th-century concerns about science and religion. The painting shows the infinite botanical detail of interest to artists and the terrifying depths of the abyss and overwhelming sense of unlimited space, which were the essential elements in depictions of the “sublime” that dominated 19th-century artistic discourse in Europe and America.

This discourse was deeply embedded in the American psyche, tied as it was to a religious character that was the bedrock of America’s founding. Even today, that religious character continues to reassert itself in American society, vying with the well-established evidence of science championed at the start of the modern age by intellectuals like Alexander von Humboldt – and later, following in his path, Wolfgang Paalen. Paalen’s insistent call for a unified versus dualistic vision of reality, his focus on the physical universe, his “Cosmic” metaphor for art, and his passionate argument for the importance of relating art to science all echo the values and tenets of Humboldt.

From 1942 to 1944 in Mexico City, Paalen published *DYN*, an influential art review for the New York School, read by the emerging Abstract Expressionists whose colleague, Robert Motherwell, served as assistant editor to Paalen for the journal. Paalen’s essays therein discussed a modern “Cosmic”

art in terms of contemporary physics, using it as a model for his totally abstract representations.

Humboldt's ideas which anticipated the unifying theories of modern physics can be cited as inspiration for the impressive canvases of Abstract Expressionism by way of Paalen's theory. Born in Vienna in 1905, but equally bred in Berlin, Paalen was classically educated and heir to the Enlightenment and Romantic ideas forged by giants like Humboldt and Goethe – and the list of books in his library attest to this fact, along with his writings which reference these and more. Like Humboldt, Paalen was motivated by profoundly ethical, humanitarian and democratic values. Like Humboldt, these values fueled his concern to move discourse into a modern and scientific framework that eschewed the religious incantations of his generation. Humboldt accomplished this by his exhaustive researches of the natural world and physical universe that surpassed the “natural philosophy” of his contemporaries. Paalen did so by turning to the paradigm of physics for his art and theory and calling for a “demystification” of artistic theory and practice that rejected science as compatible with its goals. Like Humboldt, he advocated “a universe of wholes” and defined the sublime in terms of the actual poetry of the universe revealed by science rather than by poetic metaphysics.

In his essay on “Art and Science,” published in *DYN* in 1942 as World War II was raging in Europe, Paalen wrote about dualism and the mystification inherent in philosophy and related it to ethics and politics: “Traditionally identified with metaphysics, philosophy...remained true to theological method, which consist[ed] of explaining one unknown by two unknowns: Thus when [metaphysics] does not know how to place a thing within reality, it simply adds a lengthening-piece, a sham reality. Lengthening pieces: the super-natural for a nature that is too tiny, the super-rational for a reason that is too lean, a liberty with a double bottom, a morality extra-moral and partisan for the right-thinking insiders of a consecrated ‘ism’ – in brief, if one is unable to define a thing, one simply makes two things out of it.”

The artist, Paalen suggested, was the herald of the possibility of a new ethic, who could stand alongside the scientist as navigator into territory where the values of science and art were complementary – complementarity being a basic principle of quantum physics. The findings of quantum physics that Paalen prescribed as a new model for art verified the simultaneity and multiplicity of experience, and showed that “reality is one and indivisible.” They proved that, as with physical matter, the seeming separation between interior and exterior perception, so critical to the artist and poet, was illusory: “As no man can hold himself satisfied with the affirmation that light is merely a number of vibrations...the poet speaks as truthfully as the scientist

when he claims that light belongs to the realm of vision.” Paalen wrote at a point in history where science had come to be regarded as infallible, and technology (the child of science) had escalated the war and moved toward the annihilating reality of the atomic bomb. It was not, he said, merely a matter of “theoretical aesthetic rehabilitation” but an imperative that neither art nor science be elevated to absolute truths – metaphysics – in their own right.

Thoroughly a man of his time, Humboldt’s lifelong endeavor to change the terms of inquiry from “natural philosophy” to “natural history” are very much paralleled in Paalen’s attempt to change the terms of art from “metaphysics” to physics. His paintings from the early 1940s invent spatial metaphors and explore the possibilities of depicting a new concept of space. Progressively, he turned to invention of other grammars of abstraction, visually different, but all metaphors based in the graphic mathematical languages of astronomy, physics, and astrophysics. Code-like notations of dots, dashes, and ellipses rhythmically play over or organize the surfaces of his canvases. Like Viennese physicist Ernst Mach’s imperative of “scientific economy,” from which he drew some of his ideas, Paalen’s forms display “conceptual schemes as economical instruments” that “simplify” but do not reduce experience. Like Mach’s physics, “a shorthand method of relating and correlating...sense data with the help of mathematics,” his paintings unified subjective content and objective form.

Still another model Paalen borrowed was the Nobel-Prize winning wave-particle theory of Louis de Broglie. Broglie was Professor of the Sorbonne’s Poincaré Institute, frequented by the Surrealists in the 1930s. The motion of his forms aesthetically translated de Broglie’s undulating waves and quanta particles of light to fashion his visual metaphor.

In the climate of World War II, and under Paalen’s influence, Abstract Expressionist painting gave way to the paradigm of the Apocalypse; then, following the war, to the “abstract sublime” – the New York School’s metaphysical cosmic images. This was evident in the climax phase of Pollock’s grand scale gestural paintings and mystical or explosive “chromatic” abstractions of Adolph Gottlieb, Barnett Newman, Mark Rothko, and Clifford Still. Both of these phases followed the abstract form and sense of Paalen’s Cosmic works.

Works such as *Space Unbound* (1941), and *Major Polarities* (1940), the latter published in *DYN*, displayed an “all-over” quality (soon identified with mature Abstract Expressionist painting) to transform the graphically – and rhythmically – notated forms of the universe into images of force and volatility. Rapidly drawn lines and parabolic arcs suggest high energies and velocities; concentric vortical chains “simulate magnetic fields,” and “dotted lines recall particle clouds.” Paalen described the *Cosmic* works as symbols of “the

great structural rhythms, the tidal waves of form and chaos, of being and becoming, which go beyond the accidents of individual fate..." in which, by sympathetic response, the viewer can participate:

Nuclear Wheel (1942), *Solarization* (1942) and other *Cosmic* works shown in Paalen's 1945 Art of This Century exhibition, sowed the seeds of Abstract Expressionism's "radical abstraction," in which references to visible nature disappeared and form alone became a visual index of value and meaning. The themes and abstract form-metaphors that Paalen invented to signify cosmic energies and time-space prefigured Abstract Expressionism's "abstract sublime." Jackson Pollock saw the *Cosmic* works in Paalen's April-May exhibition at Art of This Century, and his own one-man exhibition of May-June 1945 directly followed.

Time after time, parallels with Paalen's theory, iconography, and form reasserted themselves in the work of the emerging painters in their own personal styles. But if Paalen eschewed religion and mysticism by turning to science, the New Yorkers turned to quasi-religious discourses to develop a modern counterpart to the metaphysical aspirations of the past. In the 1970s, projecting backward, Robert Rosenblum identified an affinity between the Northern Romantic tradition of the "sublime" and Abstract Expressionism's "abstract sublime, which claimed transcendental qualities for their drastically reduced abstractions, perceived as the ultimate expression of Abstract Expressionist art." Rosenblum likened the noumenous effects of their large-scale, rhythmic, and atmospheric abstractions to the awe-inspiring attributes of "boundlessness" and "greatness of dimension" as well as the "vortical rhythms," "sublime whirlpools," and "mystic trinity of sky, water, and earth" in the landscapes of Romantic painters Caspar David Friedrich, J.M.W. Turner, and John Martin, and related them to the aesthetic discourses of Goethe, Emanuel Kant, and Edmund Burke, bypassing Paalen and his immediate proximity to the New York painters. But well-before that affinity was noted, Paalen's *Cosmic* discourse and paintings offered these sources to poetically celebrate the power of creation manifest in the physical world.

In concept and image, Paalen set a precedent for Pollock's monumental poured and dripped paintings like *Autumn Rhythm*; for the pregnant stillness of the "atomic void" of Newman's minimal *Onement* or *Vir Heroicus Sublimus*; for the cosmic explosions of Gottlieb's *Bursts*, and for the ragged chasms of Still's outsize abstractions. By 1945 and 1946 in Paalen's New York exhibitions, in the last issue of *DYN*, and in an anthology called *Form and Sense*, when he published the works of, Motherwell, Pollock, and William Baziotas, and David Smith, his role as a forger of a "new art," was complete.

In conclusion, it is therefore interesting that both of these intellectual pioneers, who chose to be generalists and explore a universe of possibilities were largely forgotten for many years. This conference rectifies that absence of memory and restores Humboldt's astounding legacy and in the process, that of latter day disciples like Wolfgang Paalen.