Alyce de Roulet Williamson Gallery, ArtCenter College of Design, Pasadena, CA
Essay for *ENERGY* exhibition by Stephen Nowlin, 2010
ENERGY installation images: williamsongallery.net/energy

ENERGY

Science! true daughter of Old Time thou art!
Who alterest all things with thy peering eyes.
Why preyest thou thus upon the poet's heart,
Vulture, whose wings are dull realities? [1]

— *Edgar Allan Poe*

The poets haven't always cared much for science. Odd in a way, since they've owned Nature as their subject and loved to rhapsodize about it — that being the very same Nature which is the heart and rationale of science. It must be the way science does Nature, or is perceived to be doing it, that offends the poet's sensitivities — science probing with cool objectivity, stoic dismemberment, and antiseptic analysis. With nothing sacred, it unemotionally, some say arrogantly, has laid to rest cherished but mistaken beliefs from the past. In 1611, just after Galileo's momentous astronomical discoveries, the poet and Anglican priest John Donne referenced a budding schism in his long poem *The First Anniversary*: "[The] new Philosophy calls all in doubt / The Element of fire is quite put out." Romantics like Walt Whitman later echoed Donne's theme, and in his 1892 poem *When I Heard the Learn'd Astronomer*, he penned his faith in a deeper, for him a more profound, path of comprehension. After sitting through an astronomy lecture full of charts and diagrams, he recalls:

How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.

Emily Dickinson had a fickle, guarded relationship with science. In 1924 she painted in two stanzas a pretty portrait of woods behind her town, coloring the shadows cast by an arching sun, attributing to the mechanics of planetary motion a bit-role to play in the unfolding of sublime:

And the earth, they tell me,
On its axis turned,
Wonderful rotation
By but twelve performed![2]

In his 1917 book *On Growth and Form*, English biologist D'Arcy Thompson described form as "a diagram of forces" — by which he meant the shape, size

and configuration of every living and non-living thing as a record of its reconciliation with natural forces. Thus the form of trees, while sentimentalized by eons of aesthetic reflection and famously enshrined by Alfred Joyce Kilmer's 1913 poem *Trees* invoking divine intervention — is, in fact, a decidedly un-sentimental byproduct that has, like a bolt of lightening, taken a path of least resistance or greatest advantage in response to forces exerted upon it. What we see when we gaze upon a tree is the overt imprint of an energy interaction, a living diagram of what the tree ended up looking like after its navigation through, around and against a particular set of forces. It's not something meant to be poetic, just opportunistic. A grown tree is a map to the path of opportunities it took — the map is the tree and the tree is the map, nothing more. What is at first remarkable — that we are capable of finding the result of such a process to be *poetic* — becomes ironic when poets propose the beauty of a thing to have been damaged by knowing too many facts about how it came to be. That, however, was the 19th century — Poe, Whitman and others' romanticism are not necessarily our own.

Thompson offered the seemingly colorless observation that "everything is the way it is because it got that way," a true statement and yet people and their poets so often regard Nature, the vast petri dish of interlacing energies evolving its existence with little need of our presence, with an overwhelming sense of human-centered purpose. Lurking in this view is a recurrent theme — which is that we commonly describe the ways of science and the ways of art by using terms filled with tension and conflict, as if the two domains reside at polar ends of a spectrum. One wonders which is more profoundly aesthetic: Nature sculpted with divine purpose; or Nature sculpted by casual encounters with random forces of energy that we, by virtue of our privileged chemistry, experience as beautiful. If the latter, the aesthetic lies not in the shape of things, but in us — we, the lucky finders of beauty where it wasn't meant to be.

The great waterfall *Dettifoss* in Iceland is a spectacular display of energy, flowing from the Vatnajökull glacier and acquiring its water from a large area in the northeast region of the country. We recognize it as a waterfall but, *Thompson-like*, we know it is, in fact, how countless water molecules appear when subjected to a moment of interaction with gravity uninterrupted by solid matter. The artist Rebeca Méndez has traveled there, along the rough road leading to *Dettifoss*, capturing the falls first in 16mm film and then transferring the imagery to high definition video, in order to express as accurately as possible the fall's rawness and intensity. There is something about the artist's pilgrimage to a remote natural wonder — not civilized by traces of tourism or mediated by convenience, witnessed only by those willing to endure hardship to reach it — that yields a dividend of compelling authenticity, like an ancient explorer bringing back evidence of new worlds to sting the status quo. Cropped and isolated to focus on its universal power, her gallery installation *At Any Given Moment – Fall 1*, continues below the video, where a field of lava rocks, the stuff of earth

incubated in its deepest furnaces, references primary forces. *Fall* is elemental and exposed, like the persistent waves in her companion piece *At Any Given Moment, Grass 2,* where rolling wave patterns perform in a color-field of wild grass, revealing evidence of pressure variations in the air above (wind energy, *Thompson again*). Alluring as they are, Méndez's installations remind us that nothing in Nature is inherently beautiful. And perhaps the feelings derived from her thoughtful embrace of its roughness are in part an admiration of our own ability to forge, out of their unintended consequences, an emotional connection with matter and energy. When we respond to their spectacle, we are responding to ourselves as products of Nature — acknowledging we are made, as well, of elements in its cradle.

We live on a planet located in the outer atmosphere of a star. In 2004, two NASA orbiting space observatories named STEREO (Solar TErrestrial RElations Observatory), one ahead of Earth in its orbit and the other trailing behind, began tracing the flow of energy from our star to our planet, snapping pictures at multiple layers of the electromagnetic spectrum. In the ultraviolet range a stunning blue-hued Sun appeared, showing amounts of ionized iron and giving scientists a tool to measure solar temperatures. Iron atoms with missing electrons may not inspire poetry, but the hauntingly blue sun required to see them, could. That dissonant blue, so unlike our familiar star yet maternal in its loveliness, alien and menacing in its display of unimaginable forces, still the symbol of an alluring siren, a giver of life, and a better blue because it feeds our knowing — it is Yves Klein Blue[3] dreaming of being bluer — an archeology of blue, a turbulent ocean of blue on fire. After taking upwards of 10,000 years to travel from its core to its surface, energy (blue and otherwise) leaving the Sun requires another eight minutes to reach Earth where it is absorbed by the planet, channeled into its duties of warming the surface, providing for photosynthesis and causing the atmosphere to circulate.

The fuel consumed upon ignition of an internal combustion engine depended on the Sun to begin its eons-long gestation, and so did the evolution of a living species to invent the engine and turn its key. Every living thing is, in some fashion, diagrammed by solar energy. In *Murmur*, a remarkable series of photographs of starlings flocking over the skies of Rome, New York photographer Richard Barnes shows the harmonics of living energy, from single unit to collective organism. Energy from the Sun is conserved along the food chain, and provides for the livelihood of people, starlings and deep sea corals a mile below the Earth's surface, while also being captured and transformed into electricity in the solar wings of satellites orbiting far above the planet. Energy is the light switch, heat for the stove, the monthly bill in the mail, the muse of science, cause of wars, and stuff of poetry — and, at the same time, the genesis of life, of breath, of love.

In *The Two Cultures,* a famous 1959 lecture and later published as a book[4], the English novelist and physicist C.P. Snow lamented the gulf of separation between the arts and sciences, noting in his address the lingering persuasion of the romantics and others alike, who continued to observe and practice the two domains as distant and incommunicado. People who become scientists or artists may well be different in some fundamental, deep-brain functioning, way. But both peer at Nature. And the science of "dull realities" has proven to be stranger than fiction, with the unknown expanding in all directions like the universe itself — a vast sea of tantalizing questions whose horizon is growing faster than the shore of certainty from which it is observed. The neat bow tied around Isaac Newton's world and the simple dichotomies of romantic poetry have been tied into complex knots by over a century of physics after Albert Einstein's 1905 *miracle year*[5] changed concepts of space, time and matter. Today the ways of the two cultures may not seem so dissimilar as Whitman and Poe's verse portrayed them to be — poets who never had a chance to behold our blue star.

Stephen Nowlin is Director of Williamson Gallery and the curator of ENERGY.

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[1] Edgar Allan Poe, excerpt from "Sonnet – To Science," published 1829.

[2] Emily Dickinson, excerpt from "Poem 6 (Frequently the Woods are pink)," 1924

[3] International Klein Blue (IKB) was developed by French artist Yves Klein (1928 – 1962) as part of his exploration of abstract painting and performance art. IKB was developed by Klein and chemists to have the same color brightness and intensity as dry pigments.

[4] The talk was delivered by Charles Percy Snow on May 7, 1959, in the Senate House, University of Cambridge, as the annual public Rede Lecture, and subsequently published as *The Two Cultures and the Scientific Revolution* later that year.

[5] In 1905 Einstein published four outstanding scientific papers, creating the special theory of relativity, the quantum theory of light, a new method of counting and determining the size of the atoms or molecules in a given space, and an explanation of the phenomenon of Brownian motion (particle theory).