Upon encountering Spencer Finch's works or meeting him in person, we wonder what kind of man this is—artist, visual poet, engineer, handyman, magician, or some physicist from a bygone era? He seems subtly out of step with his time, eliciting the same fascination as the "demi-savants" (half-scientists) of the nineteenth century. Real or fictional, these individuals possessed an augur's intuition and relentlessly pursued their goals—for most, this meant an attempt to elucidate the mysteries of nature or meet the growing aspiration toward "enhanced vision." They were inventors, aeronauts, astronomers, deep-sea divers, mountaineers, chronophotographers, and experts in synesthesia. Writers and avant-gardists, from Jules Verne to J.-K. Huysmans to Marcel Duchamp, not to mention Raymond Roussel, have found splendid pabulum in such figures. An endearing poetry emerged from their unsteady mix of ramshackle experimentalism and scientific rigor, and from the beauty of their contraptions and presentations. One can easily imagine Finch living out an apocryphal life among such individuals. He would probably have been delighted by the presentation, during the 1886 Exhibition of Urban Hygiene in Paris, of a large aquarium machine before a window where the waters of French rivers were made to flow side by side in vertical cross section so that their coloration and "optical purity" could be assessed.

In this imaginary life, Finch would surely have come across Étienne-Léopold Trouvelot, a strange individual who is famous, alas, for having introduced *Lymantria (Porthetria) dispar*, the gypsy moth, to North America, thereby indirectly causing the destruction of entire forests. Trouvelot, an amateur entomologist, had brought the moth eggs from Europe to crossbreed them with his silk moths, and some caterpillars are said to have escaped when wind overturned his netted enclosure. Following this unhappy incident, Trouvelot may have wondered what else he could study without harming the planet. He was taken with a passion for astronomy—the observation of distant celestial phenomena with which he could never interact. Having practiced drawing since his youth, he made his living as an artist-scientist and insisted on the authenticity of his manual representations: drawings, paintings, pastels, lithographs, and chromolithographs. These seemed to him much more reliable than the embryonic astrophotography of the time. In his work, as in Finch's, hand and eye trump the mechanico-technical. Trouvelot was invited to use the new telescopes at Harvard and Meudon, and noted his observations in drawings. His finest work was printed and exhibited at the Philadelphia Centennial Exposition of 1876, and he was acknowledged as an important astronomer.

There are a number of surprises here. One aspect of this barely fictionalized account of the incompetent entomologist refashioning himself as an astronomical draftsman is the contrast between the high-tech instruments he was allowed to use and the very traditional means by which he recorded his observations. Another is the way in which his subjective record in a notoriously fragile medium became, through reproduction and diffusion, a commonplace of astronomy manuals. There were other, equally singular, exponents of the primacy of artistic observation over the scientific instrument. One such was André des Gachons, who between 1913 and 1951 made tens of thousands of watercolors of the sky, including more than 9,500 as a volunteer observer for the French Central Bureau of Meteorology. He worked at the rate of three atmospheric drawings a day, observing the sky in different directions from a fixed point. In another life, Finch might have been Gachons. He undoubtedly belongs to this family of

artisan-observers; he is a torch carrier for the infinite pleasure provided by the kind of delicate, poetic observation that, in our ultra-technological era, remains as sensitive to luminous and colored effects as to the veering course of a butterfly or a leaf falling from a tree.

Finch is, moreover, a great reader of theories on color (like those by Johann Wolfgang von Goethe and Ludwig Wittgenstein) and of poetry (particularly Emily Dickinson and W. B. Yeats). Both domains are rich in artisan-observers. And Finch often draws his inspiration from particular places to which he has been guided by texts. There, he observes colors as an ornithologist observes birds: he notes them (for example by watercolor) and measures them (with a color chart, cyanometer, or colorimeter). Unable to capture and carry them off, he loads them into memory, and later reproduces these sensations through his art. Rather than give a subjective interpretation of them, as a painter does on a canvas, he attempts to re-create them analogically through various media. His work thus offers a sort of convergence between Impressionism and the Light and Space movement. This makes for engaging contrasts between the fleeting impressions of light, color, or temperature and the materiality of the artwork in which these are reproduced: glass, Scotch tape, bulbs, electric motors and rails, color filters, modified fluorescent tubes, or, in more classical style, drawings and photographs. The scale is variable, moving from frail, dilute watercolors on little pieces of paper to immense installations that nevertheless resist the description “monumental” by virtue of their serene weightlessness.

Take for example the most immersive piece in this exhibition, *Painting Air* (2022). The title is borrowed from Claude Monet’s expression of the Impressionist dream: “I should like to paint the air around the bridge, the house, the boat. The beauty of the air where they are, and it is nothing less than impossible.”vi Finch attempts to realize that dream with an installation like an abstract variant of the nineteenth-century panorama: the changing colors of Monet’s garden at Giverny, as Finch observed and notated them during a stay in 2011, are re-created with the aid of hundreds of glass panels of varying degrees of opacity and painted parts. Playing with both the interpenetration between interior and exterior and the aquatic atmosphere and its reflections, Finch evokes the domain of the Impressionist master without the imagery of flowerbeds, water lilies, or a Japanese bridge, using merely immaterial sensations of the place. Innumerable experiments must have been required before he could reasonably hope that this evocation of Giverny would work for almost anyone entering the room.

It is unsurprising that Finch’s Brooklyn studio resembles a laboratory. A place for study and analysis, it is itself the locus of a great number of works, such as *Studio window, summer (infrared, early morning, late morning, early afternoon, mid-afternoon, late afternoon, early evening, evening, 6/24/22)* (2022), which documents the varying temperatures on the studio window over the course of a day—we shall return to it. Certain works seem to arise from the encounter of a Baudelairean reverie with the stimulus of colors, light effects, or even stains on a wall or ceiling, as in *Leak (Water Stain over My Bed – Four Views)* (2000). Serendipity may contribute to his creations, but Finch also strives to make the observation of sensation and the dissection of perception (human and sometimes animal) both a central activity and a daily exercise. He attempts, for example, to recall colors seen in his dreams, as in *102 Colors from My Dreams* (2002); to paint a mirage seen in the desert, for example *Mirage (54 Miles NE Las Vegas 10/10/95)* (1995); or, in his most poignant work, to remember 2,983 times the color of the

sky in New York on the morning of September 11, 2001, 2,983 being the number of victims. That last is *Trying to Remember the Color of the Sky on That September Morning* (2014), a site-specific project installed at the National September 11 Memorial and Museum, New York.

Finch is capable of following the flight of a bee, as in *Meadow #2 (Following a Bee)* (2016), and of creating an index of winds (*Index of Winds* [2000]) or clouds (*A Cloud Index* [2016]). But he has also attempted to time travel and imagine the color sensations felt by humans thousands of years ago—while freely admitting the subjectivity of these hypothetical sensorial memories—as in *Darkness (Lascaux Interior, Northeast View Upper, September 29, 2005)* (2005) or *Shield of Achilles (Dawn, Troy, 10/27/02)* (2013). Though he registers the individual's limited experiential capacity (*The Limits of My Perception* [2004]), Finch continues to observe and then translate or reproduce phenomena. In doing so, he also registers the diminutive scale of humankind relative to nature and the elements. That may seem a commonplace, but approximation, at once reassuring and humane, is key to the poetry of Finch's work. His pieces invite us to trust him when, for example, we are faced with a white sheet that the artist held up to the sky to gather snowflakes in *Eleven Melting Snowflakes, Brooklyn, NY, December 31, 2008* (2008).

The perceiving body, and its limits, is at the center of Finch's corpus. He has invented edible monochromes, ice creams born of the colors of a sunset—*Sunset (St. Louis, July 31, 2008)* (2008) and *Sunset (Central Park)* (2015)—and imagined colors to match odors, as in *Studio Interior (Odor of Gowanus Canal—Six Attempts), August 7, 1995* (1995). Which is not to say that he does not use technology. Some instruments of calibration are made to play the role of paintbrushes, such as a colorimeter, a GPS, or the thermometers used to measure *Studio window, summer (infrared, early morning, late morning, early afternoon, mid-afternoon, late afternoon, early evening, evening, 6/24/22)*. But he also mistrusts the artifices of representation, mathematical modeling, and other purely intellectual perspectives. Thus, the colors translating the differences of temperature on the studio's glass panes in that work are arbitrary ones: the "hot" and "cold" colors do not, in fact, correlate with the temperature measured.

Glass is a material central to all the works that Finch chose for this exhibition, and an important one in his practice. *The Secret Life of Glass* (2020) was a commission for the Corning Museum of Glass, New York, and follows on from his experiments with the studio window. On the surface one of the museum's panes of glass, Finch measured the temperature differentials, and then translated this data into colors, thus generating a stained glass window that reveals thermal activity otherwise invisible to the naked eye. The decorative form of the waves, obtained by recording the temperatures, led him jokingly to adopt for his palette Henri Matisse's favorite color chart, provided by the French modernist's paint supplier, Sennelier. In this work, Finch reacts to the transparency of glass, a phenomenon that conceals complex physical and technical properties and their interactions with the environment.

Further on in the exhibition, the transparency of glass is again interrogated by a series of photographs representing a phenomenon that we have all experienced (and that has been beautifully described by writer Yasunari Kawabata)—that is, the way in which, as night falls, glass loses its transparency and begins to act as a mirror: *The Outer—from the Inner (Emily Dickinson's bedroom, dusk)* (2018). As the title suggests, the window is that of Dickinson's

bedroom, and we can, perhaps, see what she saw at nightfall from her writing desk. Not far from this piece, two trompe-l'oeil drawings representing rectilinear pieces of glass remind us of the mineral origins of that material. Only the thickness of the very light blue glass panels and the shadows of their outlines mark the presence of these white shapes on the white paper in *Abstraction #3I* (2001) and *Supremacist composition (Boy with Knapsack)* (2018). Is it really white on white? Of course not; the drawings are a nod to Kazimir Malevich's *Supremacist Composition: White on White* (1918), in which the Russian artist made play with our definition of a color—and of an artwork. These conceptual works (glass would never be able to hold this vertical position) belong to a well-known lineage of broken-glass trompe-l'oeil, such as one by Étienne Moulinneuf that pays homage to a Jean-Baptiste-Siméon Chardin painting in the Louvre, Paris, by breaking the glass on a framed print of it, thus reminding us that nothing is eternal despite all the efforts we undertake to disseminate works of art and protect them from the ravages of time.

Finch has also toyed with time and its control by creating time-machine trompe-l'oeil. *Manhattan Light Study (Morning Becomes Afternoon, Afternoon Becomes Morning*) (2022) consists of two boxes placed on a window and covered with shades of translucent film, one pale yellow, the other pale blue. One tint transforms the afternoon light into morning light, the other, morning into afternoon light. The "transparent" device, with two boxes on a window, allows visitors to understand the relativity of the effect or to put their head inside one of the boxes and be immersed in one of these moments. Finch thus puts his finger on a cognitive dimension of the perception of light, using effects dating from the earliest days of color cinema.

Such light effects and alterations of perception are also intimately and historically linked to this particular material, glass. In the form of obsidians and tektites, glass was the material of humanity's earliest tools, just as, thousands of years later, it is integral to the latest optical instruments, such as the James Webb Space Telescope. In the West, the development of glazed and colored walls made to transform the perception and atmosphere of a place flourished above all in the Middle Ages. The title that Finch chose for this exhibition, *Lux & Lumen*, mirrors the ways in which his works bring past and present together. Today, these are two units of light measurement are well known to museums thanks to conservation mandates on the lighting of exhibits. We speak of the quantity of *lux* (the lighting of a surface) or of *lumen* (luminous flux) that a work can tolerate.

But *Lux & Lumen* also refers to philosophical and theological principles, notably those employed by Abbot Suger in the early twelfth century for the restoration of the Basilica of Saint-Denis, near Paris.ix It requires a certain temerity to attempt to restate debates that have occupied many scholarly minds over several centuries. To simplify, we might say that the term *lux* refers to perceived light (as in the *fiat lux* of Creation). From antiquity and the work of Aristotle, Euclid, and Democritus, people have debated the nature of light perception: Does it consist of rays leaving the eye and reflecting off an object; rays emanating from objects and reaching the eye; or some kind of entity interacting with eye and object? This last idea, argued by Arabic scientist Ibn al-Haytham (Alhazen) in a foundational optical treatise of the early eleventh century, defined *lumen* as that external agent. But no one knew what *lumen* was made of, and many attempts

were made to analyze it, including Christiaan Huygens's wave theories and the corpuscular theories of Pierre Gassendi and Isaac Newton.

Medieval Christianity seized on earlier reflections about the nature of light. Abbot Suger relied on numerous texts in developing a symbolism of light for a project that was monumental in both senses of the term, the partial rebuilding of Saint-Denis (1135–44), which is often considered the first Gothic building. The object was this: throughout a building, and more generally throughout a system—at every point, from the building site to the construction's religious operation—the believer should be exposed to divine *claritas*. This was to be done through the luminosity of stained glass windows (*lux*), candle flames (*ignis*), and the glittering of gold and precious stones.x On the inside of the building, *lux* became *lumen*, transforming light into an expression of the sacral by which the worshipper would be touched. In this way, Gothic churches would resemble the Celestial Jerusalem described in the Book of Revelations: an enclosure bathed in divine light. Suger envisaged light as a material, divine but susceptible to shaping—a medium to be worked by artists such as master builders, architects, goldsmiths, and glaziers. Religious ecstasy was supposed to occur when the Christian worshipper was confronted with a material environment in which light passed through or was reflected from colored glass, precious stones, and gold. Reacting to criticism of his spendthrift attitude, notably from the Cistercian Abbot Bernard of Clairvaux, Suger replied that no single expenditure could produce this effect, which was made by the work as a whole: *materiam superabat opus* (the work/*opus* transcended the material). And, as to the use of precious natural stones, are they not also the work of the divinity? Sigmar Polke restored a superlative contemporaneity to this question when, in 2009, he made part of a window for the Zurich Grossmünster by conjoining thin slices of colored and translucent agate (sometimes overpainted by the artist) instead of using glass.

The Basilica of Saint-Denis, a built manifestation of Suger's theories, inevitably attracted Finch, who made a study of light according to the rose window in the north arm of the transept one winter morning, then transcribed it into a sculpture made of LED lamps radiating from a center—like a star—and covered in narrow strips of colored film: *Rose Window at Saint-Denis* (2022). Here, then, is a secular reenactment of light as a transformational agent. Finch's piece is exhibited next to the wonderful stained glass window by Valentin Bousch from the church of Saint-Firmin in Flavigny-sur-Moselle, France: *The Creation and Expulsion from Paradise* (1533).

Timothy Husband delivers a study of this masterpiece of Renaissance-era stained glass in the current volume. The window is exceptional in both its theme and its craft. To allow us to contemplate it today, the window has become inseparable from a lightbox, a paradox bound to delight Finch. Valentin moved away from earlier conceptions of the stained glass window to consider the entire glazed surface as a single pictorial space, with a trompe-l'oeil frame in the style of an altarpiece. The leadwork is so virtuosic that it serves the purposes of the painter rather than inhibiting them. Valentin was a painter in glass as Finch is an Impressionist of the air: both manipulate materials different from those of painters in order to vector the same emotions. Light and transparency afford a fourth dimension to their works (the dimension famously sought by Marcel Duchamp in the creation of his *Large Glass* [1915–23]).

Finch himself has made several stained glass windows, one of them a private commission for a German castle, reproducing the light sensation of a cloud shadow traversing the window opening: *Passing Cloud (Over Derneburg)* (2011). But the most astonishing such work, which could be presented here because Finch's stained glass "windows" are protocol works and can be remade to measure, is one that reduces the light of the sun to the luminescence of a single candle: *Candlelight (CIE 529/418)* (2022). The hand-blown panels of glass—yellow, orange, red, amber—filter the broad spectrum of daylight and reduce it to the much more restricted spectrum of a candle flame; the effect can be observed at around four o'clock on sunny afternoons. The title refers to the history of lighting and human mastery thereof, since it consists of a norm defined in 1931 for the brilliance of one candle according to the Comité international d'éclairage (CIE, or International Commission on Illumination). Humanity sought to measure light as soon as we were able to control it via electricity.

Finch's entire corpus, though itself made with measurements, seems to point out the impossibility of controlling the manifestations of light. Just as one cannot capture shadows (though artists such as Jiro Takamatsu have attempted it), just as one cannot capture wind (though artists such as Yves Klein have attempted to do so), Finch has attempted to capture and reenact the perception of light. Beneath the scientific appearances, there is an empirical poet. Finch's passion for literature, in particular when it describes sensations, suggests a reverence for human sentiments in the face of uncontrollable natural phenomena. *Lux* and *lumen* are expressions of a dualism between direct, impalpable light and its radiance as perceived by the individual in a given environment. Thus each work by Finch becomes a tautology such as only artisan-observers can formulate. Questing for light in the footsteps of master glaziers like Valentin Bousch, he points to a mystery as old as the world and still unresolved: that of the auratic dimensions of the work of art.

Translated from the French by Chris Miller