

A GIFT OF KNOWING THE ART OF DOROTHEA ROCKBURNE





The Mathematics of the Edge of Music

Richard D. Green

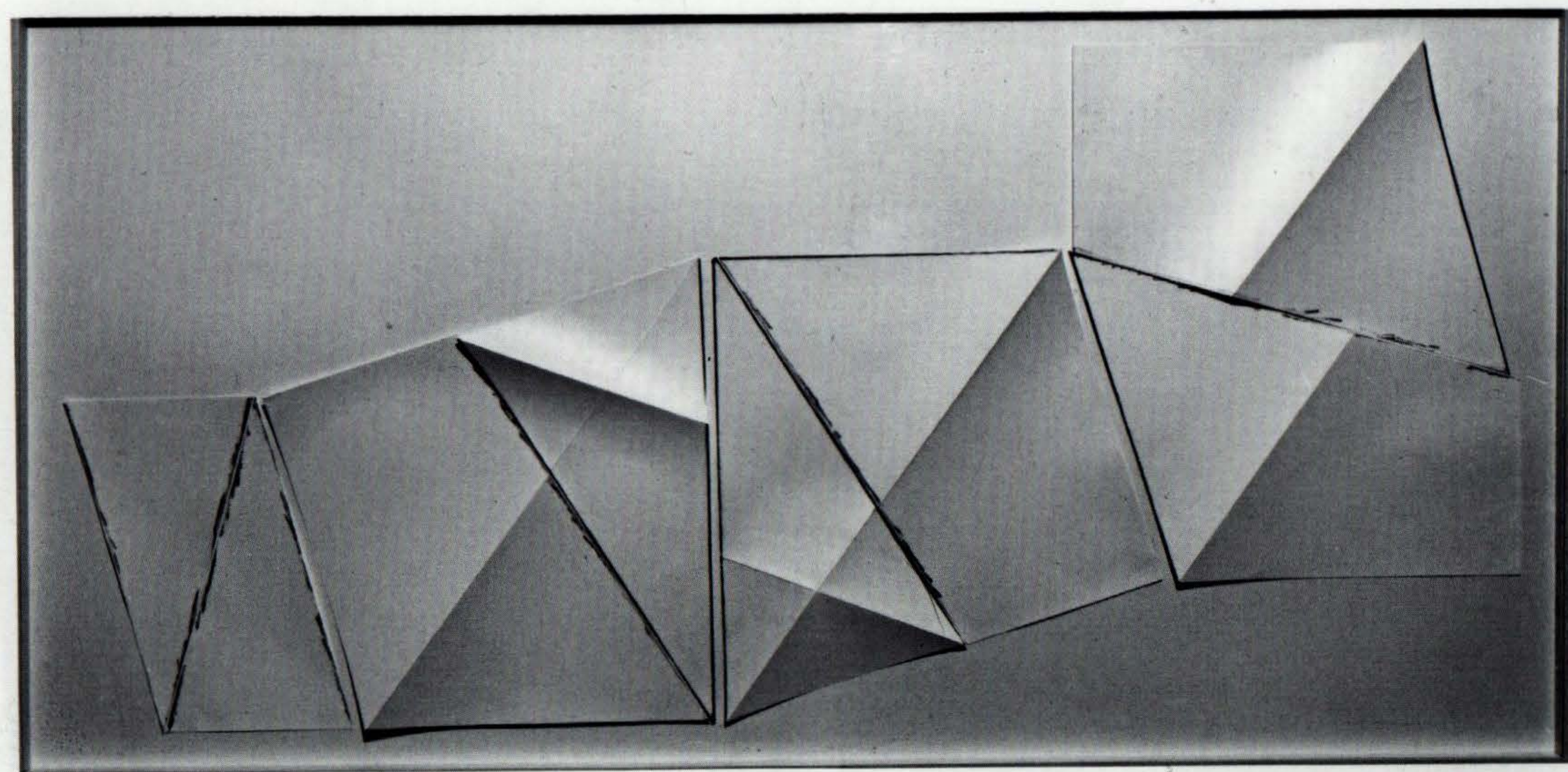
Since studying under mathematician Max Dehn at the legendary Black Mountain College in Asheville, North Carolina, in the early 1950s, artist Dorothea Rockburne has grounded her artistic practice in a profound interest in mathematics and astronomy, with particular emphasis on geometry and topology. This exhibition explores the significance of mathematics in Rockburne's most recent works—several of which the artist completed for this exhibition—and includes two of the early drawings that gained Rockburne national and international recognition.

Rockburne often relates mathematical theories to the movements of the planets and the light captured by deep space telescopes. Prime examples include her *Geometry of Stardust* painting series (2009–2010), the colored pencil drawings of her *Watermill Series* (2013–2015), which have never been on public view, as well as the drawing *The Mathematical Edges of Maine* (2014), inspired by Rockburne's travels in Maine last summer. Characterized by spherical movements, these works are based on mathematical equations, and their proportions correlate to harmonious patterns found in nature.

The title of the exhibition is from Rockburne's essay about her friend Ad Reinhardt (1913–1967), in which she recalls the impact his art had on her: "It is one's hope, as an artist, to leave a gift of knowing, as Ad Reinhardt did, for other artists so that our visual language can be further explored and built upon."¹ This exhibition is such a gift. We are grateful to Carter Ratcliff for his thoughtful and eye-opening commentary. Bowdoin professor of mathematics Jennifer Taback and David Peifer, professor of mathematics, University of North Carolina Asheville, deserve thanks for initiating this project. Studio Assistant Anna Koslin was a terrific collaborator. We are deeply indebted to Dorothea Rockburne for sharing her art and wisdom with us.

Joachim Homann, curator

¹ Dorothea Rockburne, "Ad Reinhardt: The Space In-Between," *The Brooklyn Rail*, November 18, 2013



Dorothea Rockburne: Art and the Integrity of Being

by Carter Ratcliff

The earliest works in this exhibition are *Conservation Class #8* and *Conservation Class #9*, both from 1973. They are made of Strathmore two-ply paper—a statement that, ordinarily, would posit paper as a medium for the realization of something beyond itself. Yet that is not how the material functions in Rockburne's *Conservation Class* pieces. Here, each sheet of paper makes itself. To understand what that means, we must first note that Rockburne has for decades immersed herself in the study of topology, which she describes as “a complex geometric study of continuous space.”¹ To her topologically activated eye, a sheet of paper is a unity. Never denying that it has two sides, she nonetheless points out that it also has “depth,” which gives the sheet edges. Most artists ignore them. Rockburne does not, for she sees—more than that, she feels—the way these edges join front and back into “a continuous surface.”² Thus they endow a seemingly two-sided object with an unbreachable oneness. They ensure its topological integrity. This is crucial, for integrity of form, of action, and of being is at once the premise and the goal of Rockburne's art.

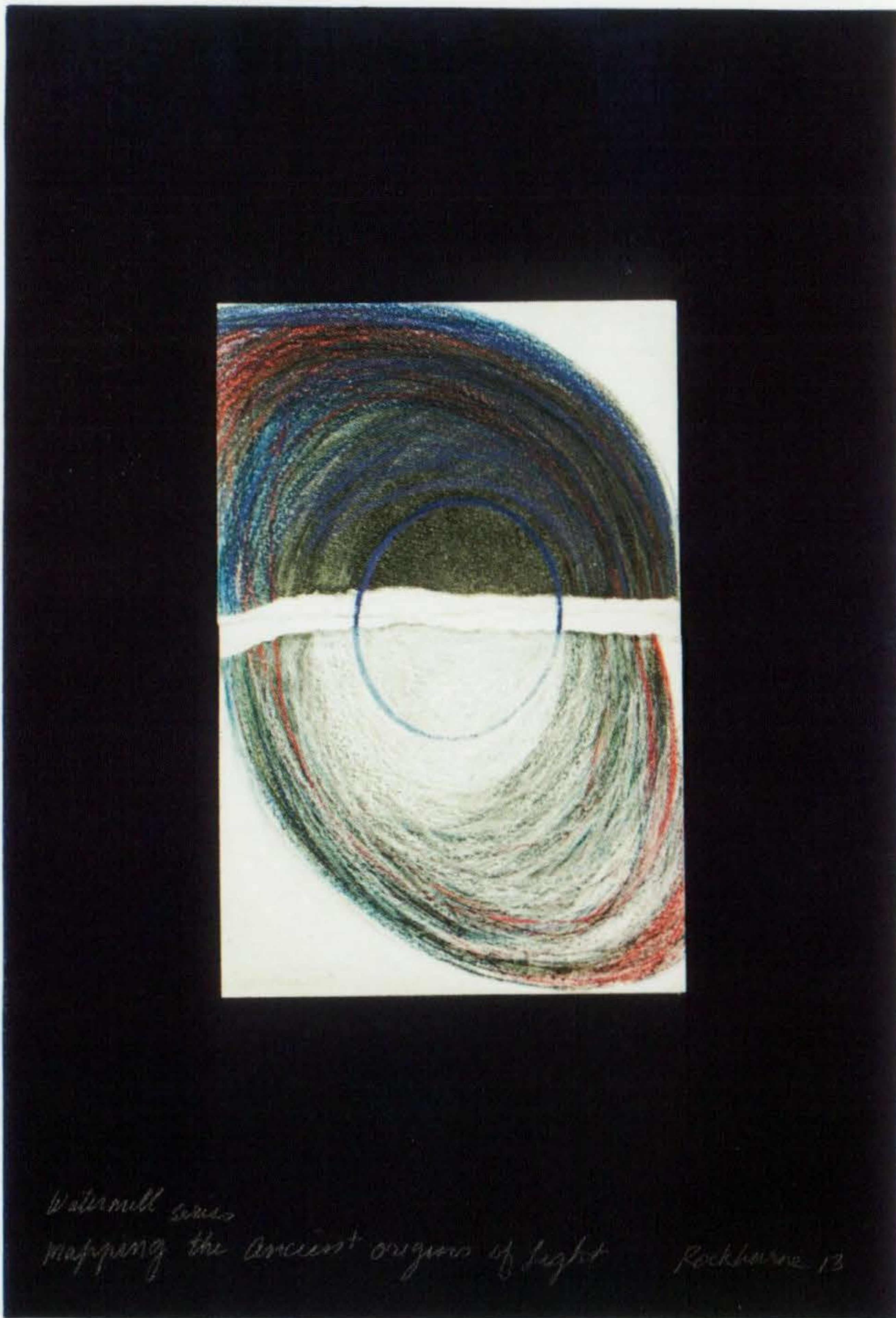
Before the *Conservation Class* pieces came a number of works entitled *Drawing Which Makes Itself*, 1972. Shown at the Bykert Gallery, New York, in 1973, they too are made of folded Strathmore paper and inscribed with lines in graphite. The artist accompanied this exhibition with “Notes to Myself on Drawing” that read, in part: “(1) How could drawing be of itself and not about something else? (2) Construct an investigation of drawing based on information contained within the paper and not on any other information.”³ Rockburne, it may seem, is proposing a variant on the formalism that still permeated the New York art world in the early 1970s. If so, then a *Drawing Which Makes Itself* or a *Conservation Class* drawing is self-referential in a

manner analogous to a Minimalist object or color-field painting of the period. However, a brilliant subtlety of wording in Rockburne's notes guides us away from this conclusion.

In asking how a drawing could be “of itself and not about something else,” the artist makes it clear that she doesn't want her actions—folding, layering—to produce references to anything, not even to the resulting works of art. Rather, she wants these actions to realize certain possibilities inherent in her materials. It is in the course of this realization that each drawing makes itself of itself. A sheet of paper attains something like an awareness of its flatness, its double-sidedness, and the topological continuity that endows it with its integrity. For this integrity is not merely formal. It is that of materials alive to the meanings they generate by realizing their structural potential—by making and thus becoming themselves.

Between the *Conservation Class* drawings and the next group of works in this show—paintings on sheets of Dura-Lar[®] film, from 2006–08—lies a history of increasingly complex folding and layering. Sensuous curves appeared, along with translucency and a range of colors testifying to Rockburne's intense response to the palettes of earlier painters. She has written of her love for Pompeian wall paintings, works on canvas by painters of the Renaissance and the Mannerist period, and more. Of the Mannerists, Pontormo is especially important to her. In a recent essay she says that his “understanding of how to project emotion through paint and structure, while challenging all preceding paintings, has reverberated in many subtle ways throughout my life's work.”⁴

It is tempting to point to her feelings about Pontormo's art as an explanation of the richness and the startling freshness of the color in her Dura-Lar[®] paintings. But Rockburne's interests—her devotion



to certain artists and a sweeping range of scientific and mathematical disciplines—are worth mentioning not because they provide clues to the interpretation of her art but because they give us a sense of the way the world presents itself to her. Her world is the one we all share and yet, like every other fully realized individual, she and she alone determines what is salient for her and what is not. Because Fra Angelico's use of the Golden Mean was among the precedents that led her to the *Angel* series of 1980, he is of great significance to her. By contrast, Abstract Expressionism means little to Rockburne, even though it was the prevailing style at Black Mountain College when she studied there in the early 1950s. Her comments over the years suggest that she sees it as a set of dramatic routines, a way of asserting emotions instead of feeling them. In her view, structure and color do not originate in feelings. They are feelings. Thus she states, "The use

of perspective—whether Persian, Renaissance, or Rockburne—is an emotion."⁵

Doing, feeling, and thinking are usually understood as separate and distinct from one another. So we have to loosen our grip on our familiar sense of things—of everything—if we hope to intuit the unity, the integrity of being, that Rockburne brings to art-making. For her, doing is feeling, feeling is thinking, thinking is doing, and these equivalencies do not so much join her to her work as render art and artist identical. "I feel the work in my body," she recently said, suggesting that her being is not contained entirely within her physical self.⁶ It includes her work. Or her work includes her. In any case, Rockburne's individuality is more ample, more inclusive, than our standard ideas of selfhood allow. She is one of a small handful of genuinely radical artists to have appeared over the past half century, and that is in part because she prompts us to rethink these basic matters—or to follow her to new ways of feeling them.

As Rockburne lives and works from year to year, decade to decade, her interests expand. She evolves, inevitably, and so does her art. Her *Conservation Class* drawings and other pieces from the early 1970s give bodily articulation—a felt life—to flat surfaces and precisely measured angles: the structural premises of the gallery spaces where these drawings were first seen. She worked then at the scale of architecture. Since the early 1990s, if not earlier, she has been working at the scale of the cosmos. The Dura-Lar[®] paintings on view here are of course contained by straight edges and right angles. Yet curving forms generate orbiting energies that charge the surfaces of these paintings with intimations of the infinite. Depths are fathomless here. From the late 1970s onward, Rockburne has enriched her folded forms with transparency and translucency, both literal and depicted. Working with watercolor on Dura-Lar[®], she reduces to nearly nothing the difference between a transparent surface and a translucent one. The layered, light-filled textures she achieves in *Prime Partition Three*, 2006–07, and *Three Point Manifold*,

2008, defy description, for their subtleties reach far beyond language to regions where qualities of being are infinitely various and thus require a universe in which to elaborate themselves. Or, as Rockburne prompts us to speculate, their self-elaboration creates our universe and possibly others, each with its own set of dimensions.

Though the Dura-Lar® paintings achieve an unbounded scale, their wonderfully unexpected color combinations recall those of Pontormo's paintings, which, as Rockburne has noted, originate in such minute and familiar things as flower petals.⁷ In the *Geometry of Stardust* paintings that began to appear in 2009, the textures sinuously swirling over surfaces of Strathmore watercolor paper may bring to mind wind-scoured sand or lichen or a variety of other familiar phenomena, including the textures of our skin. As the artist says, "we are all made from old stars."⁸ In these works, the scale of life on Earth expands with the speed of thought to that of the night sky, the flickering manifold Rockburne has transposed into a mode beyond the alternation of night and day. The forms in the *Stardust* paintings look as if they are alive to the intricately-grained colors that make them visible and ultimately ungraspable. Temporality is versatile here, showing us curving shapes that have been layered in the past; are being layered now, in response to our active looking; and will be relayered, reborn in fresh configurations, by future viewing. Focusing fully on one of these works, we see it "look[ing] through itself at itself, as space does when it's folded"—to borrow Rockburne's comment on an earlier series, the *Golden Section Paintings* of 1977.⁹

Everything she has ever said about her art applies to all the work she has ever made. For she is not the sort of artist who treats her earlier work as obsolete. "Art changes," she has said, and yet "it doesn't seem to progress." What brings about change in art is the new "information the artist puts into the object."¹⁰ Rockburne found that information early on in set theory and topology. Never abandoning those interests, she went on to study Riemannian geometry,

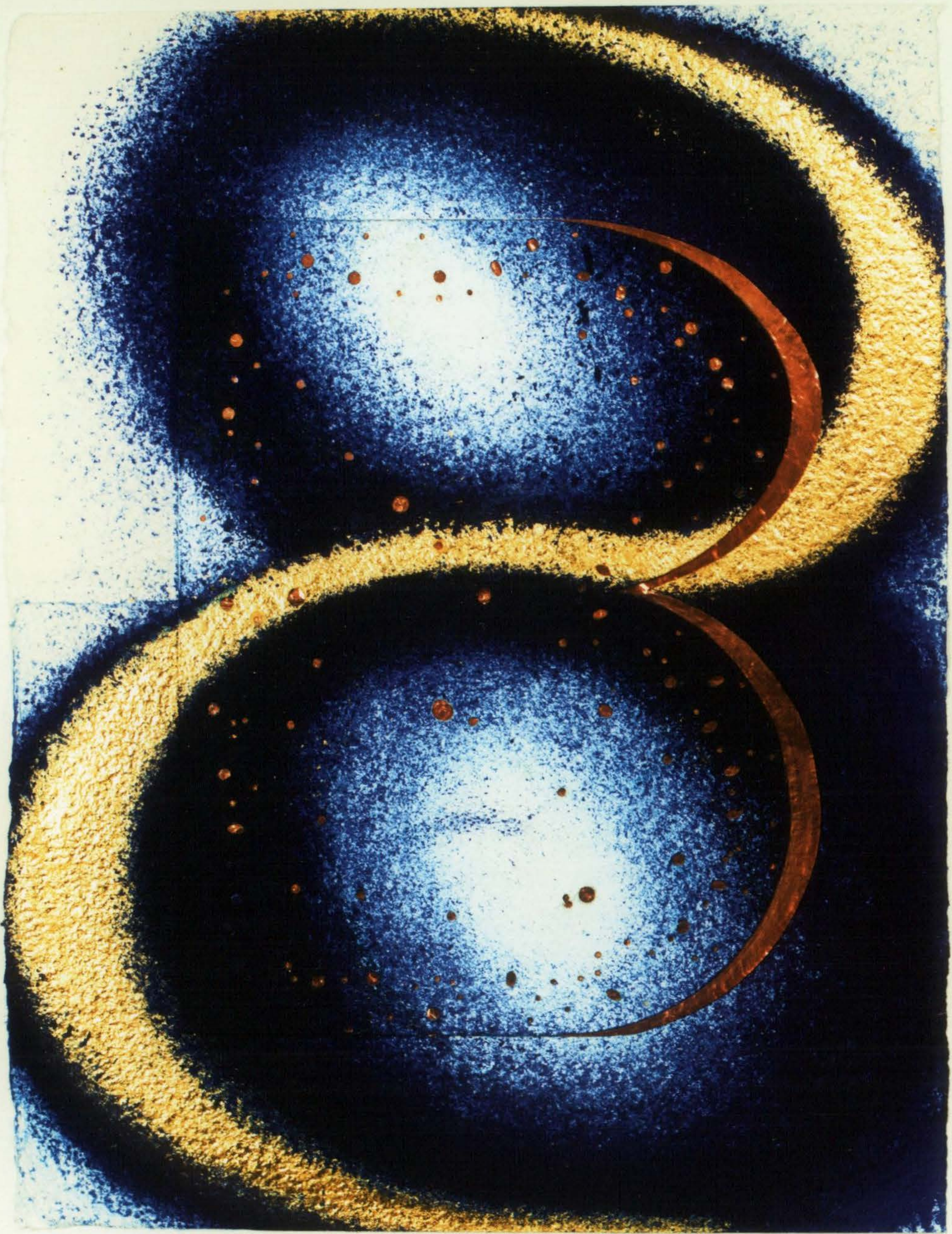
physics, and much more. The colored pencil drawings in the *Watermill Series*—begun in 2013 and seen for the first time in this exhibition—developed from her interest in astronomers' investigations into the power of planetary shadows to affect planetary orbits.

With its curving corners and unequal sides, each of the linear shapes in these drawings can be seen as an orbit responding to proximate objects as they circle in their own, equally responsive orbits. Strips of solid color are shadows, or so it seems reasonable to assume. I would like, however, to propose that the layered orbits in these drawings establish planes that could also be seen as shadows—luminous ones, a possibility Rockburne renders conceivable with works of art that endow not only the occupants of deep space but also the inner, layered spaces of the human body with the light of self-awareness. Any number of interpretative paths will bring us to a felt understanding of the vital passion in her art. I have indicated a few of them, always with the unspoken proviso that they are tentative and properly so. Rockburne's vision of the cosmos is open to whatever focus, empathy, and wit we can bring to it. For, in her words, "There are no rules—not even my own—only constant intuitive discovery."¹¹

Carter Ratcliff is an American art critic, writer, and poet. He published books on John Singer Sargent, Jackson Pollock, and Andy Warhol, among others and is a contributor to Artforum, Parkett, and numerous other magazines.

Notes

1. Dorothea Rockburne, in Alicia G. Longwell and Kate Bellin, "Selected Chronology of Life and Work with Artist's Statements: Wrinkle-Finish Paintings, 1967," *Dorothea Rockburne: In My Mind's Eye*, exhibition catalog, Southampton, New York: Parrish Art Museum, 2011, p. 140
2. Rockburne, "Drawing for Me Is the Bones of Thought," *In My Mind's Eye*, p. 145
3. Rockburne, "Third Solo Bykert Exhibition. Notes to Myself on Drawing," 1973, *In My Mind's Eye*, p. 145
4. Rockburne, "Pontormo: A Painter's Perception," installed as a wall text at the Fundación Mapfre, Madrid, on the occasion of "Pontormo: Drawings," February 12-May 11, 2014
5. Rockburne, note on *Inner Voice*, 1983, *In My Mind's Eye*, p. 66
6. Laura Henkin and Richard Benari, interview with Dorothea Rockburne, May 2014. Online at <http://www.tilted-arc.com/2014/05/13/dorothea-rockburne-in-conversation/>
7. Rockburne, "Pontormo: A Painter's Perception"
8. Rockburne, note to *Geometry of Stardust: A Musical Fifth*, 2009–10, *In My Mind's Eye*, p. 110
9. Rockburne, "Work Diary—April 13," 1977, *In My Mind's Eye*, p. 148
10. Rockburne, "Mathematical Principles Incorporated into My Art Process (excerpt from Metropolitan Museum of Art panel, January 16, 1998)," *In My Mind's Eye*, p. 152
11. Rockburne, 1977, *In My Mind's Eye*, p. 147

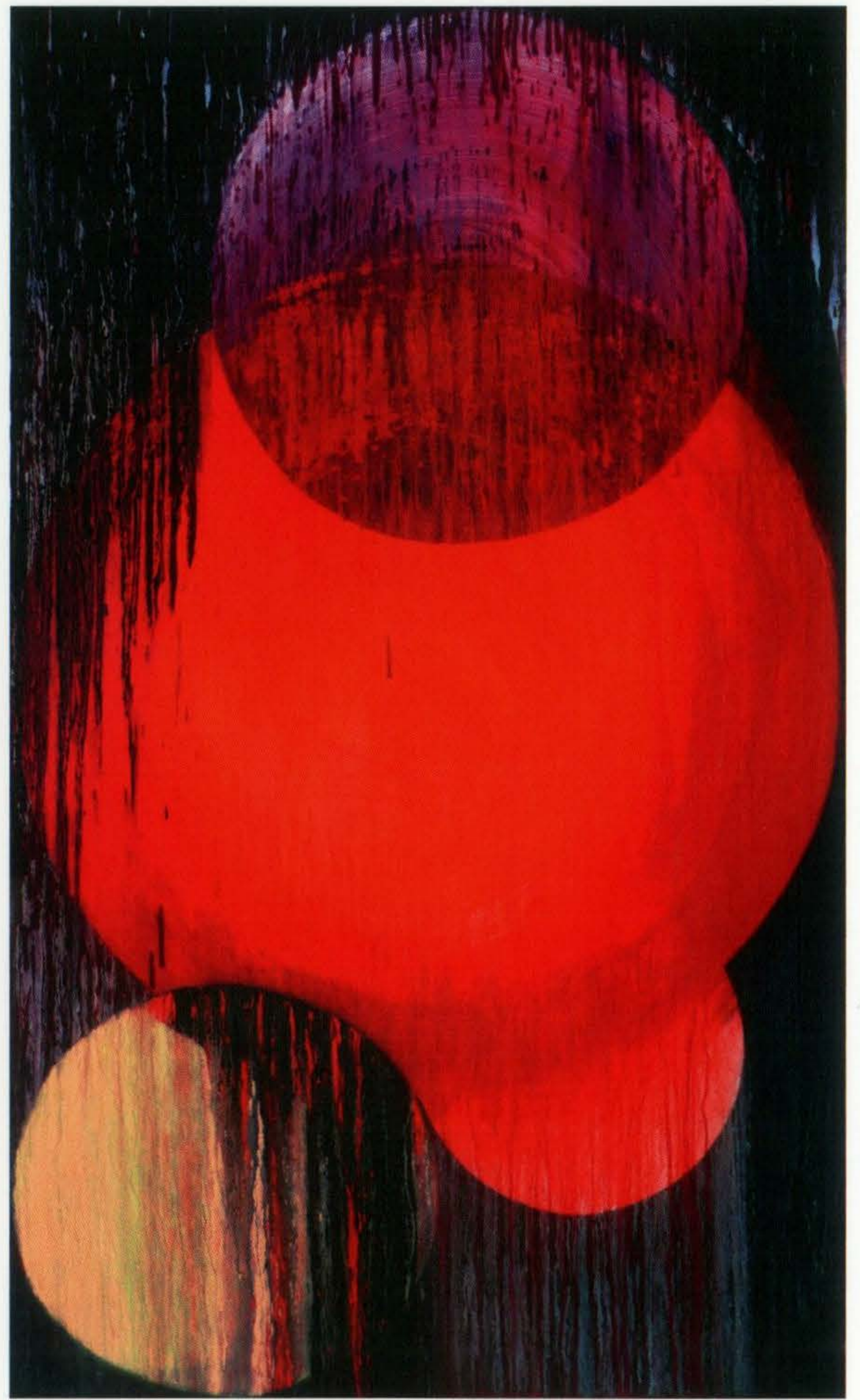


Arcane Egyptian Astronomy

Rockswold 2011-2015

About the Artist

Dorothea Rockburne was born in Montreal, Canada, and lives and works in New York City. She was educated at École des Beaux Arts de Montréal and the Montreal Museum School. She attended Black Mountain College in Asheville, North Carolina, from 1950 to 1954, where she studied art with Esteban Vicente, Jack Tworkov, Philip Guston and Franz Kline. However, at Black Mountain College, it was Max Dehn, renowned German mathematician and close friend of Albert Einstein, who made arguably the largest impact on her work, educating her about Pythagorean and Euclidean geometry, group theory, and topology, and the concept of harmonic intervals. Dehn's teachings merged the mathematical world and the natural world, providing her with new and complex approaches to her work. Her studies with Dehn, and her interests in the Golden Mean, astronomy, cosmology, and a life-long fascination with Egyptians' use of proportion and light, have shaped her oeuvre. Working with varied materials including industrial wrinkle-finish paint, tar, carbon paper, and metal as well as natural materials such as canvas, paper, and chipboard, she paints, cuts, draws, folds, and calculates to create complex works of art built upon mathematical foundations.



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Cover: *Geometry of Stardust: Curvature*, 2009–2010, Lascaux Perlacryl and Aquacryl paint, Golden High Load Titanium white, and gold leaf on watercolor paper. 24 ³/₄ x 20 in. (62.9 x 50.8 cm).

Left: *Arcane Egyptian Astronomy*, 2011–2015, Lascaux Aquacryl paint, rolled copper, and gold leaf on watercolor paper. 30 ¹/₂ x 22 ³/₄ in. (77.5 x 57.8 cm).

Far right: *The Mathematical Edges of Maine*, 2014, Colored pencil on paper. 21 x 14 in. (53.3 x 35.6 cm).

Above: *Three Point Manifold*, 2008, Winsor Newton watercolor on Dura-Lar® stretched over canvas. 60 x 36 in. (152.4 x 91.4 cm).

Inside, left: *Conservation Class #9*, 1973, Strathmore 2-ply and graphite, mounted on gessoed Masonite. 34 ¹/₂ x 70 in. (87.6 x 177.8 cm).

Inside, right: *Watermill Series: Mapping the Ancient Origins of Light*, 2013, Colored pencil on paper. 19 ⁷/₈ x 13 ³/₈ in. (50.5 x 34 cm).

All works by Dorothea Rockburne.

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