KALEIDOSCOPE QUILTS
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The Art of Paula Nadelstern

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Every artist must find a voice that feels true and strong. Paula Nadelstern found hers early in her career as a quilt artist, inspired by a bolt of sensuous and beautiful Liberty of London fabric. The bilateral symmetry of the design was an epiphany that stirred Nadelstern’s imagination and that has yielded a seemingly infinite vein of creative expression for more than twenty years. Focusing first on the kaleidoscopic quality in the symmetry, Nadelstern innovated new techniques and developed a highly refined, intricate, and distinctive personal aesthetic. The incorporation of related crystalline forms, notably snowflakes, has continued to lead Nadelstern through an artistic evolution that has encompassed science, history, innovation, and tradition. Each composition offers a fresh revelation of the complexities inherent in Nadelstern’s labor-intensive approach. Minute pieces of fabric are joined like slivers of colored glass into a magical whole, the masterful manipulations of color and pattern resulting in scintillating wheels, shifting ellipses, and other movements across the surfaces of the textiles. Employing a technique that is counter-intuitive to the conventional quilt process, Nadelstern obscures the seams that join pieces of fabric. The effect is a fluid rather than static surface, untethered by restraining grids. The hard-edged, fractal structure of snowflake and kaleidoscopic images might seem inimical to the seductive softness of a quilt, but in Paula Nadelstern’s singular quilt idiom, this provocative tension erases the historical divide between art and quilt.

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Paula Nadelstern (b. 1951) is a native New Yorker, born and raised in the Bronx, where she still resides. The two-bedroom apartment she shares with her husband and, until recently, her daughter has also served as her studio for more than twenty-five years. For much of that time her workspace was constricted to a 42" round kitchen table where she plied graph paper, transparent gridded templates, C-Thru rulers, compass, and sewing implements.

Nadelstern’s first quilt was stitched in 1968 for her bed in her college dorm room. It was not until 1987 that her interest in all things kaleidoscopic was sparked. Kaleidoscopes focus the responses of eye, mind, and heart to a tiny window of colored fragments. Paradoxically, this microcosm fills the vision to the exclusion of all else. The resultant universe of constantly shifting color, light, and pattern is unpredictable yet orderly in its immutable bilateral symmetry. Nadelstern’s process requires that she telescope her own field of vision down to the minutest design elements embedded in complicated fabric patterns. The intimate comfort she has cultivated with the intricacies of kaleidoscopic imagery belies the almost unfathomable complexity of her technique and composition, but it has freed her to recognize the potential for entirely new relationships in the imaginative recombination of bits of fabric.

Over the years, Nadelstern has developed a highly technical system of designing her quilts with an eye toward facilitating the precision of piecing thousands of minute slivers of fabric. The underlying geometry is basic: the pieces of each completed kaleidoscopic motif must equal a 360-degree circle that is set into a constructed field, but within this geometry Nadelstern’s approach is improvisational. Each circle is typically divided into a number of triangular wedges and each wedge is further subdivided into any number of pieces using transparent gridded plastic templates for consistency. The selection and arrangement of fabrics in each wedge have a cumulative effect, as they are multiplied and assembled to form the illusion of concentric rings, and the angle of each wedge must be exact, as any imprecision is also amplified. These motifs must then interact with the field they inhabit; often, there is an element of unpredictability until all the pieces are in place.
The kaleidoscope is a system of two, three, or four long mirrors adjoined at various angles of 90 degrees or less and encased within a cylinder with an eyepiece at one end and a movable object case and light source at the other. The particular selection of colored glass and other objects contained in the case determines the “palette” for the repeated images that are formed in the reflective symmetry set up by the mirrors. The everchanging and stimulating visual effect was the serendipitous discovery of Sir David Brewster (1781–1868), a brilliant Scottish physicist whose experiments with light and optics led to, among other things, the law of polarized light known as Brewster’s Angle. He named his invention for three Greek words meaning “beautiful” (kalos), “form,” or “image” (eidos), “viewer” (scope). By 1816, Brewster had perfected his design for the kaleidoscope but did not anticipate the “Caleidoscope-mania,” as one satirical British print dubbed it, that would be provoked in Europe and abroad. Before he was even able to patent his invention the following year, competitors were commercially producing kaleidoscopes by the thousands.

The kaleidoscope reached American shores by 1818. However, it was not until the 1870s that any significant refinements were innovated. Little is known about Charles G. Bush (1825–1900), whose extraordinary kaleidoscopes sparked a new fad in the United States. Bush, who was not trained as a scientist, developed an idea proposed by Brewster that liquid-filled ampoules in the object case might produce enhanced optical effects. He devised a mix that included around thirty-five solid as well as liquid-filled glass pieces, some of which also contained air bubbles. As the object case was
turned, the liquid provided an additional level of movement that continued even after the object case was still.

The invention of the kaleidoscope coincided in Europe with a growing appreciation of imagination, or fancy, as a handmaid to reason, or rational thought. Late-eighteenth- and turn-of-the-century philosophers and tastemakers increasingly recognized fancy and reason as complementary forces. Fancy tempered the enduring ideals of classicism by stimulating the imagination with visual effects that stirred the senses and inspired wonder. Kaleidoscopic images embodied the very qualities associated with fancy—fleeting, changeable, and delightful—with the virtues of rationality—proportion, symmetry, and beauty. Completing the sympathy between fancy and reason, the images were manifested through light, color, and motion and introduced the qualities of novelty, variety, and wit that were the building blocks of fancy.

In 1819, Brewster published *A Treatise on the Kaleidoscope*. In addition to discussing the scientific principles underlying the instrument, he articulated the many artistic applications that might benefit from the unending library of perfect designs afforded by the kaleidoscope. In particular, he recommended the use of the kaleidoscope in the design of carpets, wallpapers, and other “branches of the useful and ornamental arts.” The kaleidoscope offered an entirely new way of seeing the world. The dazzling abstraction of the imagery had a profound effect on quiltmaking. Inspired by the crystal-cut angles, brilliant colors, and dizzying reflections, women brought a new dynamism into domestic interiors through personalized and individualized quilted expressions that represented nothing less than a revolution in quilt design.
Over many years, Nadelstern developed idiosyncratic techniques and a consistent format of kaleidoscopes scintillating against a neutral—often black or dark—background. In these quilts, the kaleidoscope always appeared in the foreground. It was not until she made this quilt in 1994 that the artist recognized the potential of the background as an active player that could introduce a new level of drama, complexity, and movement.
KALEIDOSCOPE QUILTS

KALEIDOSCOPIC XV: ECCENTRIC CIRCLES

1995 / MACHINE-PIECED AND HAND-QUILTED COTTON, SILK, AND HAND-PAINTED COTTON BY SKYDYES / 75 1/2 x 59" / COLLECTION OF THE ARTIST / PHOTO BY LUKE MULKS AND DIANE PEDERSEN

The kaleidoscopes in this quilt appear to be suspended against a crescent moon and threaten to eclipse the light that gleams in a pale nimbus around each orb. The off-center construction of Eccentric Circles represented a conceptual leap forward for Nadelstern. Both crescent and kaleidoscope share an arc of the outer circumference, with two center points set on the same line but a few inches apart.
KALEIDOSCOPIC XVI: MORE IS MORE

1996 / MACHINE-PIECED AND HAND-QUILTED
COTTON AND SILK / 64 x 64" / AMERICAN FOLK ART MUSEUM, GIFT OF THE ARTIST, 2008.21.1 / PHOTO BY KAREN BELL

Nadelstern revels in sumptuous fabrics, as is evident in this quilt appropriately titled More Is More. Four twelve-sided motifs are centered in the middle of the composition, but their off-center construction creates a sensation that is slightly out of alignment. The elegance of multiple thin wedges is achieved by sewing them into pairs and then uniting each pair under a single triangular patch at the apex. In this technique, twelve 30-degree wedges are combined into six 60-degree wedges, a more manageable number to converge at the center of the mandala. Twenty-nine small, satellite disks spin around the periphery. These incorporate bits of silk to simulate dichroic glass that changes color depending upon the angle of light hitting it.
Nadelstern has experimented with different ways to piece the triangular wedges that are the basic building blocks of the kaleidoscope motif. She is limited by the medium in which she works; too many wedges congregating at the center of a circle result in a bulk that becomes unmanageable. Through trial and error, Nadelstern has discovered that the maximum number of wedges that come together with precision is ten. In *More Is More*, she innovated a technique to increase the number of slender wedges that comprise one kaleidoscope. In this quilt, two 22 ½-degree triangles are united under a single cap of light-color fabric at the apex to create one 45-degree triangle. When multiplied eight times and converging at the locus of the circle, the effect is of a brilliant explosion of light that radiates from the center of each kaleidoscope. In this composition, the mandalas spin off the edges of the quilt against a seemingly random background; only a single kaleidoscope appears in its entirety. To create this effect, sixty-four identical wedges were made that incorporated parts of both kaleidoscope and background, and these were then cut and assembled.
The idea of an asymmetrical spiral may seem inimical to the locus-centric structure of a kaleidoscope, but in Chai Nadelstern innovated a technique that allowed her to be true to the 360-degree circle while visually setting it off-center. Although Nadelstern typically prefers not to exceed ten wedges in a full-scale kaleidoscope quilt, she incorporated sixteen in this yard-square work to produce the effect of a spiral, each wedge the same angle but with a different piecing arrangement. The effect is variously a comet burning through the atmosphere or a many-faceted gemstone. The intensely jewel-like quality of the image, with its impression of thousands of sharp, crystalline fragments, was inspired by the interior of an actual kaleidoscope, Delta II by renowned scopemaker Charles Karadimos. This is Nadelstern’s eighteenth kaleidoscope quilt. The title refers to the Hebrew word chai, which means life. Each Hebrew letter also represents a number: the numerical equivalent of chai is eighteen.
The view from Nadelstern’s kitchen window is a landscaped courtyard with trees and flowers. To conjure up flashes of color from tulips peeping through early-spring foliage, she needed to devise a method that would forgive spontaneity within the rigid geometry of the kaleidoscope. She wanted to achieve the visual impact of ten slender 36-degree wedges but also create a random effect. In a technique she devised in earlier quilts, Nadelstern combined two 36-degree triangles into a single 72-degree wedge by uniting them under a triangular cap at the apex. She conceived of the two triangles that comprised each wedge as independent patterns in a right-hand piece and a left-hand piece. This provided a feeling of improvisation while intensifying the complexity.
KALEIDOSCOPIC XX: ELEGANT AFTER MATHS

1999 / MACHINE-PIECED AND HAND-QUILTED
COTTON, SILK, AND SPECIALTY SILK DYED BY PIECES
OF EIGHT / 61 x 61” / COLLECTION OF THE ARTIST /
PHOTO BY LUKE MULKS AND DIANE PEDERSEN

The kaleidoscope images in this quilt are based upon six 60-degree triangles, and the quilt is constructed in seven rows. Each kaleidoscope block is the same size; the impression of larger and smaller kaleidoscopes, some floating, is accomplished through the selection of fabrics used toward the base of each triangular wedge. Some are pieced with the kaleidoscope design extending to the bottom; when the triangular wedges are assembled they create the illusion of concentric rings. Other wedges draw in the background fabrics so that when they are assembled, the kaleidoscopes appear to be smaller and rotating in space. The shading from dark at the bottom of the quilt to light at the top is effected through a careful integration of fabric segments within both the kaleidoscopes and the background.
The simplicity of a single spiky, six-pointed star stretching across the expanse of this quilt is deceptive. The background is a complex composition of multiple stars made using only three patterned batik fabrics. Dark and light elements within these fabrics were sought out and recombined to shade the background from night to day, dark to light.
The crystalline structure of the snowflake permits Nadelstern to employ techniques she has already devised in her kaleidoscope quilts. The pieced snowflakes pay homage to the photomicrographs of Wilson A. "Snowflake" Bentley of Jericho, Vermont, who captured images of thousands of unique ice crystals between 1885 and 1931. Nadelstern has intuitively limited the quilts in this series to shades of blue and gray that evoke a cold and icy feeling. Each crystal is constructed within a barely distinguishable hexagon. To define the branching, lacy dendrites of the snow crystal while concealing the seams that divide the hexagon from the background, a palette of related indigo fabrics crosses these boundaries.
KALEIDOSCOPIC XXIV: EBB & FLOW

2001 / MACHINE-PIECED AND HAND-QUILTED COTTON AND HAND-PAINTED SILK BY SKYDYES / 59 x 45" / COLLECTION OF THE ARTIST / PHOTO BY KAREN BELL

Nadelstern has explored visual ambiguity since she first embedded a kaleidoscopic motif into a complex field where it became less defined. Obscuring the seams by flowing a color or pattern across the joins, Nadelstern evokes a fluidity that is suggestive of watercolor rather than fabric. The spiky stars are irregular slivers of dark fabric set into the wedges of the mandalas.
KALEIDOSCOPIC XXV: IT’S ABOUT TIME

2001 / MACHINE-PIECED AND HAND-QUILTED COTTON AND SILK / 36 x 36" / COLLECTION OF THE ARTIST / PHOTO BY KAREN BELL

It’s About Time is based upon a four-mirror system, yielding a radically different appearance from the other quilts. In this kaleidoscope system four mirrors are formed into a rectangle. The reflected images travel up and down and left to right in a repeated striped pattern. To simulate this effect, Nadelstern used a repeat of six 3 x 30" rectangular blocks and their six mirror images. When pieced together, the twelve strips form a kaleidoscopic repeat that travels from left to right, with contrasting borders on top and bottom.
In her exploration of the four-mirror system, Nadelstern experimented with the kaleidoscopic effect known as a chorus line. Ten 8 x 50" rectangles in bold colors, five left-sided and five right-sided, were joined to form the repetition. To emphasize the sense of movement, the chorus line is set at an angle and dances off the edges of the quilt.
In the wake of the events of September 11, 2001, the creative act became a gesture of optimism for Nadelstern. The explosive nature of the star in this quilt, completed one year later, is deepened by contrasts of strong colors that are atypical of Nadelstern’s preferred palette. She reinforced the luminous, stained-glass effect by marking some of the divisions with black felt-tip pen, shading some areas with gold permanent marker, couching lines with embroidery thread, and embellishing the center with a scattering of glass beads.
Evocative of the eye of a peacock feather quivering on its long quill, each sweeping curve of The Great Round-Up terminates in a wheeled kaleidoscope. Three different slippery hand-marbled silks were incorporated into the background and used to create the illusion of a light-color curved seam. Twelve sets of 22 ½-degree wedges were pieced in different arrangements and paired into two groups per kaleidoscope.
KALEIDOSCOPIC XXIX: HOW TO PIECE A SPIRAL

2003 / MACHINE-PIECED AND HAND-QUILTED COTTON / 12 x 12" / COLLECTION OF THE ARTIST / PHOTO BY LUKE MULKS AND DIANE PEDERSEN

Inspired by the Japanese raked-sand and rock gardens known as karesansui, Nadelstern creates the illusion of a spiral path in a casual display of skill. The underlying geometry is similar to a spiderweb. Behind the spiral, pieced from a single fabric, the background is formed from a different single rainbow fabric. This technique creates a continuous and visually seamless background but requires that each template be used only once.
A wrought-iron tree grate set into the sidewalk on 53rd Street and 7th Avenue in Manhattan provided the inspiration for this work. Through an ingenious use of cottons in allover patterns and a roll of obi silk in a silver-to-black ombré, Nadelstern created the effect of colorful variegated floral life peeping through the interstices in the grate; the ombré silk gives glints of light to its radiating black spokes.
Nadelstern’s career-long concentration on kaleidoscopic imagery has allowed her to mine similarities and differences that are only revealed as an artist delves deeper. The title of this quilt defines an inversion of Nadelstern’s usual vision, as the circle becomes the negative space rather than the foreground. The structure is based upon an octagon with eight wedges that is built into a square through the addition of four corner triangles. The patterned fabric in a restrained palette is concentrated in the narrow center of each black triangle: Nadelstern tricks the eye into following these straight lines before discovering the circles embedded into the construction.
My Brooklyn Bridge represents a departure because of its concrete imagery and because it incorporates appliquéd elements (the towers of the bridge) and couched threads (the bridge cables). The kaleidoscopic aspect is restricted to the sky, which Nadelstern has interpreted primarily in a mélange of black-and-white fabrics that evoke the classic photograph of the bridge’s distinctive twin Gothic arches, caught in a snowstorm. The kaleidoscope is centered in the upper left quadrant with wedge extensions of various lengths, offsetting the perfect symmetry of the bridge.
The object case of a kaleidoscope may contain whole elements or small fragments of larger objects. Frequently these objects are colored glass in saturated jewel tones that, because of their transparency, allow light to pass through, resulting in the characteristic sharp brilliance of reflected kaleidoscopic imagery. In this quilt, the idea of fragments is interpreted literally. The kaleidoscopes are “broken” into pieces and “cemented” back together with irregularly stitched silver-gray fabric. The broken shards required the creation of entire triangular wedges that were then deconstructed and reassembled into shattered mandalas. The labor-intensive process required eighteen months to complete.
NINE KALEIDOSCOPIC BLOCKS

2008–2009 / MACHINE-PIECED COTTON AND HAND-MARBLED SILK BY COSETTE / 00 x 00” EACH / COLLECTION OF THE ARTIST / PHOTOS BY TK

These nine blocks represent some of Nadelstern’s most beautiful, richly colored, and complex kaleidoscopic images. The installation mimics the grid structure of a block quilt while maintaining the autonomy of each mandala on its own terms.
KALEIDOSCOPE QUILTS

TWO KALEIDOSCOPIRIC BLOCKS
2008-2009 / MACHINE-PIECE COTTON AND HAND-MARBLED SILK BY COSETTE / 00 x 00" EACH / COLLECTION OF THE ARTIST / PHOTOS BY TK
KALEIDOSCOPE INTERIOR: SYMBICOPTIC
RANDY AND SHELLEY KNAPP, KNAPP STUDIOS / BROOKINGS, OREGON / 2007 / PHOTOGRAPH BY RANDY KNAPP

KALEIDOSCOPE INTERIOR: KARASCOPE
CHARLES KARADIMOS; DAMASCUS, MARYLAND / 2007 / PHOTOGRAPH BY THE ARTIST

KALEIDOSCOPE INTERIOR: TAPESTRY UNFOLDS II
STEVE AND PEGGY KITTELSON, WOODLAND GLASS / CLERMONT, IOWA / 2007 / PHOTOGRAPH BY STEVE KITTELSON

KALEIDOSCOPE INTERIOR: ORIGINS
AL TEICH / BETHESDA, MARYLAND / 2005 / PHOTOGRAPH BY THE ARTIST

KALEIDOSCOPE INTERIOR: CLASSIC SERIES #4
CHARLES KARADIMOS / DAMASCUS, MARYLAND / 2006 / PHOTOGRAPH BY THE ARTIST

KALEIDOSCOPE INTERIOR: CLASSIC SERIES #8
CHARLES KARADIMOS / DAMASCUS, MARYLAND / 2007 / PHOTOGRAPH BY THE ARTIST