

From Ruler to Tape: Stops and Starts in the History of Painted Abstraction

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for Sir Robert Bruce-Gardner

Beginning with Wassily Kandinsky's display of *Komposition V* in Munich in 1911, often considered the moment of abstract art's birth, artists of the pioneering abstract generation gradually began to unify in their desire to sever all ties to figuration. But with the loss of easily identifiable motif arose the question of what their subject matter was going to be instead. The fear of being decorative loomed large and never really went away. Very broadly speaking, discussions among abstract artists early on divided them along ideological fault lines: on one side, defenders of a romantic-metaphysical attitude, and on the other, proponents of a more rational-mathematical approach. This division persisted through much of the twentieth century, and Kandinsky's emphasis on "inner essence"¹ was, on some level shared by Kazimir Malevich, Piet Mondrian, Joaquín Torres-García, the majority of painters at the Bauhaus, Abstraction-Création, and Cercle et Carré, as well as Barnett Newman and Mark Rothko. The other group embraced Aleksandr Rodchenko's "spatial sharpness" and included constructivists, Theo van Doesburg, Georges Vantongerloo, László Moholy-Nagy, many members of the American Abstract Artists group, Max Bill, Latin American concrete artists, and op and minimalist artists.²

The observations presented here are based on the examination of hundreds of paintings in public and private collections as well as foundations in the United States, Europe, and Latin America.³ Temporarily grouping abstract artists into those who adhered to intuitive composition and those who advocated scientific construction of course entails problems, such as a loss of nuance and the limitation of the discussion to a fraction of the painters actually studied. However, as I will show, this grouping is based on the significant similarities and differences of the artists' approach to painting technique, and my hope is that this sketching in very broad strokes within the scope of this essay can be a first contribution to the technical art history of the wider panorama of twentieth-century abstraction (including a number of artists whose works have not yet been studied from a technical point of view). Since traditionally artists' statements about their motivations for particular technical choices have not been the subject of art-historical discourse—although surprisingly many such statements have been recorded throughout time—it is instructive to see how strongly many of the artists discussed here felt about them in relation to their pursuit of larger artistic goals.

The severe reduction of these artists' visual vocabulary to geometric forms sharpened their awareness of the compositional importance of the line and how it is materially communicated in paint. Among abstract artists of the first generation, whether a line was painted with the help of a ruler or painted freehand would come to be seen to indicate anything from an artist's ideological affiliation to a character trait. Critic Rafael Benet emblematically wrote, in the context of Torres-García, that artists who paint with rulers are "cold, soulless people."⁴ Josef Albers recalled that, early in his career, he objected to van Doesburg's "cruel insistence on just straight lines and right angles. It was for me just mechanical decoration."⁵ However, by 1942, Albers had come to recognize that the straight lines he made in a series of zinc lithographs with a ruler and ruling pen "establish unmodulated line as a legitimate artistic means. In this way they oppose a belief that the handmade is better than the machine-made . . . In this age of industrial evolution both methods have their merits."⁶ And with the invention of pressure-sensitive tape in the United States in the 1930s, the degree of perfection with which a straight line, border, or edge can be executed was immeasurably heightened. If an artist chose to work with this, perhaps the most groundbreaking painting tool of the twentieth century, depended to a large extent on the alignment with one or the other strand of abstract legacy. In other words, before the 1930s, the defining question was whether a ruler had been used, whereas after the 1930s one would have expected it to revolve around the use of tape. As it turned out, however, some historic developments and two seminal figures, Mondrian and Newman, complicated this narrative.

Mondrian stated in 1919 that the straight line is a stronger and more profound expression than the curve "because all curvature resolves into the straight, no place remains for the curved."⁷ To perceive in such opposing or complementary pairs is one of several strategies through which humans process complex experiences.⁸ This activity of abstraction is expressed in artistic visual terms through the geometric forms of a circle, square, and triangle. The majority of artists examined in this study have shown a predilection for the building block of the latter two, a straight line. A line, as defined by Euclid, is the shortest distance between two points. It has no depth or width and therefore constitutes a purely mathematical concept. A line delineates the edges of a plane in space, while a plane without depth would be the shadow of an object. However, as soon as a painter realizes a line in paint, the material itself introduces depth. Strictly speaking, then, a line in painting cannot exist; it is only ever encountered as the outside limit of an area, as a border or an edge. This observation lies at the heart of Paul Cézanne's paintings, which led Barnett Newman to declare in an essay about the problem of subject matter that "Cézanne was the first artist to comprehend that in nature there are no lines. Herein lies the significance of his remark that nature is a collection of cubes, cones, and spheres. He saw the world as it is, mass instead of contours. Line could not count; not one exists in nature. It was what was between the lines that mattered."⁹ Throughout their careers, Malevich, Mondrian, and Newman addressed the problem of figure-ground opposition, of how lines and bands relate to adjacent fields in various



Fig. 1. Detail of *Untitled*, Mark Rothko (American, 1903–70), 1964, acrylic and casein on canvas, 236.2 × 203.2 cm. New York, Metropolitan Museum of Art. Photo: author.

but sometimes very similar ways, for example by creating a continuous paint surface in which the edges of geometric shapes, bands, or zips lie in the same plane as the borders of the fields rather than standing proud.

The fewer compositional elements there are in an artwork, the more attention an artist must lavish on their precise execution. The spectrum of line qualities starts at one end with a meandering, blurry, or otherwise clearly hand-painted line. Many would consider such an edge organic, as it highlights the individuality of expression. Such edges are, for example, found in Rothko's paintings (fig. 1) and, although not as self-evident, also in paintings by Josef Albers, who worked with palette knife and pencil lines to guide his very practiced hand. At the other end of the spectrum is the perfectly straight line, of mechanical precision and devoid of subjective inflection, which can be perceived as scientific or industrial. The underlying assumption is that there are no naturally occurring straight lines in nature, as Newman stated via Cézanne, although scientists still hotly debate

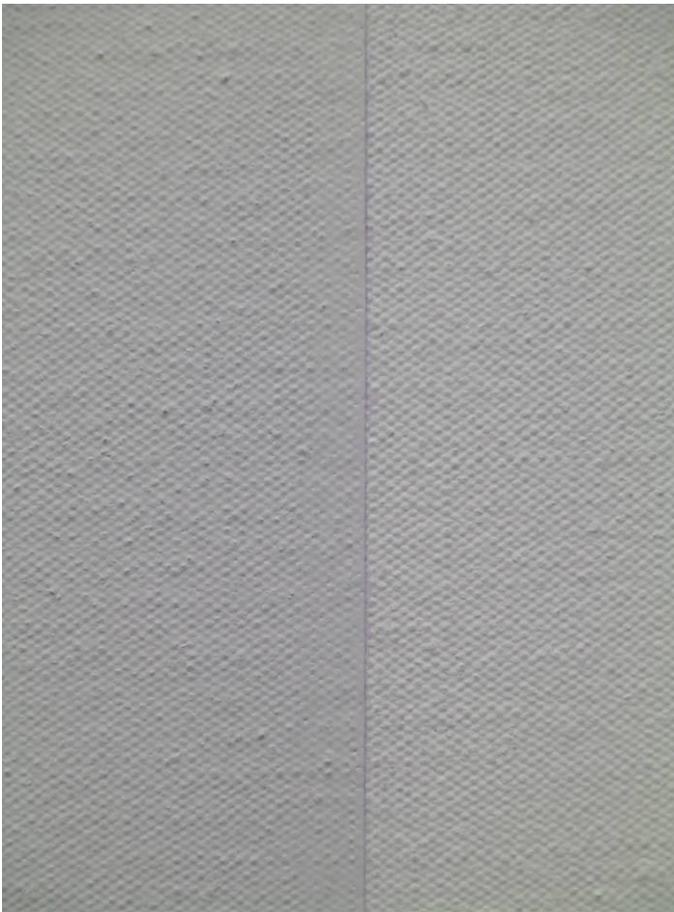


Fig. 2. Detail of Station XIV of *Stations of the Cross*, Barnett Newman (American, 1905–70), 1965–66, acrylic and Duco on canvas, 198.1 × 152.2 cm. Washington, D.C., National Gallery of Art. Photo: author.

this issue. A taped line by Newman can represent such an approach (fig. 2). Our eyes are attuned to how the use of straightedges and tape results in sharp, raised paint ridges that catch the light differently from either freely brushed, flatter borders, or rounder edges drawn with a ruling pen. Furthermore, as art historian Yve-Alain Bois has pointed out in the context of Newman’s work, fuzzy limits “dim chromatic and value contrasts,” while sharp edges “increase chromatic weight.”¹⁰

Inscribed into the development of abstract art was from the outset an ideological subtext to technical choices on the artists’ part—whether somebody reached for a straightedge was no longer simply a question of personal preference. A case in point are the disagreements between Rodchenko and Kandinsky, who from around 1919 argued not only about whether a ruler was “the most primitive of instruments,”¹¹ as Kandinsky insisted, but also about whether what the Russian avant-garde called *faktura*—surface texture such as “impasto, priming, glazing, highlighting, and layering”¹²—was a legitimate modern choice. Naturally they never reached agreement because the argument

ultimately came down to whether a work of art was seen as an agent of spiritual cognition or as an agent of social transformation. Hence their battle over seemingly irrelevant pictorial means amounted to more than a mere proxy war: they fought over which pictorial expression was best suited to carry which artistic purpose. That lines between these factions could not always be perfectly drawn, metaphorically speaking, is evident in the fact that until 1933 Kandinsky himself made ample use of ruler and spring compass, such as for the many circles that appear in his paintings after he joined the Bauhaus faculty in 1922. Yet Kandinsky, like Paul Klee, never renounced combining sharply outlined forms with soft impasto, shading, and borders painted freehand.

The first generation of abstract artists, active before World War II, was able to choose from a wide array of technical tools and methods: mahlstick, snap line, ruling pen, or straightedge (ruler, set-square, T-square, spirit level, cardboard edge, or any other mechanically cut sheet material). An artist working today, however, can also opt for pressure-sensitive tape, of which the currently available variety exceeds three thousand options. The two kinds of tape most relevant to artistic practice in the twentieth century are Scotch tape (along with other common brands of cellophane tape, such as Sellotape and Tesa) and masking tape.¹³ Both kinds of tape were invented by a young employee of 3M in Minnesota, Richard G. Drew. While it is easy to establish that Scotch tape successfully entered the general market in 1930, the distribution of masking tape is more difficult to trace. A first version of it was devised in 1925, followed by crucial improvements until 1935, when the initial adhesive, a glue-glycerine solution, which dried out too quickly, was replaced with a formula of rubber and “special resins.”¹⁴ But initially it was sold exclusively to automobile manufacturers, who used it for spray-painting car bodies, and during World War II, supplies were largely reserved for the military.¹⁵ 3M’s main competitor, the German company Tesa, began to produce its masking tape called TesaKrepp in 1936, but company records indicate that it was also first distributed only through the technical trade.¹⁶ Taking into consideration the lag time between the companies’ application for patents, marketing for specialized audiences, wartime shortages, and distribution to hardware stores nationwide, in all likelihood masking tape became widely available no earlier than the late 1930s to early 1940s.

Until then, a straightedge would have been the natural choice for most artists who considered themselves what van Doesburg would term in 1930 “concrete.” We would expect pressure-sensitive tape to have become the tool that any self-respecting artist working in that vein, refusing to relate to nature as an exterior referent, would choose *de rigueur*. This is essentially what, in the 1950s, indeed happened in Europe and North and Latin America,¹⁷ but not, again, without delays and some exceptions. It took the pioneering painters some time to develop a new consciousness, and the corresponding skill, to master the full repertoire of tools and techniques.

Which artist was the first to blaze a trail? Despite several publications dedicated to Mondrian’s painting process,¹⁸ the assumption is still widespread that he used pressure-sensitive tape to paint the black and colored bands of his neoplastic works.

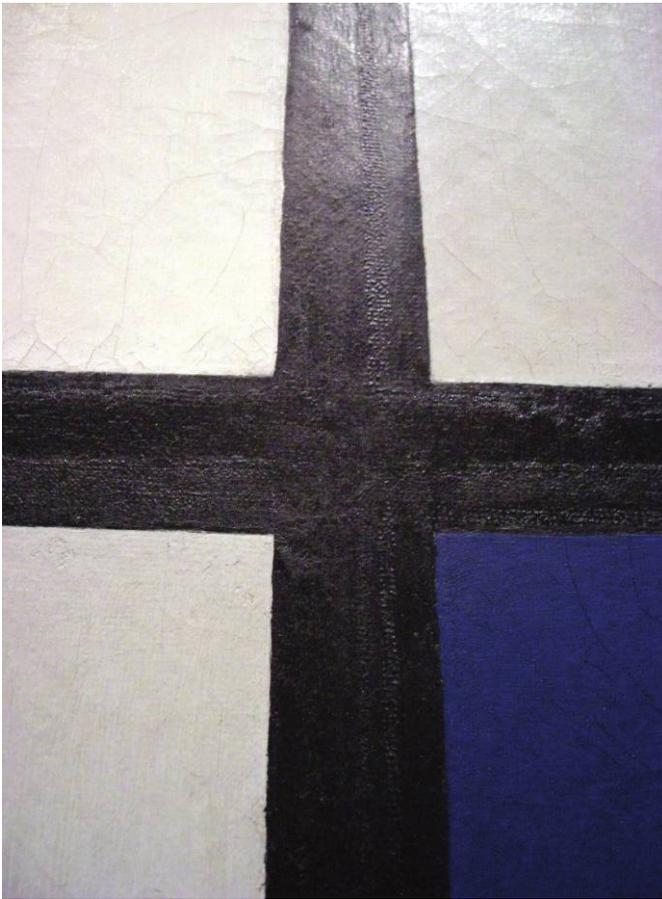


Fig. 3. Raking light detail of *Tableau No. IV; Lozenge Composition with Red, Gray, Blue, Yellow, and Black*, Piet Mondrian (Dutch, 1872–1944), ca. 1924/25, oil on canvas, 142.8 × 142.3 cm. Washington, D.C., National Gallery of Art. Photo: author. © 2017 Mondrian/Holtzman Trust.

Yet documentary evidence as well as close examination of the works themselves show that he never went that far. It is fair to ask why he did not, given his enthusiasm for the supposed efficiency and flexibility that this most American of discoveries (along with boogie-woogie) afforded him upon his arrival in New York in 1940. Beginning in the 1920s, Mondrian had worked out his neoplastic compositions by moving paper strips on top of a stretched, primed canvas to figure out the exact placement of the black lines.¹⁹ When satisfied, he would demarcate the position of the lines with charcoal and a straight-edge and, after more fine-tuning, proceed to paint the vertical and horizontal lines with black oil paint. By 1921, he had introduced his “classic” white planes, and the edges of his bands had also become visibly straighter, suggesting that he started to employ some sort of straightedge (fig. 3). A photo from 1937 in fact shows Mondrian standing stiffly erect in his studio in front of several works, and a long bar, made from metal or wood, juts out from beneath a palette on a table. The only other record of the existence of such an aid goes back to the painter Susie Frelinghuysen, who on a visit to Mondrian’s New York



Fig. 4. Detail of *Suprematism (18th Construction)*, Kazimir Malevich (Russian, 1878–1935), 1915, oil on canvas, 53.3 × 53.3 cm. Private collection. Photo: author.

studio in the early 1940s was impressed by “a long flat bar with no markings on it, which Mondrian used not for measurement, but to make a straight edge.”²⁰

The characteristic edge that the use of a flat bar normally produces in combination with oil paint is, however, only seldom encountered in his paintings. This is likely due to the fact that Mondrian was a slow fiddler, going over the same areas countless times as well as scraping away overworked fields. He sometimes chose to extend the width of a line by just a millimeter or two. Yet another unmistakable side effect of his technique is the clean abruptness with which, from approximately 1932 onward, brushstrokes in colored fields stop at an edge, seemingly cut off at a perpendicular angle. The same effect can be observed in suprematist paintings by Malevich, who used both a cardboard edge and a *trafaret* (Russian for “template”) in combination with pencil lines from 1915 onward.²¹ Occasionally, Malevich created slightly raised, round ridges where the brushstrokes continued onto the cardboard, as well as small suction marks that were the result of his lifting the cardboard from still-wet oil paint (fig. 4).

But while Malevich died in 1935, before the invention of tape could reach him in the Soviet Union, new research suggests that Mondrian was introduced to it by Josef Albers or Harry Holtzman. According to Nicolas Fox Weber, director of the Josef and Anni Albers Foundation, Albers apparently invited Mondrian soon after his arrival in the United States in 1940, to exhibit at Black Mountain College, where Albers had been teaching since 1933. Several months later, Mondrian confessed that, because of his excruciatingly slow process, he was far from being able to furnish enough work for the exhibition. At this point Albers suggested that Mondrian use black electrical tape to speed up the

process of placement and changes to band width. Mondrian is said to have responded that he could have saved himself a lot of time had he known about this material twenty years earlier.²² It is important to note that Albers, who apparently never used tape himself and who taught generations of artists how to paint a straight line freehand, did not suggest that Mondrian actually paint with it. Incongruent in this narrative is that Mondrian only finished three new paintings during his New York period of three and a half years. Even when taking into account the time spent reworking his so-called transatlantic paintings and beginning to compose the unfinished paintings, three paintings is not many, even for a circumspect worker like Mondrian. Any initial gain in time was eventually canceled out by the overriding bonus of being able to increase the complexity of his compositions. Thus the tapes held only the promise of efficiency.²³

A second anecdote credits Mondrian's close friend, the painter Harry Holtzman, with introducing him to black photographic tape. Holtzman himself made ample use of various kinds of pressure-sensitive tape in his paintings, and Mondrian would have encountered this material on one of the frequent studio visits the artists paid each other in New York.²⁴ The half-inch crepe-paper photographic tape in all likelihood nudged Mondrian toward a new band width (half an inch), allowed him to extend the bands onto the tacking margins, and helped resolve the increasingly complex cross-overs of colored lines. He could quickly displace a bit of torn tape rather than painstakingly scrape off paint, and he could work out his compositions to scale and in the correct color scheme. It is not too far-fetched to assume, as has the art historian Harry Cooper, that the possibility of working with colored tape was a major factor in Mondrian's final step toward the abandonment of grids altogether.²⁵ Bois writes in his masterful study of *New York City* (1942) that Mondrian's work experienced a momentous shift in 1934, when he moved from considering lines as "secondary" to planes to rendering lines "the most active element of composition."²⁶ What followed was the abolition of lines as rectangles and forms through "nonmodular repetition."²⁷ The braiding of primary-colored tapes in the process of making *New York City* allowed him to completely dissociate color and line, which led to the chain reaction of the "destruction of space by planes, of planes by lines, of lines by repetition."²⁸ But until the end he never used any tape, be it colored paper tape, electrical tape, or the black "Scotch Photographic Tape" that can be seen in a photograph of his studio,²⁹ to delineate the bands while actually painting them. It is this insistence on discreet vestiges of manual craftsmanship that horrified some of his young admirers and colleagues from Latin America, for instance Alfredo Hlito, when they first experienced his work in person rather than through black-and-white reproductions.³⁰

It leaves us to wonder if Mondrian's reluctance to take this next step is what also kept his younger admiring neoplasticists away from tape for some time. Mondrian's influence cannot be overestimated, but as the art historian Nancy Troy has demonstrated, "the marked changes in Mondrian's late work were due in part not only to his residence in New York but also to his interaction with some of the younger American modernists who befriended him there."³¹ In 1936, they formed the American Abstract Artists group

as a means to create a unified voice and platform in a New York art world largely hostile to their aims. Members included Albers, the so-called Park Avenue cubists such as Frelinghuysen and Charles Shaw, Burgoyne Diller, and Holtzman. Of the works examined for this study, the earliest painting identified as comprising straight edges painted with pressure-sensitive tape is by Holtzman: *Square Volume with Green*, in the Whitney Museum of American Art's collection and dated to 1936–37 (fig. 5). The composition of three parallel, horizontal black bands above a vertically oriented rectangle on a white background was painted with the help of Scotch tape or electrical tape.³² There is also evidence that Diller, who introduced Holtzman to Mondrian's work in December 1933 while they were both students at the Art Students League, worked with black tape in

Fig. 5. Harry Holtzman (American, 1912–87). *Square Volume with Green*, 1936–37, oil on composition board mounted on wood, 60.3 × 60.3 cm. New York, Whitney Museum of American Art. Harriet Rew Wood Bequest 93.126. © The Estate of Harry Holtzman. Digital Image © Whitney Museum, N.Y.



paper collages from about 1937 onward.³³ Every other member of the American Abstract Artists group seems to have avoided tape, at least this early on.³⁴

Although Newman and Mondrian both lived in New York City in the early 1940s, they kept at a distance. They did not share views on the function of primary colors or on the question of which modern craft tools were permissible.³⁵ But more than they cared to admit, they both worked toward transforming lines into color planes.³⁶ Without a doubt, it was Newman who ultimately made taped edges respectable, by sheer authority of his creative legacy. He inexorably changed the way we perceive the quality of a line or edge and what they enunciate in the abstract tradition. The first existing evidence of his use of tape is an untitled work on paper from 1946, in which he employed it to block out two vertical shafts of light surrounded by black ink. Throughout that year, he continued to experiment with tape in both works on paper and on canvas, but two characteristics of the early composition would recur henceforth in his oeuvre: the use of low-tack masking tape for what it was originally intended: to mask, to put in reserve; and the acceptance as well as provocation of so-called bleed or seepage of the medium.³⁷ His subsequent exploits in oil and acrylic paints on canvas have been described as eloquently and exhaustively,³⁸ and his unlimited creativity and mastery throughout the 1940s, 1950s, and 1960s remains unparalleled.

Two of Newman's early pictures stand out because he incorporated actual strips of two-inch-wide masking tape: *Onement I* (1948) and *Concord* (1949). Much has been written especially about the former, as it marked Newman's breakthrough and return to painting after a long personal crisis. Using a spatula, he spread viscous cadmium orange oil paint on top of a strip of vertical tape in a downward cascade (fig. 6). The "zip," as he would call these narrow bands from 1966 onward, sits amid an expanse of monochrome dark red. He took care not to overstep the boundaries of the tape, and there is a sense of lightness due to the occasional shimmering through of the beige undertone wherever the paint grows thin. Quite possibly it was the bodily presence of the tape that made him realize that the band acted as a unifying, not dividing, element.³⁹ Everything depended on how successfully the edges of this plane of color, regardless of how narrow, related to the rest of the composition. In *Concord*, the second work in which tape is still present, Newman centrally placed two vertical parallel strips of masking tape and surrounded them with swirls of green dilute oil paint. He incorporated the tapes with feathery strokes but was careful to leave most of the center sections untouched.

Newman believed in the potential of abstract art to convey metaphysical truths. That, for him, meant giving up all figurative and narrative elements in favor of images of "revelation, real and concrete."⁴⁰ One way in which Newman hinted at this otherworldly dimension was through titles. They often refer to antiquity or the Old Testament. The unusual shared presence of tape in *Onement I* and *Concord* raises the question of whether the paintings share a theme in addition to their pure bilateral symmetry.⁴¹ *Onement I* was originally called *Atonement*, which derives from the word "at-one-ment."⁴² To be "at one" in the sense of to be "in harmony" or "in concord" is a medieval English idiom,



Fig. 6. Detail of *Onement I*, Barnett Newman (American, 1905–70), 1948, oil on canvas, 69.2 × 41.2 cm. New York, Museum of Modern Art. Photo: author.

and “at-one” as a transitive verb means to achieve a state of reconciliation between two parties. In the Kabbalistic tradition, this reconciliation with God is achieved by atonement on Yom Kippur, so that one can be renewed and live again in concord with God’s wishes. This desire for a state of unity, in the face of the inability to overcome the duality of human existence as a body separate from God, is succinctly expressed in the solid bands within space. “I don’t manipulate or play with space. I declare it,” said Newman.⁴³

Moreover, the somewhat naturalistic, atmospheric space *Concord* articulates relative to *Onement I* and all other works to follow provides a second level of reading: In 1936, Newman and his wife Annalee travelled to the town of Concord, Massachusetts, for their honeymoon. They chose Concord because it was the town where, along with Ralph Waldo Emerson and Nathaniel Hawthorne, philosopher Henry David Thoreau had lived and written. Thoreau’s transcendental philosophy of nature and the human condition, as explored in his works *Walden* and *Civil Disobedience*, strongly appealed to Newman, and so it was fitting for the newlyweds to celebrate their marital union there. Newman had a lifelong preoccupation with the subject of creation, which in the Judeo-Christian tradition begins

with Adam and Eve, a subject Newman would explore in two paintings shortly after *Concord*, in *Eve* (1950) and *Adam* (1951–52). Although the two parallel zips in *Concord* cannot be read as literal embodiments or symbols, the tapes in both *Onement I* and *Concord* have a corporeal presence. It is somewhat mitigated by the treatment of the edges—in the former by limiting the cadmium orange to a meander, in the latter by partially extending the green swirls of the field over the edges of the tape. Beginning with *Abraham* (1949), Newman would solve the figure-ground problem by embedding a glossy black band of paint level into the matte black surface, making it a “black next to black” picture, in Bois’s words,⁴⁴ as well as by provoking paint bleed to soften the perception of lines toward a perception of fields. Newman began to feel free to make any kind of a line because he realized that, as critic Aline Louchheim quoted him as saying, “line, intensely concentrated upon, can become a pure means of conveying emotion.”⁴⁵ This realization is perhaps one of Newman’s most important contributions to the history of abstraction. It voided the dichotomy that had beset the earliest pioneers and that divided the world of abstraction throughout the first half of the twentieth century. Newman’s highly disciplined exercise of freedom made it possible for painters, even those of his own generation, to explore each and every possibility of line without any further need for ideological alignment.

This liberation to some degree soon played out in Rothko’s work, where razor-sharp edges appear late and all of a sudden. Beginning with the paintings of the Rothko Chapel in Houston, painted between 1964 and 1967, and continuing until his death in 1970 with the starkly reduced, mostly bichromatic works in which he left the outer edges of the support unpainted, Rothko used tape to define the circumference of the painted forms. A group of thirteen works on paper at the National Gallery of Art in Washington, D.C., are an impressive documentation of his creativity with the new tool, applying it to more pragmatic purposes such as defining the beginning of a turnover edge, and to a variety of edge treatments such as double taping, extensive bleeds, or freehand brushwork on top of taped edges. And yet, although Rothko evidently felt that he had added an important visual idiom to his repertoire, he always avoided using tape for internal composition devices such as horizontal edges of forms. He also did not see any reason to abandon his previously acquired, finely honed skill, the mastery of veil-like gradations, which had made him, in Mel Bochner’s view, “the greatest painter of edges since Rembrandt.”⁴⁶ In his roughly six years of experimentation with tape, Rothko never caught up with Newman’s decade-long experience in manipulating bleed; in many paintings, Rothko over-painted some of the seepage when it exceeded a certain amount. Yet he persisted with this new line of inquiry, as he had come to consider tape an indispensable addition to the toolbox of any modern painter. It represented, for him, a way of carving out a place in the discourse of modern abstraction—at the forefront of a new group of daring artists such as Frank Stella and other minimalists. One of his assistants on the Rothko Chapel commission, Roy Edwards, relayed that Rothko “liked to joke about masking tape being the foundation of modern art. ‘What would painters do without masking tape, these days?’ he’d say.”⁴⁷

And indeed, contemporaries of Rothko's working in the minimalist vein remained engaged in discussions about whether a bona fide painter would resort to this "anti-human" material, as Brice Marden has been quoted as saying.⁴⁸ Since the beginning of her career, Bridget Riley, along with assistants, has gone to extreme lengths to create edges as straight as humanly possible with the help of a ruling pen because in her view tape "leaves an unsightly ridge on the edge of the band and creates a mechanical effect."⁴⁹ The ruling pen as a traditional drafting tool, once popular with architects and graphic designers, cohabits more harmoniously than tape with her drawing-based practice. Jo Baer equally distances herself from tape use in her minimalist paintings of the 1960s because "if you use the hand, there's always an unevenness. The line becomes alive because it always changes."⁵⁰ Agnes Martin, on the other hand, came, like her friend Newman, to different conclusions at different times, letting herself be guided by nothing but inspiration. The outlines of the two large rectangles in *Heather* (1958), for instance, are characterized by imperfectly drawn straight pencil lines, for which she might have tensioned a thread across the surface of the canvas to guide her hand (fig. 7).⁵¹ A similar renunciation to an utmost degree of perfection can be observed in Martin's grid and banded paintings,

Fig. 7. Detail of *Heather*, Agnes Martin (Canadian-American, 1912–2004), 1958, oil on canvas, 177.8 × 177.8 cm. Private collection. Photo: author.



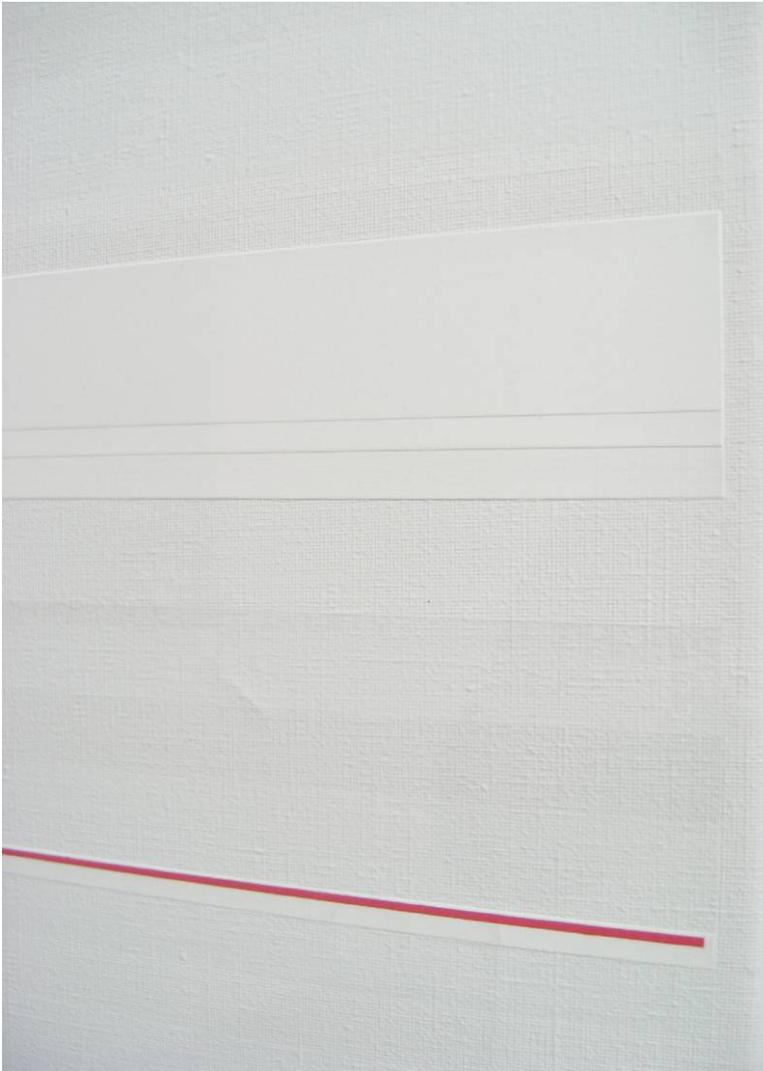


Fig. 8. Detail of *Friday*, Richard (Show Yu) Lin (Chinese, 1933–2011), 1973, oil on canvas, 63.5 × 63.5 cm. Cambridge, U.K., Fitzwilliam Museum. Photo: author.

in which she neatly drew the compositions with a straightedge and graphite or colored pencils, with the pencils skipping over the nubs of the canvas weave. In order to avoid bowing of her stretched large-format canvases from the late 1960s onward, she used rulers sometimes as short as twelve or fifteen inches, working her way across the length of a line in partially overlapping sections. Over the course of her long career, Martin found a multitude of functions for masking tape: for example, temporarily applying strips along the edges of a work with pencil marks that indicated the spacing between lines or bands; as a visual orientation guide while drawing the lines with a straightedge;⁵² and for actually painting sharp-edged bands, without, however, ever creating a mechanical edge, such as in *Untitled #1* (1989), or the late *Homage to Life* (2003). While in *Heather* the pencil lines have a lyrical quality, gently framing the diaphanous ochre and light-brown forms, the

consistent paint bleed along the edges of the black trapezoid in *Homage to Life* mitigates the otherwise stark contrast between figure and ground. The art historian and Martin scholar Tiffany Bell has observed that Martin let the paintings themselves dictate her painterly means, rather than any preconceptions about technique. She was exacting in her quality control, even if this desire for consistency meant destroying a work and starting anew.⁵³

This brief survey of painting technique in the history of twentieth century abstraction concludes with Taiwanese-born artist Richard (Show Yu) Lin (1933–2011), whose works made in the United Kingdom in the 1960s and 1970s allow a glimpse of what exceptional heights the skilled use of tape can reach once liberated from ideological constraints. Lin's *Friday* (1973) is a minimalist meditation on the color white. On top of carefully stretched and primed canvas, the artist used a palette knife to apply multiple layers of oil paint in a succession of partially superimposed bands (fig. 8). Because of the prevalence of white and gray hues, the eye of the observer only slowly discerns the stepped composition, which was arrived at solely through eye measurements. The artist cut strips of regular three-quarter-inch-wide Sellotape into the correct lengths.⁵⁴ The crimped paper of masking tape would have left a slightly ribbed edge in paint, whereas cellophane permitted the crispness and clarity witnessed here, even in the exceedingly narrow yellow and red bands. Lin's superior artistry is testament to the fact that, in the right hands, the mundane, industrial material tape can open up a view into the Sublime. The path to it was paved by Newman's *Onement I*, a work that the painter David Reed sometimes considers "an altar for the worship of tape."⁵⁵

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- Notes**
1. Wassily Kandinsky, *Concerning the Spiritual in Art* (New York: Dover Publications, 1977), 1.
 2. Aleksandr Rodchenko, "A Laboratory Passage Through the Art of Painting and Constructive-Spatial Forms Toward the Industrial Initiative of Constructivism," in *Aleksandr Rodchenko: Experiments for the Future; Diaries, Essays, Letters and Other Writings*, ed. Alexander Lavrentiev (New York: Museum of Modern Art, 2005), 131.
 3. The author would like to thank the following individuals for their very generous research support and their sharing of comments and insights, as well as providing access to works: Jo Baer, Rachel Barker, Julie Barton, Tiffany Bell, Jakob Bill, Mel Bochner, Aviva Burnstock, Sir Robert Bruce-Gardner and the Trustees of the Caroline Villers Research Fellowship in Technical Art History at the Courtauld Institute of Art, Kurt Christian, Jim Coddington, Bradford Epley, David Grosz, Madalena Holtzman and Gian Marco Matteuzzi, Narayan Khandekar, Annette King, Maria Kokkori, Jay Kruger, Katya Lodge, Petra Mandt, Carol Mancusi-Ungaro, Gillian McMillan, Hattula Moholy-Nagy, Frances Morris, Andrew Perchuk, Mary Kate O'Hare, David Reed, Matthew Skopek, Ron Spronk, Carol Stringari, Dan Sturgis, Alan Turner, Nicolas Fox Weber, and Semir Zeki.
 4. Rafael Benet, *Torres-García, In Memorium II* (Barcelona: Destino, 1949), 14.
 5. Josef Albers quoted in Neil Welliver, "Albers on Albers," *Art News* 64 (1966): 50.
 6. Josef Albers, "Synopsis," in François Bucher, *Josef Albers, Despite Straight Lines: An Analysis of His Graphic Constructions* (Cambridge, MA: MIT Press, 1977), 10.

7. Piet Mondrian, "A Dialogue on Neoplasticism," trans. Hans Jaffé, in Jaffé, *De Stijl* (New York: Abrams, 1971), 119.
8. Neurobiological research shows that our visual brain possesses a large number of orientation-selective cells specialized in line perception that enable us to perceive with great acuity vertical, horizontal, and diagonal lines, whereas no cells have yet been discovered that focus on curves. See David Hubel and Torsten Wiesel, "The Ferrier Lecture. Functional Architecture of Macaque Monkey Visual Cortex," *Proceedings of the Royal Society*, ser. B, 198 (London, 1977): 8; and Semir Zeki, *Inner Vision. An Exploration of Art and the Brain* (Oxford: Oxford University Press, 1999), 116. For a more detailed discussion of these scientific discoveries in relation to contemporary painting practices, see also my forthcoming essay "Linking Neuroscience and a Psychophysical Test on Line Perception to the Use of Self-adhesive Tape in Contemporary Painting," in *El Anuario del Instituto de Investigaciones sobre Patrimonio Cultural, Universidad Nacional de San Martín*, vol. 4 (Buenos Aires: UNSAM, 2017), 34–58.
9. Barnett Newman, "The Problem of Subject Matter" (n.d.), in *Barnett Newman: Selected Writings and Interviews*, ed. John O'Neill (New York: Knopf, 1990), 83.
10. Yve-Alain Bois, "Newman's Laterality," in *Reconsidering Barnett Newman*, ed. Melissa Ho (New Haven, CT: Yale University Press, 2002), 38, 39.
11. Kandinsky, quoted in Kenneth Lindsay and Peter Vergo, *Kandinsky: Complete Writings on Art* (London: Faber & Faber, 1982), 426.
12. Rodchenko, "The Line" (1921), in *Rodchenko and Popova: Defining Constructivism*, ed. Margarita Tupitsyn, exh. cat. (London: Tate Publishing, 2009), 163.
13. The difference between these tapes lies in the combination of backing material and adhesive, which leads to varying degrees of tack and susceptibility to solvents. The natural-rubber-based adhesive of masking tape in the 1930s has since been replaced by formulations of synthetic rubber, acrylic polymers, or silicone.
14. Virginia Huck, *Brand of the Tartan: The 3M Story* (New York: Appleton-Century-Crofts, 1955), 137.
15. Huck, *Brand of the Tartan*, 130–48.
16. Cornelia Graudenz, Tesa Consumer Division, e-mail message to the author, 14 March 2013.
17. For a discussion of the painting techniques of Max Bill and Concrete artists in Argentina, Uruguay, and Brazil, see Pia Gottschaller, "Making Concrete Art," in *Making Art Concrete: Works from Argentina and Brazil in the Colección Patricia Phelps de Cisneros*, ed. Pia Gottschaller, Aleca Le Blanc, Zanna Gilbert, Tom Learner, and Andrew Perchuk, exh. cat. (Los Angeles: Getty Publications, 2017), 25–59.
18. Harry Cooper and Ron Spronk, *Mondrian: The Transatlantic Paintings*, exh. cat. (New Haven, CT: Yale University Press, 2002); *Inside Out Victory Boogie Woogie: A Material History of Mondrian's Masterpiece*, ed. Marten van Bommel, Hans Janssen, and Ron Spronk (Amsterdam: Amsterdam University Press, 2012); and *Piet Mondrian: 1872–1944*, ed. Angelica Zander Rudenstine, exh. cat. (Milan: Leonardo Arte, 1994).
19. E. A. Carmean Jr., *Mondrian: The Diamond Compositions*, exh. cat. (Washington, D.C.: National Gallery of Art, 1979), 38.
20. Susie Frelinghuysen, quoted in Ward Jackson, "Mondrian and the American Abstract Artists," in "Reflections on Mondrian," special issue, *American Abstract Artists Journal* 2 (1997): n.p.
21. Maria Kokkori, "A Historical Contextualization of Selected Paintings by Kazimir Malevich, Ivan Kliun and Liubov Popova c. 1905–1925" (PhD diss., Courtauld Institute of Art, 2007), 154. In an e-mail message to the author, Kokkori wrote that Malevich also used rulers (18 February 2013).
22. Fox Weber in conversation with the author, London, 22 February 2013.
23. Charmion von Wiegand's diary entries document the difficulty of finding colored tape in art and stationery shops for Mondrian because of war shortages (Van Bommel, Janssen, and Spronk, *Inside Out Victory Boogie Woogie*, 232).

24. Joseph Masheck, "Mondrian the New Yorker," *Artforum* 61 (1974): 61.
25. Harry Cooper, "Looking into the Transatlantic Paintings," in Cooper and Spronk, *Mondrian: The Transatlantic Paintings*, 51.
26. Yve-Alain Bois, "New York City," in idem, *Painting as Model* (Cambridge, MA: MIT Press, 1990), 161.
27. Bois, "New York City," 161, 163.
28. Bois, "New York City," 167.
29. Van Bommel, Janssen, and Spronk, *Inside Out Victory Boogie Woogie*, 227.
30. Gottschaller, "Making Concrete Art," 35.
31. Nancy Troy, *Mondrian and Neo-Plasticism in America*, exh. cat. (New Haven, CT: Yale University Art Gallery, 1979), 5.
32. A survey of Holtzman's works in his estate showed that he used a wide variety of tape types and colors. Unfortunately most of his works are neither dated nor inscribed. However, another dated work painted with tape, *Square Volume with Yellow and Blue* (1938–40), in the Peter B. Fischer Collection, also still predates Mondrian's arrival in the United States.
33. It appears that Diller employed tape occasionally in the painting series started in the early 1930s: "First Theme," "Second Theme," and "Third Theme." It is difficult to come to reliable conclusions about his technique because the majority of his works were badly damaged by a flood in 1950 and consequently heavily restored. Ina Prinz, "Burgoyne Diller—Ein Pionier des Neoplastizismus in Amerika: Versuch einer Einordnung unter besonderer Berücksichtigung des zeichnerischen Werks" (PhD diss., Rheinische Friedrich-Wilhelms-Universität, 2004), 89–90.
34. Two works by Charles Shaw, *Umbilical Contemplation* and *Untitled*, both from 1940 and in the Whitney Museum of American Art, display extremely sharp ridges, probably created by scraping away paint with a razor blade.
35. Newman, "Statement Concerning Who's Afraid of Red, Yellow and Blue" (1969), in idem, *Selected Writings*, 192.
36. See for example Yve-Alain Bois, "On Two Paintings by Barnett Newman," *October* 108 (2004): 26.
37. Five rolls of different tape types from Newman's White Street studio survive at the Center for the Technical Study of Modern Art, Harvard Art Museums, Cambridge, MA.
38. For example, see Ann Temkin, "Barnett Newman," in idem, ed., *Barnett Newman*, exh. cat. (London: Tate Publishing, 2002), 38–49; Suzanne Penn, "Intuition and Incidents: The Paintings of Barnett Newman," in Ho, *Reconsidering Barnett Newman*, 82–95; and Bradford A. Epley, "'So Much Mud': Response and Interplay between Artist and Material in the Late Paintings of Barnett Newman," in Bradford A. Epley and Michelle White, *Barnett Newman: The Late Work, 1965–70*, exh. cat. (New Haven, CT: Yale University Press, 2015), 63–75.
39. Newman, "Interview with Emile de Antonio" (1970), in idem, *Selected Writings*, 306.
40. Newman, "The Sublime Is Now" (1948), in idem, *Selected Writings*, 173.
41. Yve-Alain Bois, "Perceiving Newman," in idem, *Painting as Model*, 201.
42. Thomas Hess, *Barnett Newman* (New York: Museum of Modern Art, 1971), 53, 65, 66.
43. Newman, "Frontiers of Space: Interview with Dorothy Gees Seckler" (1962), in idem, *Selected Writings*, 249.
44. Bois, "On Two Paintings by Barnett Newman," 27.
45. Aline Louchheim, "By Extreme Modernists," *New York Times*, 29 January 1950, 9.
46. Mel Bochner, interview with the author, New York City, 11 December 2012.
47. Rothko, quoted in "Working with Rothko: A Conversation between Roy Edwards and Ralph Pomeroy," *New American Review* 12 (New York: Simon & Schuster, 1971), 115.

48. Brice Marden, quoted by David Reed in “Strange Things Can Happen—David Reed in Conversation with Pia Gottschaller,” in *Heart of Glass: David Reed—Gemälde und Zeichnungen 1967–2012*, ed. Stefan Berg and Christoph Schreier, exh. cat. (Cologne: Snoeck, 2012), 67.
49. Bridget Riley, quoted in Jo Crook and Tom Learner, *The Impact of Modern Paints* (London: Tate Gallery Publishing, 2000), 147.
50. Jo Baer, telephone conversation with the author, 22 October 2015.
51. Lenore Tawney, an artist friend of Agnes Martin, recounted that Martin made use of this technique. See Barbara Haskell, “The Awareness of Perfection,” in idem, ed., *Agnes Martin*, exh. cat. (New York: Whitney Museum of American Art, 1992), 105.
52. Tiffany Bell, e-mail message to the author, 11 October 2017.
53. Tiffany Bell, telephone conversation with the author, 12 October 2017.
54. Katya Lodge, e-mail message to the author, 11 November 2015.
55. Reed, quoted in “Strange Things Can Happen,” 66.