

Studies for Construction

By Charles A. Riley

“An art which stirs the human soul through forms which resemble nothing known, which represent nothing, and which symbolize nothing.”

—August Endell, 1890, cited by George Rickey in *Constructivism: Origins and Evolution*

The light lunch served on the terrace of Arthur Carter’s waterside home on the East End of Long Island is as flawless as the summer day itself, yet Carter is preoccupied. The conversation is typical of his wide-ranging table talk. The host is a polymath whose range of expertise includes finance, journalism, mathematics, politics, and, of course, art. The early afternoon’s colloquy has woven many of these topics, starting with his recent exhibition at New York University’s Grey Art Gallery and touching upon the work of Richard Serra, whose massive exhibition of drawings is on view at the Metropolitan Museum. Later in the afternoon Carter fields a business call then suggests a stroll across the lawn to a guesthouse where he has been drawing. There, the real issue that has been on his mind emerges. Producing a small, unfinished sketch started earlier in the week, a few strokes of the pencil accompanied by touches of a red felt-tip pen, he indicates a pair of parallel lines separated by about a quarter inch of white paper. “I am wondering how far apart they should be,” he says, almost to himself.

With all the numberless goings-on of a full and varied life, this is what concerns Arthur Carter: Whether to erase the line and redraw it a fraction of an inch to the right, widening that

channel of blank paper and changing the delicate proportions of the study. The quandary is all the more interesting because it relates to a small, private musing of an artist best known for a monumental steel sculpture holding its own on Park Avenue. This moment spent contemplating an unfinished study reveals an internal focus. He looks up and says, "It's very important."

Drawing Parallels

Why such a subtle alteration to a drawing ought to be as momentous as Carter suggests is the essential issue of this book. Pursuing an artist's thought through the intimate, early stages of a work on paper often involves focusing attention on the slightest of details. The minutiae of the process can be fascinating and even funny. In Oscar Wilde's *Picture of Dorian Gray*, Lord Henry Wotton, the liveliest character in the novel and the one who most resembles Wilde himself, declares, "I was working on the proof of one of my poems all the morning and took out a comma. In the afternoon, I put it back again." Carter's high Modernist idiom is a serious sequel to this kind of precision, if not to its preciousness (as we will see, many of his drawings become decidedly free to the point of expressionism). As with Wilde's comma, one stroke can make all the difference.

Contemporary drawings offer a bold frontier for study, in part because the media and methods used to make them are so varied. Since Vasari, lovers of art have been enchanted by drawings, finished and abandoned, by sculptors, architects, designers and painters. For them, the immediacy, intimacy and directness, of pencil, pen, brush, and charcoal on paper have the intellectual validity that the manuscript holds for literary scholars. In both cases, the work on paper is taken as the primary source. Carter's drawings are as rewarding and valuable in this

regard as any artist's in that they offer access to the mind and hand during a crucial stage in the development of ideas for a sculpture or painting.

Access to insight of this sort can be limited. The studio door may be open and there are artists who offer extensive written direction to the making and meaning of their work, such as Robert Motherwell, George Rickey, Ad Reinhardt, Peter Halley, and Carter's favorite, Donald Judd. Others are more cryptic to the point of being averse to this open attitude, notably Jasper Johns, to whom Carter can easily be compared as a draughtsman (consider the serial nature of their work, its relation to reliefs in progress, the role of the grid, the reduction to primaries, the allusive presence of Modernist predecessors, and the smoky effect of atmospheric shading, among other similarities). Somewhere between the eloquence of a Motherwell and the resistance of Johns, Richard Serra occupies an important position in this study.

Serra's drawings on view at the Metropolitan were, for many, a revelatory experience of his work, one that offered an astonishingly personal sense of his studio process. One of the most insightful quotations in the exhibition catalogue facilitates understanding of Carter's work on paper as well. As Serra explains, "Drawing is a concentration on an essential activity and the credibility of the statement is totally within your hands. It is the most direct, conscious space in which I work. I can observe my process from beginning to end, and at times sustain a continuous concentration. It's replenishing. It's one of the few conditions in which I can understand the source of my work."¹

Consider the source. This volume is in so many ways a study of beginnings, in the chronological sense of a work's origins as an idea on paper, in the biographical sense of tracking an artist's foray into a new way of working (Carter had just launched his Orthogonal series of

reliefs, which combine aspects of his sculptural and painting styles), and in the intellectual sense of art's origins in drawing. Formal messages, in the vein of Serra's thoughts on drawing as interior dialogue, prompt specific habits of looking and thinking about art. While eloquent on many subjects, including twentieth-century art history, Carter is taciturn vis-à-vis his own drawings. "If I could say it, I wouldn't draw it," he commented, unhelpfully, when the idea for this book was originally proposed. The onus to read the drawings and make sense of the moves within them shifts to us.

Terms of Use

In a brilliant book that explores the science of attribution, and specifically the high-stakes problem of authenticating Michelangelo's drawings, Alexander Perrig, a Swiss expert on the Renaissance, presents a systematic method for examining works on paper that is useful for the study of Carter's work.² Nobody is confusing Carter with Michelangelo, but there are parallels between their purposes and means of execution. It is heartening that the resemblance of a twenty-first century abstract artist to a sixteenth-century master of the figure is founded in the essential practice of drawing. As Perrig catalogues the fundamental types of mark by which he tracks the authenticity of drawings that are said to be by Michelangelo, we can immediately grasp the relevance to the analytic "reading" of any drawings, including Carter's.

Perrig's scholarly lens zooms in on the slightest evidence as well as the boldest stroke, and every type of mark has its applicability to the verdict on authenticity and the appreciation of the whole. To begin with the first division of the physical forces that create a drawing, Perrig distinguishes between vertical *pressure* and parallel *course*. This duality is apparent in *Study for Construction No. 101*, for example, in which each black line begins and ends with a small,

circular blot of ink that has soaked the paper, and in *Study for Construction No. 126*, where similar splotches suggest a moment's delay before the pen was moved across the paper. Pressure without course yields a point of this kind. One can also have course without pressure, as the pencil or pen leaves the page briefly and the line skips a measure. This has its musical equivalent: A pianissimo passage on the flute will fade to the mere sound of breath through the instrument before the tone flutters back into hearing, or the bow so gently drawn across the violin string lifts for a moment at the tail end of a drawn-out final note. The unmarked course retains its sense of gestural motion in works such as *Study for Construction No. 92*, in which the upward vertical stutters and disappears into white paper, or *Study for Construction No. 107*, in which the triangular boundaries seem to swiftly skip.

The best examples of course without pressure are the elliptical paintings and drawings in charcoal, red, and gray. Even as the color breaks or the gesture leaves the page, the course that Carter inscribed is retained. For example, one of the drawings in this series, *Study for Construction No. 129*, is relatively firm through four revolutions (and in the bold, straight lines that float outside the ellipse) but between the solid lines, the pressure is alleviated and the course wavers and interrupts itself.

Carter's ellipses prompt an introduction to another of Perrig's main elements: the *contour*. Both the inner and outer edges of the elliptical form offer examples of the ways in which a contour defines a shape in what seems to be a continuous stroke. Perrig differentiates between the *thread contour*, which is steady and even in its width from beginning to end, and the *modulated contour*, which thickens and thins as the pressure is applied or taken off, even to the point of vanishing and returning. In *Study for Construction No. 217*, the firm horizontal staff on the bottom right demonstrates the thread contour; the modulated contour is more readily located

in the sinuous passages of a drawing such as *Study for Construction No. 188*, where the point, following the curve of the gesture, touches the paper in different ways along its route.

Perrig's emphasis on movement and control is a reminder that drawing is related to time. The speed at which a mark is made varies, and the evidence is right there on the page. The segmented strokes in a drawing that flows as effortlessly as *Study for Construction No. 148*, for instance, seem to fly across the page, left to right, while the back and forth of the *hatching*, the next important term in Perrig's study, descends like ocean waves down the page. The pressure and density (measured by the distance between strokes) as well as their distribution (layered or cross-hatched in a lattice or grid) in *Study for Construction No. 8*, one in a series of related grid studies, create a shadow effect and dramatic contrasts with the light of the paper under erasure.

Perrig also examines the ways in which a drawn line defines three-dimensional shape. For example, a modulated contour acts as a boundary between differing surfaces in the twisted band of *Study for Construction No. 188*. This drawing suggests haptic as well as optical perception, and it is not difficult to understand why that would matter to a sculpture. Many of Carter's drawings are either preparatory studies for new sculpture or reflections on his existing work. *Study for Construction No. 97*, for example, is one of a few perspectival renderings of Carter's freestanding steel sculpture *Signifier* (1999), an homage to Constantin Brancusi. This charcoal drawing uses shading to convey the structure and depth of the sculptural piece. There are moments when Carter shades outside the boundaries of the form, as in the blurred strokes beyond the contour of the paddle-like parts of *Study for Construction No. 110* or, perhaps more interesting, the lightly rubbed "aura" surrounding the outlined grids in *Studies for Construction Nos. 2 and 7*. In *Study for Construction No. 126*, Carter further challenges the sovereign territory

of the image by extending the grid to the edge of the page, making the paper and its dimensions integral to the image rather than a neutral ground for it.

Drawings are three-dimensional in another way: With the addition of lines and shading, or the act of erasure, original gestures are covered by secondary and tertiary ones. These “corrections,” or changes in thought, result in *pentimenti*, one of Perrig’s favorite ways to separate the real Michelangelo drawings from the copies and fakes (the fakes inevitably have few *pentimenti*). Even the fastest works on paper have a temporal aspect. In many, the generations of adjustments can be categorized as earlier or later, as a plan or unstable line is changed, clarified, or overrun. Carter, a polisher and finisher in the sculpture or painting studio, is known for his crisp edges and flawless surfaces. Flipping through these pages, the casual observer might conclude that he is more inclined to turn the page and start again than to go back into a drawing and revise it, but upon closer look, this impression is countered. See, for example, the refinement of the ellipses in *Study for Construction No. 85* or the erasures in *Study for Construction No. 94*.

The Elements of a Style

It is tempting to relate drawing to handwriting, not only for the similarity of the means but for the singularity of the ends. A drawing style, like a cursive style, is a hallmark of the individual hand. There are important differences, however. It is easy to forget, in a world dominated by keyboards, that the line of cursive only goes in one direction, while in drawing it almost never does. Even in the drawings that seem to “flow” from top to bottom such as *Study for Construction No. 229*, or left to right such as *Study for Construction No. 264*, the precise movements by which the lines are executed are actually composites of strokes that often move in

opposite directions. In *Study for Construction No. 231*, all but one of its looping, open ellipses have been created by doubled lines that appear to have traveled in opposite directions.

There is another way that drawing and writing part ways. While writing is produced by movements of the fingers and wrist, with the concentrated activity in the fingers themselves, drawing involves far more muscle groups and the extensive use of the forearm and elbow—sometimes even movement of the whole arm from the shoulder. For a basic but clear illustration of how different movements and directions function in one drawing, consider the featherweight radiance of *Study for Construction No. 116*. An elegant French curve billows along the bottom third of the sheet. Starting low and rising to the left, it banks right and trails away almost straight at the end. The firm pressure along its initial rise gives way in a modulated contour to a wispy tail end. All curve and continuity, produced entirely by a pulling motion in the fingers toward the wrist, which itself half-turns up and out as the line spools away, the gesture is the result of a circular motion that is not completed. By stark contrast, the five nearly straight rays dashed upward from points inside the curve are only possible when fingers and wrist hold a certain angle and steadily climb from the elbow as the arm pushes up and away. Because the curve is firmer in pressure than the five lines, it appears to surround them, lending a three-dimensional quality to the arrangement. The two principal types of movement translate into two different effects: The lyrical, feminine curve that curls inward from the edge is set against the masculine beat of the straight lines stretching outward toward the paper's top and edges. The unifying direction is that the curve eventually ends to the right just as the straight lines incline right.

The bending of the fingers toward the wrist is a means of tightly controlling a linear mark, especially a straight downward line, and Carter's drawings abound in examples of this pulled stroke. Almost all the outlines of the meticulously rendered block lines in *Study for*

Construction No. 114 are examples of this kind of mark, following as true a course to the plumb line as is possible. The free flow of hatching and shading within the borders is another matter entirely. This drawing has roughly nine different kinds of hatching, and the varied weights and movements convey a range of tones. Who needs color to differentiate the rectangular areas when they can be coded so distinctly with line? Perspectively rendered on a hastily traced base, the assembled forms suggest a freestanding sculpture.

It is not by quantity or coherence alone that the grid achieves its importance in the story of Carter's drawings. The series establishes a pattern not just of mark-making but of decision-making that leads cautiously to a sense of style. No matter what the medium, style is not a spontaneous achievement. It reflects clarity of mind as well as technique. The indisputable *vade mecum* for writers, Strunk and White's *The Elements of Style* offers a guide to "what is distinguished and distinguishing." The authors of this classic paean to clarity note, "Style takes its final shape more from attitudes of mind than from principles of composition."³ This observation brings to mind an epigraph from Guillaume Apollinaire chosen by the critic Hilton Kramer for an early catalogue of Carter's sculpture: "Geometry is to the artist what grammar is to the writer."

Given Carter's tastes and talent, it is not a stretch to conceive of this issue in musical terms as well. The finest study of the genesis of musical style is by the pianist and historian Charles Rosen. His Pulitzer Prize-winning book *The Classical Style* explores style as a mode of understanding as well as a means of focusing on an art form as a language that is both individual and coherent. In a section apropos of Carter's work, Rosen examines the place of the theme and variation in the evolution of the sonata form. While he admits that the variation sequences are an invitation for the performer to take it easy, because they have the improvisatory lightness of what

popular composers call “noodling,” he also insists on pursuing their logic to understand its importance to the singularity of the style. The permutations of variations so prevalent in Carter’s work are reminders that one of his favorite books is the *I Ching* or *Book of Changes*, a Chinese classic.

Carter is devoted to the ideas of Taoism, including its insistence on a certain graceful and natural ease or acceptance, which is similar to a quality that Rosen isolates: “Like a language, a style has unlimited expressive capacities, but ease of expression—which carries more weight in art than in communication, and can even overpower content in importance both for artist and public—is severely tied to the structure of the style.”⁴ What depended on the circle of fifths in music, a system of composition that helps composers find their way back to a certain key, can be related to Carter’s relationship to the grid in the drawings as well as the Orthogonals and paintings. His C major is the square.

Passacaglia

Many of the drawings in this volume served as studies for constructions, sculptures, or paintings. A significant portion of them was made in 2009, when Carter began his Orthogonal series, a group of reliefs that embody the grid three-dimensionally. The related works on paper may be considered *en suite*. While the progressive nature of Carter’s series in other media has been compared to the successive states of an etching, these mobile forays into the linear and chromatic plan of a Mondrian-esque grid suggest a different approach. In many ways they are closest to a musical theme and its variations, for within the constant of the grid, Carter tinkers and experiments with deviations. In a way similar to the ways in which Bach and Buxtehude disguised dance melodies in the variations of a passacaglia, certain groups of Carter’s drawings

reveal the maneuvers that will eventually produce the Orthogonals. Among the clearest examples are *Studies for Construction Nos. 1 through 10*. These particular works lend themselves to consideration as a series of decisions and provide a finely tuned connection between Carter's works on paper and his reliefs, in particular *Orthogonal Construction 6*. None of the drawings corresponds exactly to the final work, yet each one explores a facet integral to it.

The basic format for each of the drawings is a horizontal grid, divided by a vertical medial; colored squares and rectangles are located within a structure of other vertical as well as horizontal lines. *Study for Construction No. 5*, for example, is divided by a vertical median (like all of the drawings in the series), and then parallel horizontal lines on the left ride high off the bottom edge while on the right, a similar pair of lines rest lower. The open expanses of white paper admit quiet interventions by two squares of color. The regularity and equal weight of the lines in this drawing may be looked upon as a metrical baseline for the series. The eye feels sure that those double bands are equally spaced, and measurement confirms it.

Many of Carter's alterations involve a thickening of the original lines. In *Study for Construction No. 6*, which is almost an upside-down version of *No. 5*, the two sets of horizontal double bands have been colored in, and the single vertical bands have been doubled and then colored in. The doubling of horizontal black lines in *Study for Construction No. 3* has given way to the thickening of the verticals in *Study for Construction No. 4*, yet Carter does not make the median thick all the way to the top. Another noteworthy change in *No. 4* is in the hatching.

In addition to changing the deployment and thickness of the lines, Carter manipulates the squares and rectangles. Abandoning the red and blue squares for long rectangles of red and green, one horizontal and one vertical, is perhaps the most conspicuous alteration in another

drawing, *Study for Construction No. 7*. These areas of color accomplish a far different task than the squares, which sat like musical notes on the score of the grid. In *No. 4*, they break into a lively semaphore pattern that pulls the red and blue together along the grid's horizontal channels and lends bright emphasis to the two rectangles of pure white paper against which the other shaded panels are contrasted. Some of the wave-like strokes cross the borders between sections, while in others they are confined within the narrow space cautiously conserving those areas of pristine white. The freehand movement in the light horizontal shading that fills in the compartments of the grid, crossing behind even the red and blue rectangles, sets the whole background in motion.

As the series shifts and explores permutations of its own basic constituents, the mark-making gains expressive impact. The pencil guidelines beneath the black grid in *No. 7* are covered by ink lines that add weight and strengthen the grid. They give the black a richer texture, similar to the colored rectangles. With *No. 7* there is a shift to a darker red with touches of black below and the substitution of a rich forest green for the blue. The grid has loosened from the strict ruled pen lines and is not as crisply focused. A heavily applied pair of verticals in *No. 7*, made with several strokes of a soft pencil, is more velvety than the sharper pen rule that is seen in the horizontals. At one point, the grid vanishes momentarily in the hatching, which pours like the rain in a Hiroshige woodblock from the upper right corners. Other loose pencil lines fail to meet one another at corners or waver a moment off the true perpendicular, while an active hand shades in each rectangle differently, ensuring the flat regular aspect of the grid is overcome with expressive pencil work.

In *Studies for Construction Nos. 7, 8, and 10*, the shading surrounds the frame and impacts the way the grid is perceived, creating a fascinating sfumato or cloud-like softening

effect. Carter has gently indicated shadows that extend the horizontal bars of the grid into the background, connecting it to the ground of the paper. Speaking of the effect of an aura, the colored panels in *No. 10* are surrounded by brilliant white areas of erasure. These backlight the loosely penned green and red rectangles, whose ragged edges float like the hazy bars of a Mark Rothko painting in the partly effaced grid, which has been further blurred by hatching and erasure to lighten its structural impact. This anticipates the luminous character of polished stainless steel and hints at three-dimensionality. Another charming example of the effect of a surrounding white penumbra is offered by the red and green squares of *Study for Construction No. 2*, in which the luminosity is all the more pronounced against the dark charcoal shading of each of the panels around it.

The bold innovation in *No. 8* is a sequence of strong black lines that may look like a single gesture, but are not. The points of pressure testify to moments of closure and even hesitation, and the vigorous addition of pressure offers one of the most distinctive, even dramatic, moments in this collection of drawings. Seven strokes, meticulously calibrated and evenly weighted, pick out the step-like descent of a diagonal that defines the tops of four connected structures. This bold black line creates a sense of three-dimensionality, the realization of which is expressed in the Orthogonals. In the drawing, however, the net effect is to seize the eye from the steady unfolding of the shaded geometry and lead it along a dramatic gesture that is as dynamic as it is graphically tenacious.

The series, with its multivalent patterns of cross-hatching and inventive weaving of lines both tight and loose, has managed to accomplish a number of purposes at once. It may be the ruminations of a draughtsman on the deployment of colors and shapes within a grid, yet at another level, the drawings are surprisingly painterly: The pulsing gray shadows and penumbra

of white erasure that surround the rectangles lend an atmospheric quality and depth experience that the more diagrammatic compositions lack. One additional aspect of this painterly quality is offered by the brushstroke-like application of the red, green, and blue rectangles. In *No. 10*, especially, the bending and irregular pattern of the horizontal green strokes, which darken with added application, invests the rectangular form with a gestural quality that is completely different from a square that has been evenly “colored in.”

At Home in the Studio

Certain biographical details illuminate the intellectual tenor of an artist’s studio. Much has been made of Carter’s talent as a musician, for instance. With a grand piano in every residence, he is never far from the keyboard, and his mastery of its literature, from Bach through Chopin, is formidable. The connection between his musical aptitude and visual ability to ring the changes on a set of variables is an obvious point of tangency. Yet music is only part of the intellectual fabric of these drawings. The core from which Carter creates is as quietly complex as the work. Its embodiment is found in the libraries and studio surroundings as well as in his collection of paintings and sculpture, worthy of inclusion in a major museum.

Carter’s studio overlooks the Roxbury, Connecticut, woods, and the large, uncluttered drafting table at which he works faces vast windows. There’s a fireplace to the left and small library (including books by Herbert Read and George Rickey) to the right. Though there’s also a stereo, Carter prefers to draw in silence. His process begins without fuss, with a Daler-Rowney sketchpad (usually 8 1/2 x 11 or 4 x 6 inches) and a sharp pencil or felt-tip pen. As inconsequential as this effort may seem, small drawings often lead to reliefs that are more than six times as big or blueprints for sculptures that can rise as high as thirty feet in the air.

In his home and apartment, Carter's art collection, which includes sculpture by Max Bill, Alexander Liberman, Hans Arp, Henry Moore, and Alexander Archipenko, provides another context for understanding his work. Each is represented by what one would call a "classic" or "signature" piece—a soaring scarlet monument by Liberman, a taut and focused Bill based on the form of an astrolabe, and the elegant Archipenko—and each resonates in one way or another in Carter's sculpture. In addition to a stunning Picasso portrait, with its vigorous graphic language of slashing strokes, there are major works by Fernand Leger, Wassily Kandinsky, Joan Miro, and Josef Albers, as well as a glorious Hans Hoffmann painting from the late 1950s, the artist's most lively period. The painterly exuberance of Hofmann may seem miles apart from the studied precision of Carter's pristine surfaces, especially those highly polished stainless steel and bronze reliefs, but it is more pertinent than one thinks, as drawings such as *Study for Construction No. 2* indicate (compare the way the red and green squares pulse from the surface with the red squares of Hoffmann's painting).

Three years ago Carter sat on a panel of international artists gathered to discuss how their own collections have shaped their stylistic development. Highlighting images of work from his personal collection, Carter led the audience along a canonic history of high Modernism, from Kandinsky and Bill to recent masterworks by Mangold and Albers. His remarks revealed certain tendencies. "As a longtime collector, and more recently as a sculptor, I think I present a pretty good case for the benefits of collecting, but with a twist," Carter began. He stressed purity of design, even to the point of simplicity, in the sculpture he owned and made. Toward the end of the evening he said: "I'd like to leave you with a thought on collecting and making art. The two are obviously congruous, but there are ways in which they can be incongruous too. Some

collecting leads to clutter. Artists could be intimidated by the looming presence of Picasso on the wall, or Rodin on a pedestal in the corner. I don't let the shadows fall on what I work on."

Parallax

The ability to work outside the shadow of the past is a blessing for any artist, especially in an era when so much art is about art, leveraged by its debts to the past. Carter is an individual talent who chooses his tradition as selectively as the masterpieces in his art collection. He has adhered in particular to the ideas of the Constructivists, especially as formulated by George Rickey in his seminal book, *Constructivism in Art*, a volume that is a constant point of reference for Carter and happens to be dedicated to Naom Gabo.

For a moment, we pursue the connection to Gabo: In his essay "The Constructive Idea in Art," Gabo writes, "The elements of visual art, such as lines, colors, shapes, possess their own forces of expression independent of any association with the external aspects of the world."⁵ This piece passes from a few thoughts on the relation of art and science to situate the origins of Constructivism in Cubism, "an especially sharpened and cultivated capacity for analytic thought." Gabo emphasizes the importance of line: "The contours of the external world which served before as the only guides to an orientation in it were erased; even the necessity for orientation lost its importance and was replaced by other problems, those of exploration and analysis."⁶

When Gabo turns to mathematics and makes reference to Pythagoras, the connection to Carter's drawings tightens further. His essay, published in 1937, anticipates the growing reliance of abstraction on geometry: "Every great scientist has experienced a moment when the artist in him served the scientist. 'We are poets,' said Pythagoras, and in the sense that a mathematician is

a creator he was right.”⁷ Carter’s drawings, like his sculpture and reliefs, are precisely informed by the mathematical work of Fibonacci (Leonard Pisano, 1170–1240). Fibonacci’s novel re-interpretations of mathematical and geometrical problems have influenced many artists who, like Carter, find ways to apply it to their working methods. For instance, the Fibonacci sequence (0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, by which each new term is determined by the addition of the two prior terms) is used to determine the web of intersections in such drawings as *Study for Construction No. 90* as well as the precise balance of squares and diagonals in the *Orthogonals*. As mathematician Alfred Friedland observes in an essay on the *Orthogonals*, “All art—including the autogenous (as opposed to ‘created’) art of the universe—is subject to the invisible realities and limitations of space. Mathematics comprehends the study of spaces of arbitrary dimension, but the artist, no less than the engineer, functions in two-or three-dimensional space. With his emphasis on the arrangements, combinations, and overall possibilities of geometric objects in both two and three dimensions, with his sometimes implicit, sometimes overt references to unyielding and yet flexible mathematics, Arthur Carter encounters the challenges posed by space more than most artists do. Like the finest poetry or music, his creations allude to more than they explicitly contain.”⁸

Carter’s drawings are essays in the true sense that Montaigne used that term, from the French “*essayer*,” literally “to try.” Rather than resolutions and perfections, they are tissues of erasure and alteration, the spontaneous movements of hand over paper. They are transitive in the sense that many of them transcribe ideas for sculpture and painting, and they are transitional because they remain contingent, leaves from a sketchbook. Arthur Carter has taught philosophy seminars at both the New School and New York University, so it is not a stretch to consider the philosophical implications of his drawings. These turn out to be manifold: Drawing and thinking

are related on several levels, including epistemology, phenomenology, aesthetics of course, and even ethics. To return to the salient example of Richard Serra, there is an awkward moment in a 1983 interview with the architect Peter Eisenman in which the notoriously antagonistic relationship between Serra and architects, embodied in the ways that his sculpture often seem to be at war with the buildings in which they are situated, is put to the test. Serra relates this antithetical stance: “Every language has a structure about which nothing critical in that language can be said. To criticize a language, there must be a second language available dealing with the structure of the first but possessing a new structure.”⁹

This comment applied to the function of drawing in Carter’s studio highlights one of the advantages to having that second language as a fulcrum. As Carter translates ideas from paper to paint to stainless steel or bronze, each iteration engages a different medium with a visual language of its own. Drawing has its own planar structure that is different enough from the sculpture and reliefs to permit a critical perspective, either as a study *for* a work, or *ex post facto*, a study *after* it. When Carter uses the full sheet, the drawing and the plane of the picture coincide. When he creates perspectival renderings of a three-dimensional sculpture or relief, the illusion of pictorial space is indicated in traditional ways, through shading. What about when that shading seems to surround a planar drawing, however? The exterior aura of charcoal or pencil indicates a movement of the eye slightly to the side, as when an Orthogonal is photographed from the side rather than face on. This change in perspective is expressed in the optics of parallax, best appreciated when you are driving or biking past long rows of grapevines and note the shifting geometry. Walking through and around a Serra sculpture in the landscape can provide another vivid lesson in parallax, as the proportions and lines of the huge steel plates seem to change every few steps. Drawing offers a mental opportunity to experience parallax,

recording shifts in point of view that delve the uncertainties of what once seemed most sure. Considered in this light, all drawings are beginnings, and none can be taken as an end in itself.

While parallax emphasizes movement and illusion, the firm geometry of Carter's sculpture and reliefs often seeks rest. Chief among Carter's objects of repose is the square, which he considers the natural shape of stability in the human mind, and to conclude we turn to a fascinating series that makes it the hero. The math could not be simpler. In the precise alignment of nine black squares in a square, the drawing 3^2 frees the colored square from the grid and floats it on a field of light. Suddenly, the basket weave and rhythm of the idea jumps to a new level of energy in the red iteration, four-by-four rather than three-by-three, followed rapidly by a dark blue variant that is five-by-five and a pulsing, sunny yellow, in which the strokes of the felt pen are more easily discerned, at six-by-six. And the Orthogonal to which these elegant arrays lead? It presided over the Manhattan exhibition in which the Orthogonals had their debut. A large, highly polished, single steel square floating on a dark blue ground, it radiantly caught the sun outside the gallery.

Arthur Carter's few statements on what he is doing with this work on paper invite close scrutiny. Foremost among these is a brief but loaded aphorism he offered by phone (the afternoon of July 27, 2011, according to notes) as this book was already in progress: *Only squares and circles, lines and ellipses, can elegantly explain and simplify the complex meaning of life.*

¹ *Richard Serra Drawings* edited by Gary Garrels, Bernice Rose, and Michelle White (New Haven: Yale University Press, 2011), p. 59.

¹ Alexander Perrig, *Michelangelo's Drawings: The Science of Attribution* (New Haven: Yale University Press, 1991).

¹ Oliver Strunk and E. B. White, *The Elements of Style* (New York: Macmillan, 1935), p. 84.

¹ Rosen, Charles. *The Classical Style*, (New York: Norton, 1972), p. 84.

¹ Naom Gabo, "The Constructivist Ideal in Art," in *Modern Artists on Art*, ed. Robert L. Herbert (Englewood Cliffs, N.J.: Prentice-Hall, 1964), p. 110.

¹ Gabo, "The Constructivist Ideal in Art," p. 107.

¹ Gabo, "The Constructivist Ideal in Art," p. 112.

¹ Alfred Friedland, "Mathematics and Art; Mathematics and Arthur Carter," in *Arthur Carter: Orthogonals* (New Britain, Connecticut: New Britain Museum of American Art, 2011) p. 45.

¹ Richard Serra, interview with Peter Eisenman, *Skyline*, April 1983, p. 15.

¹ *Richard Serra Drawings* edited by Gary Garrels, Bernice Rose, and Michelle White (New Haven: Yale University Press, 2011), p. 59.

² Alexander Perrig, *Michelangelo's Drawings: The Science of Attribution* (New Haven: Yale University Press, 1991).

³ Oliver Strunk and E. B. White, *The Elements of Style* (New York: Macmillan, 1935), p. 84.

⁴ Rosen, Charles. *The Classical Style*, (New York: Norton, 1972), p. 84.

⁵ Naom Gabo, "The Constructivist Ideal in Art," in *Modern Artists on Art*, ed. Robert L. Herbert (Englewood Cliffs, N.J.: Prentice-Hall, 1964), p. 110.

⁶ Gabo, "The Constructivist Ideal in Art," p. 107.

⁷ Gabo, "The Constructivist Ideal in Art," p. 112.

⁸ Alfred Friedland, "Mathematics and Art; Mathematics and Arthur Carter," in *Arthur Carter: Orthogonals* (New Britain, Connecticut: New Britain Museum of American Art, 2011) p. 45.

⁹ Richard Serra, interview with Peter Eisenman, *Skyline*, April 1983, p. 15.