

From these two graphic entities — point and line — derive the entire resources of a whole realm of art, graphics.

The point is now able to increase its size ad infinitum and becomes the spot. Its subsequent and ultimate potential is that of changing its configuration, whereby it passes from the purely mathematical form of a bigger or smaller circle to forms of infinite flexibility and diversity, far removed from the diagrammatic.

The fate of line is more complex and requires a special description.

The transference of line to a free environment produces a number of extremely important results. Its outer expediency turns into an inner one. Its practical meaning becomes abstract. As a result, the line discloses an inner sound of artistic significance.

A fundamental turning point is attained. Its fruit is the birth of the language of art.

Line experiences many fates. Each creates a particular, specific world, from schematic limitation to unlimited expressivity. These worlds liberate line more and more from the instrument, leading to complete freedom of expression.

— Vasily Kandinsky, "On Line," 1919



10. Vasily Kandinsky
(French, born Russia, 1866–1944)
Watercolor No. 14. 1913
Watercolor and ink on paper
9 3/8 x 12 3/8" (23.8 x 31.4 cm)

LIKE A TIGHTROPE DANCER

A kinesthetic practice of traction—attraction, extraction, protraction—drawing is born from an outward gesture linking inner impulses and thoughts to the other through the touching of a surface with repeated graphic marks and lines. Significantly, line draws on relation as much as relation draws on line. As a way of entering this large subject matter, let us begin with drawing as a matter of fact involving, according to the dictionary, “the formation of a line by moving some tracing tool from point to point on a surface,” and the inscription of this gestural act, *a drawing*, being “any mode of representation by lines in which delineation of form predominates over consideration of color.” Strictly taken, drawing includes “only the art of forming the resemblance of objects by means of outlines, where a single color, as india ink, is employed to produce shades.”¹ The arrangement of lines to determine form—*delineation*—is much older than its companion, *perspective*. While perspective deals with the placement of objects in space, delineation deals primarily with analogy: the representation of objects as such, not as they appear in space. The combination of delineation and perspective allows objects in real space to be transcribed to the imaginary plane.

The principles of the kind of academic drawing that pertained at the end of the nineteenth century effectively constituted a highly conceptual system—a symbolic, philosophical system of convention and practice, pretending to something akin to scientific objectivity. With line as the prime element of a language concerned with the imitation of reality, drawing could be both a reliably accurate representation of objects as seen in reality and a poetically inspired representation conceived in the imagination.

Line may be broken or continuous, may comprise an extended sequence of single marks or an uninterrupted stripe. It is in the relation of one mark to another, in their shaping and shading, their tonal gradations, that a drawing acquires form, depth, volume. For centuries, a certain balance can be said to have been established between line and mark, in the sense that line, the leading principle, substantially defined the figure’s contour, while modeling marks suggested a degree of spatiality and an impression of tactility. Together they induced a sense of movement and energy, with the mark as a means of nuance, vitality, and instability. The mental ideality of the contour line was complemented by the concrete staccato of small individual marks.

Seen as an open-ended activity, drawing is characterized by a line that is always unfolding, always becoming. And in the drawing’s stages of becoming—mark becoming line, line becoming contour, contour becoming image—the first mark not only structures the blank page as an open field but also defines it temporally, as the drawing’s marks follow one another in time. Their temporal sequence need not coincide with their spatial juxtaposition, however; they may overlap in space, and unlike painting, the act of drawing leaves it hard, after a while, to distinguish the first line from those that follow. The time of the drawing, as Dirk Lauwaert remarks, fades away as lines accrete, and soon the resulting image erases the sequence, whichever line came first disappearing into the rest.²

Thinking on drawing mostly excludes color. Line and color can of course be related in drawing, but pencil, graphite, ink, and charcoal have traditionally been considered the materials of the medium. Clarity and legibility may seem compromised by color, and lucidity of thought is exactly the aspect of drawing that is most valued. As in writing, this clarity seems to be linked directly to the fact that black tracing is easily discernible, in its contrast, against the presumed white background, while color is seen to confuse this perceptibility. A long-standing division between line and color accordingly persists in art history.

In the twentieth century, many artists made line the subject of intense exploration, including semiotic and phenomenological investigations. By line as such, they understood its pure existence in the world and the meaning that could be attributed to this existence as creative intention and interpretation. In fact, shaped as an “I,” line is the first linguistic mark of differentiation, signifying the subject’s entry into language. Much as poets and linguists were analyzing the line of speech or writing within the

A line is breadthless length.

A straight line is a line
that lies evenly with the points
on itself.

—Euclid, *Elements*,
c. 300 B.C.

Line has in itself neither
matter nor substance
and may rather be called
an imaginary idea than
a real object.

—Leonardo da Vinci,
“Definition of the Nature of
Line,” n.d.



larger, organized verbal whole, and were asserting the importance of laying bare its elements and devices before anything could be said of its meaning, artists were investigating the drawn and painted line as such. Unraveling its characteristics, they would go far in interpreting its form and function. Behind this parallel analysis was the belief of linguists and artists alike in the power of art to renew perception and to affect society, for the creation of a work of art was seen as the creation of the world. If, for the linguists, naming with the word was the act of consciousness through which we begin to know, for the artists the rendering of form in drawing transformed perception into naming, and so was the process through which they came to know. Cognition thus proceeds from creation, with line as indicator of a cognitive process.

From era to era and culture to culture, the support of drawing has varied: ground, wall, pottery, fabric, film, computer screen. With the commercial distribution of paper in Europe after the Middle Ages, however, it was with the sheet of paper that drawing conventionally became identified. And while the tools of drawing, similarly, have ranged from sticks to scrapers to pixels, graphite and ink have become inextricably linked with it. As exhibition and book, *On Line* describes a history of drawing that sheds the institutional reliance on paper as support by highlighting key shifts in artists' drawing practices since the start of the twentieth century. In considering this multivalent evolution, the exhibition necessarily involves a precarious balancing act between the definitions of drawing seen as canonical and what can be seen to be the extension of drawing.

Crucially, this project has been conceived with artist's marks and lines, their conversations and writings, at its core. In fact it derives its title from Vasily Kandinsky's essay "On Line," published in Moscow in 1919.³ Beginning with the modern artist's idea of line as a point in movement, the exhibition chronicles the key shifts by juxtaposing avant-garde, neo-avant-garde, and contemporary drawings from diverse interrelated cultures. As such, and in the light of current practices, it charts the evolution of drawing in the twentieth and twenty-first centuries as a radical transformation of the medium, tracking its traverse from line as a moving of points, through the grid structure, to point as a crossing of lines, much as in online connection on the Internet and the World Wide Web. Indeed, by the end of the twentieth century, the terms "online" and "offline" had come to refer to a state of connectivity or disconnectivity with respect to computer technology and telecommunication. In analyzing this transformation, and a shift into virtual space, however, we also attend to the corporeal body itself as a point in motion, as in choreography, in which the dancer traces dynamic lines across the stage, or in land art, where the artist's wanderings leave traces on the earth.

Juxtaposing over 300 works, *On Line* examines different stages of the aesthetic exploration of line: the line in the plane (surface tension); the line broken free from that illusory surface into real space (line extension); and finally its apparent return to the relational space of the real and the imaginary, but with each now transformed in the process (confluence). In following the dilation of line's meaning, we also trace it in movement, across disciplines, and in its connectivity and continuity as it is drawn out and rewoven in time and space. Similarly, the history that informs the exhibition is interpreted here as an interweaving of materials, records, and the requirements of a changing present. This reading inevitably reflects notions of interconnection (as on the Web) and interdependency in a new globalized society. Where thought had been linear and progressive, it has evolved into a kind of network, something more fluid, open, simultaneous, and undefined.

11. Luis Camnitzer
(Uruguayan, born 1937)
Two Parallel Lines, 1976–2010
Mixed media and pencil on wall
Dimensions variable



LINE / PLANE / SPACE: IN TENSION (1910–1960)

Surface Tension (1910–1920)

At the beginning of the twentieth century, as drawing was increasingly defined by movement, the connection between the contour line and earlier modes of imitating reality was challenged by new methods of tracing and collage. In manifestos published in 1910–12, the Italian Futurists Umberto Boccioni (plates 1, 152), Giacomo Balla (plate 153), and Carlo Carrà criticized the stasis in what they saw as bourgeois aesthetics, instead emphasizing synesthesia and kinesthesia. These artists, however, pictured motion in a literal way, on a single plane, by repeating and blurring outlines. Their representations continued to be static, attaining neither a structural relation with the technology of speed nor the sensation of its lived experience, so that fluidity of perception remained stilled.

A true breakthrough was first achieved in the Cubist papier collés of Georges Braque (plate 180) and Pablo Picasso, in Paris in 1912. Cut paper had seen earlier uses, in the eighteenth-century "paper-mosaicks" of Mary Delany, for example, in the picture books of Hans Christian Andersen, and among the Victorian women who kept ornamented photo albums as a pastime. The motor behind the Cubist work with paper, however, was the obsession with velocity, energy, and change in real time and space—as it also was for the Futurists, but the Cubist move had more radical structural implications. The mere attachment of foreign matter to an otherwise unchanged pictorial conception in some Futurist work, such as the sequins applied to the dancers in Gino Severini's frenetic *Dynamic Hieroglyphic of the Bal Tabarin* (1912; plate 12), did not achieve what Picasso and Braque were developing in the papier collés.⁴

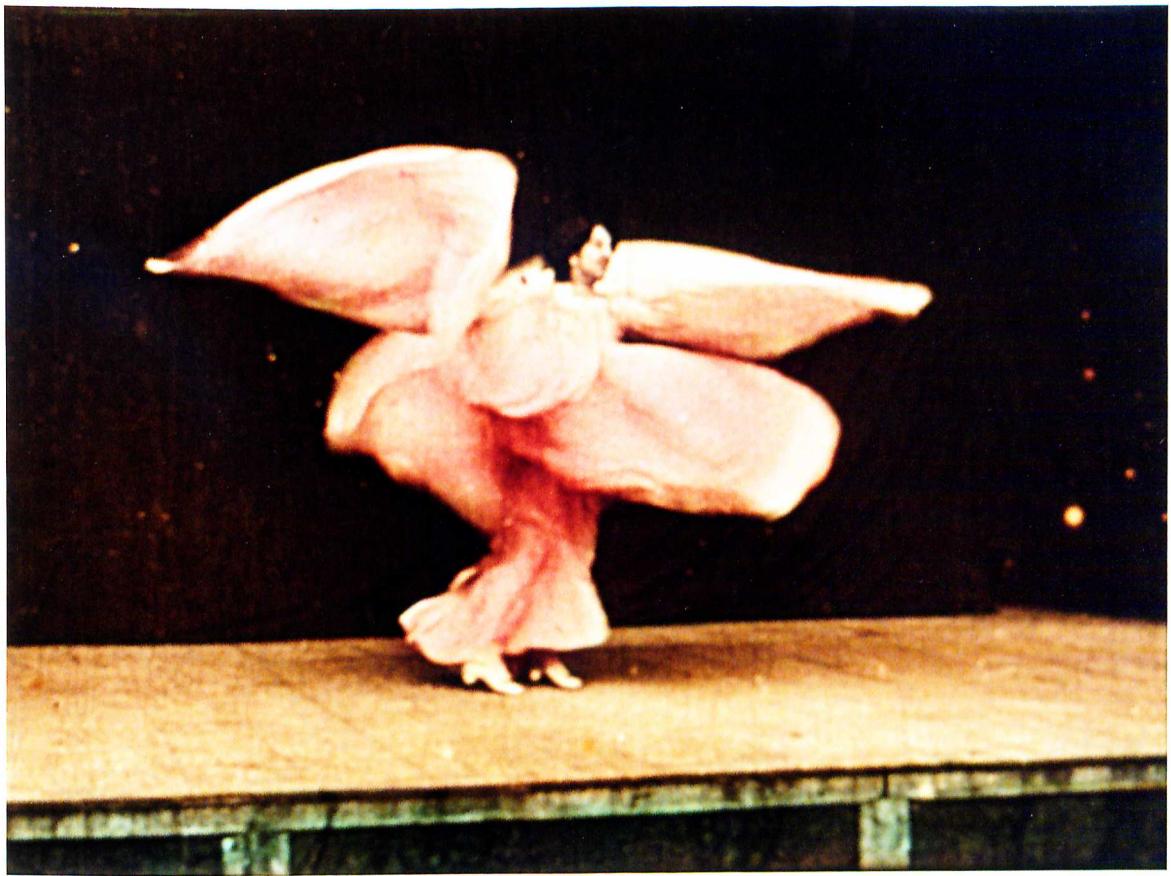
As Bernice Rose argues, among the inspirations for the Cubist drive to construct and experience movement within the flat picture plane were motion pictures and onstage dance, in particular the performances of Loie Fuller (plates 3, 13, 151). Fascinated by the novelty of film, both Braque and Picasso used its techniques of

dissolves, close-ups, multiple exposures, parallel and crosscuts, and inserts to create different viewpoints in which one figure might be seen from the other's point of view as if from inside the frame—all kept the image changing. Cinema's movement was not just a series of stop-action photographs to analyze a succession of bodily movements, laying it out to the eye, frame by frozen frame, traced by Etienne-Jules Marey and Eadweard Muybridge, but the creation of an illusion of "real" movement: "the movement that was life." Here was a whole new illusionist representation of figure to ground, a whole new temporal and spatial simulation of reality. Film was at the same time both the flattest and most illusionistic of mediums; although it occupied only a thin membrane of its own creation, paradoxically, its dancing light suggested unlimited space and spilled over onto the audience, subverting the viewer into its sphere of experience.⁵



The invention of film had created a profound change in seeing, and its techniques had evolved with extraordinary rapidity since its first simple tableaux. In this context, film of Fuller's *Danse serpentine* appearing in 1896 and subsequently (plate 13) must have had an immediate impact. Based not just on the movement of the dancer, Fuller's art involved effects of light and color in constant transformation, notably in her *Fire Dance* (1896), in which she spun and twirled on glass illuminated from below. In a striking variation on the popular "skirt dance" of the day, Fuller experimented with the manipulation of lengths of silk and extended her skirts with bamboo rods, shining different-colored stage light on these moving panes and planes and giving the effect of an inspirational abstract art. Dance, film, and the flickering action of the projector can readily be imagined as influencing the nascent collage.

Braque's paper constructions of 1911–12, which led to the papier collés, included newspaper clippings, ribbons, bits of wallpaper, photographs, and other such, all glued to pieces of paper. These works depended on the literal treatment of reality, on actual material cuts and splices through space and time. The effects of cut-and-paste could also be equated with speed, as pieces slid past one another and zigzagged in disparate superimposed perspectives and ascending horizontal and vertical lines and angles. In the collages relating to Picasso's sheet metal *Guitar* of 1914, some of which the artist installed on his Paris studio wall in 1912 with drawings and the cardboard version of the work (plates 2, 14, 15), the cutting, folding, and retracing, both within each sheet and from sheet to juxtaposed sheet, rearranged



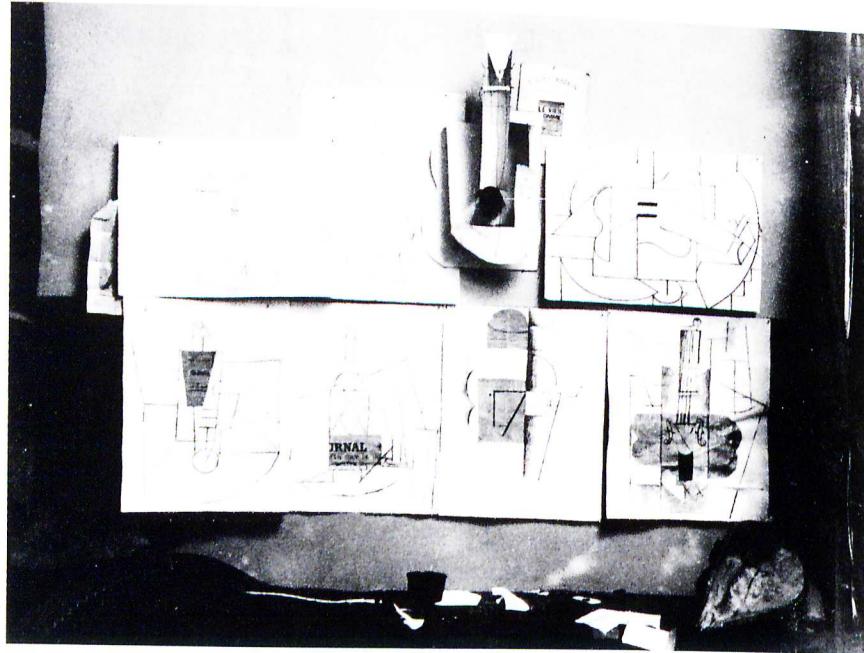
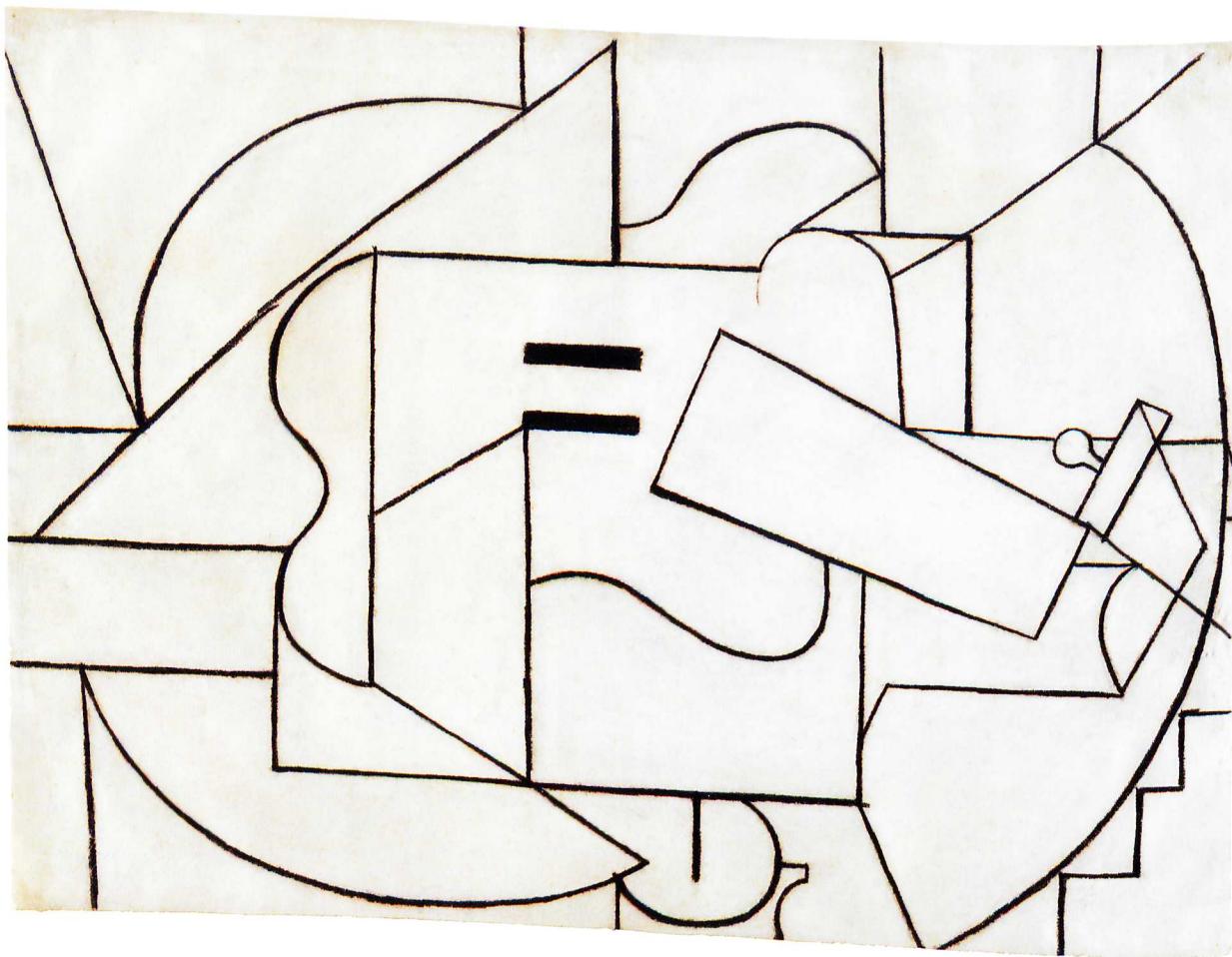
the metaphorical space of the drawing, extending into a new spatial dimension (plate 16). Breaking conventional pictorial perspective to show the guitar's sides and back simultaneously with the front, Picasso sought to apprehend the object from every angle at once, a composite of views constructed from an actual movement around it. For Rosalind Krauss, this simultaneity of distinct spatial positions as "a conflated time" posited a superiority of "conceptual knowledge" over merely perceptual realism.⁶ Meanwhile, as assemblage, Cubist collage disrupted the planar surface of the picture to create a new composite whole. Becoming the seam between juxtaposed planes, line was both disjunctive, marking the edges of fragments of the fractured subject, and connective, delineating new relations.

As the cutouts of Braque and Picasso mostly perform on a stage of white, their positions are traced and retraced by outlines and marks drawn on the surface. Guided by the papers' cut edges, these linear markings are no longer a way of representing pictorial depth, aimed at producing an illusory space, but are coincident with the flat planes of the papers. Shading here is used against itself, creating the lowest possible relief, so that depicted volume is conflated with the flat surface. Cubist collage stresses both the flatness of the two-dimensional plane and the literal construction of reality, the several dimensions of the everyday (that is, the movement of life) introduced through actual material cuts in actual newspapers, advertisements, and other found papers. Gaps between the drawn and cut edges of the objects only emphasize the unbroken continuity of the plane.

Paradoxically, line was moving toward both a compression of pictorial space into flatness and an escape from it. As drawn outlines combined with the edges of cut papers, imaginary and real contours fused in a single plane, provoking a tension in the surface. Aligned with the frontality of the support, papers of various colors and shapes — wallpapers, newspapers, bottle labels, musical scores, pieces of old drawings, all taken from life, all overlaid like papers on a worktable — showed the work as paper

12. Gino Severini
(Italian, 1883–1966)
*Dynamic Hieroglyphic of the
Bal Tabarin*. 1912
Oil on canvas with sequins
63 5/8 x 61 1/2" (161.6 x 156.2 cm)

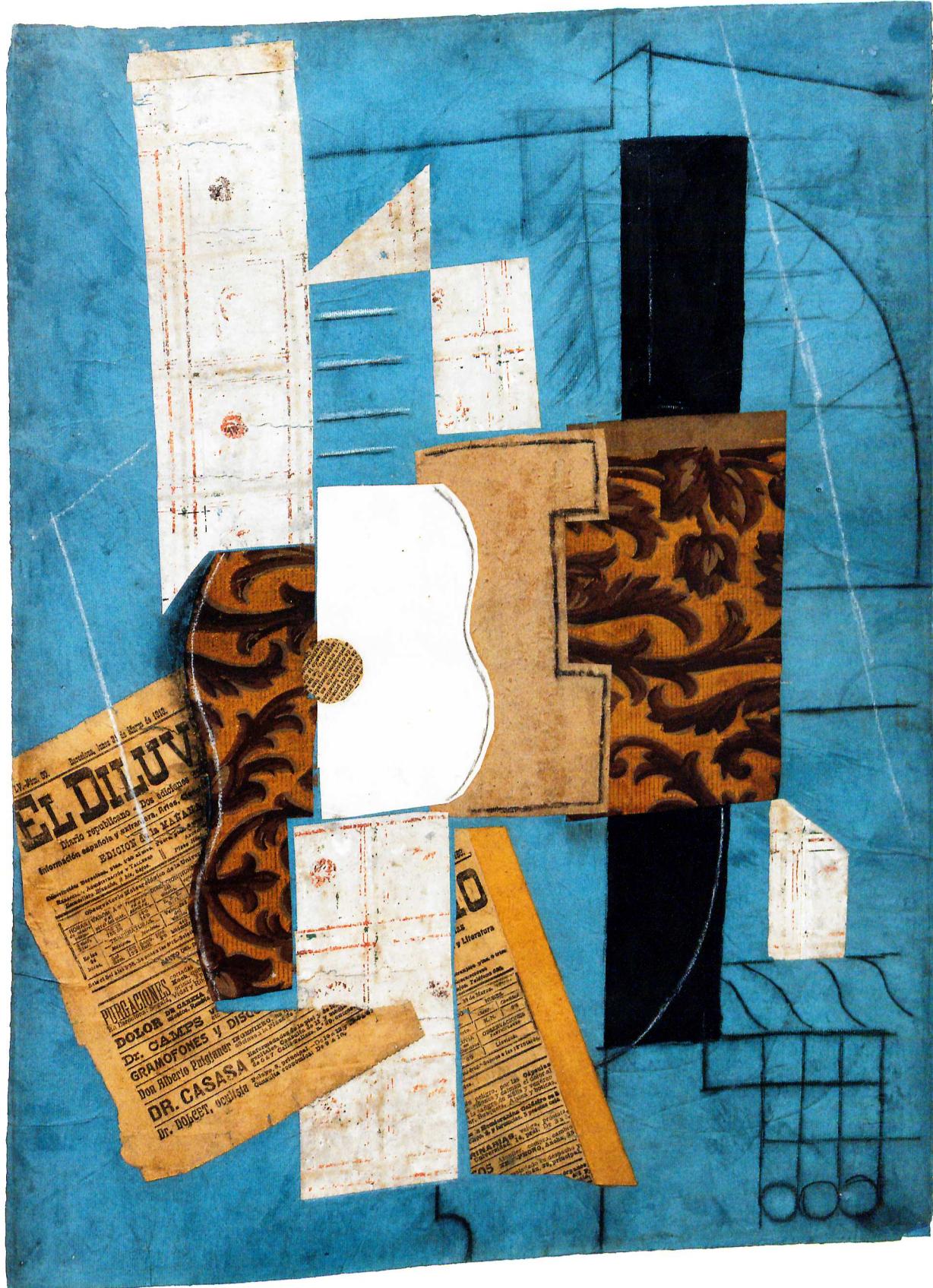
13. Loie Fuller
(American, 1862–1928)
Danse serpentine (II)
(Serpentine dance [II]). 1897–99
Still from film by Société Lumière,
color, silent



14. Pablo Picasso
(Spanish, 1881–1973)
Guitar. 1912
Charcoal on paper
18 1/2 x 24 3/8" (47 x 61.9 cm)

15. Picasso's Guitar drawing
(plate 14, above), cardboard *Guitar*
(1912), and other drawings relating to
the sheet metal *Guitar* of 1914 on the
wall of his Paris studio in 1912

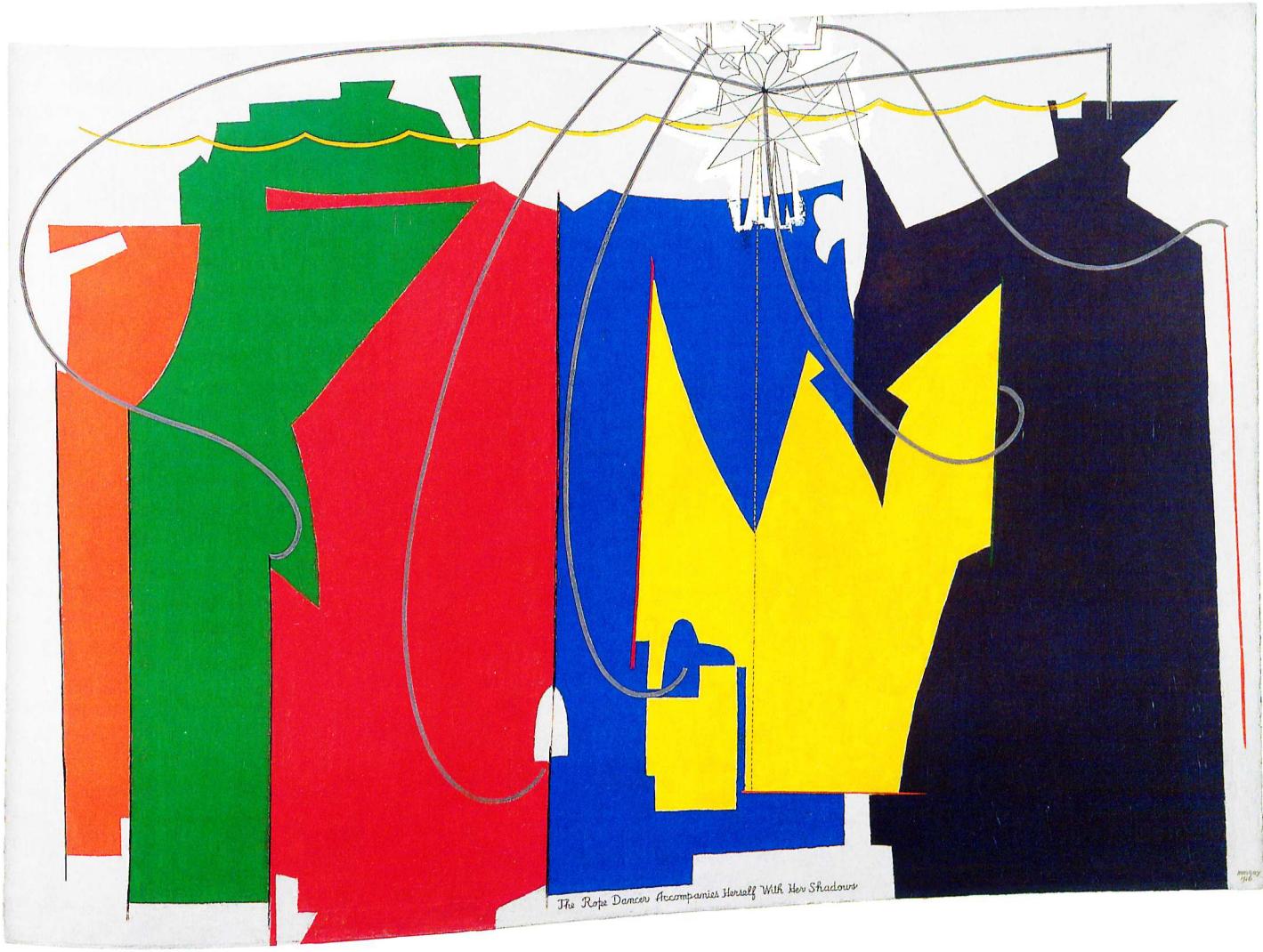
16. Pablo Picasso
(Spanish, 1881–1973)
Guitar. 1913
Cut-and-pasted paper and printed
paper, charcoal, ink, and chalk on
colored paper on board
26 1/8 x 19 1/2" (66.4 x 49.6 cm)





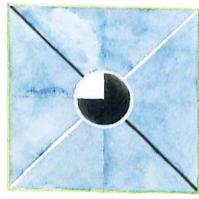
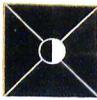
thin, its only depth being that of its accumulated physical layers.⁷ At the same time, in its role, not as a descriptive contour delineating form, and so as subject to the creation of illusion, but as cut edge, line left the plane and gained an agency of its own. Instead of merely indicating movement, it became an initiator of movement in space.

In 1913–14, Marcel Duchamp picked up, as it were, one strand of the Cubist exploration of surface in his *3 Stoppages étalon* (*3 Standard Stoppages*; plate 17). Having dropped three meter-long threads from a height of a meter, he adhered them to three stretched canvases, preserving the random curves they had assumed upon landing. Cutting the canvases along the threads' profiles, he then translated these curves into wooden templates, new units of measure that retained the meter length but confused its rationale.⁸ As in Cubist collage, Duchamp substituted readymade contour lines for handmade ones, but he reversed the Cubist principle, using line, its shape given arbitrarily by its fall, to determine form rather than allowing form to determine line through the cut at its edge. In the passage from collage to "stoppage," from artisanal to commercial modes of production (implied by the idea of the standard, and by the reference, through the French word *stoppage*, to the mending of woven fabric), we can imagine a tailor at work with measurements and patterns, "drawing with scissors," as Henri Matisse would later describe a method of his own. Similar tailored patterns, like pieces of a collage, appear in Man Ray's painting *The Rope Dancer Accompanies Herself with Her Shadows* (1916; plate 18). Inspired by a tightrope act he had seen in a vaudeville show, Man Ray cut pieces of colored paper into shapes corresponding to the tightrope dancer's acrobatic movements. Glancing down at the floor, however, he noticed that the discarded scraps of paper from which the shapes had been cut formed an abstract arrangement. Comparing this pattern, produced by chance, with the shadows a dancer might cast on the floor, he incorporated it into his composition.



17. Marcel Duchamp
(American, born France, 1887–1968)
3 Stoppages étalon (3 Standard Stoppages),
1913–14
Wood box, $11\frac{1}{8} \times 50\frac{7}{8} \times 9$ "
($28.2 \times 129.2 \times 22.7$ cm), holding three
meter-long threads, each glued to a
painted canvas strip, each strip mounted
on a glass panel, $7\frac{1}{4} \times 49\frac{3}{8} \times 1\frac{1}{4}$ "
($18.4 \times 125.4 \times 0.6$ cm); and three wood
slats $2\frac{1}{2} \times 43 \times 1\frac{1}{8}$ " ($6.2 \times 109.2 \times 0.2$ cm),
each shaped along one edge to match
the curves of the threads

18. Man Ray
(American, 1890–1976)
*The Rope Dancer Accompanies Herself
with Her Shadows*, 1916
Oil on canvas
 $52 \times 6' 1\frac{3}{8}"$ (132.1×186.4 cm)



19. Marcel Duchamp
(American, born France, 1887–1968)
With Hidden Noise. 1916
Ball of twine between two brass plates,
joined by four screws, containing
unknown object
5 x 5 x 5 1/8" (12.7 x 12.7 x 13 cm)

20. Hilma af Klint
(Swedish, 1862–1944)
Atom Series, No. 5. 1917
Watercolor on paper
10 5/8 x 9 13/16" (27 x 25 cm)

21. Kurt Schwitters
(German, 1887–1948)
Revolving. 1919
Wood, metal, cord, cardboard, wool,
wire, leather, and oil on canvas
48 3/8 x 35" (122.7 x 88.7 cm)

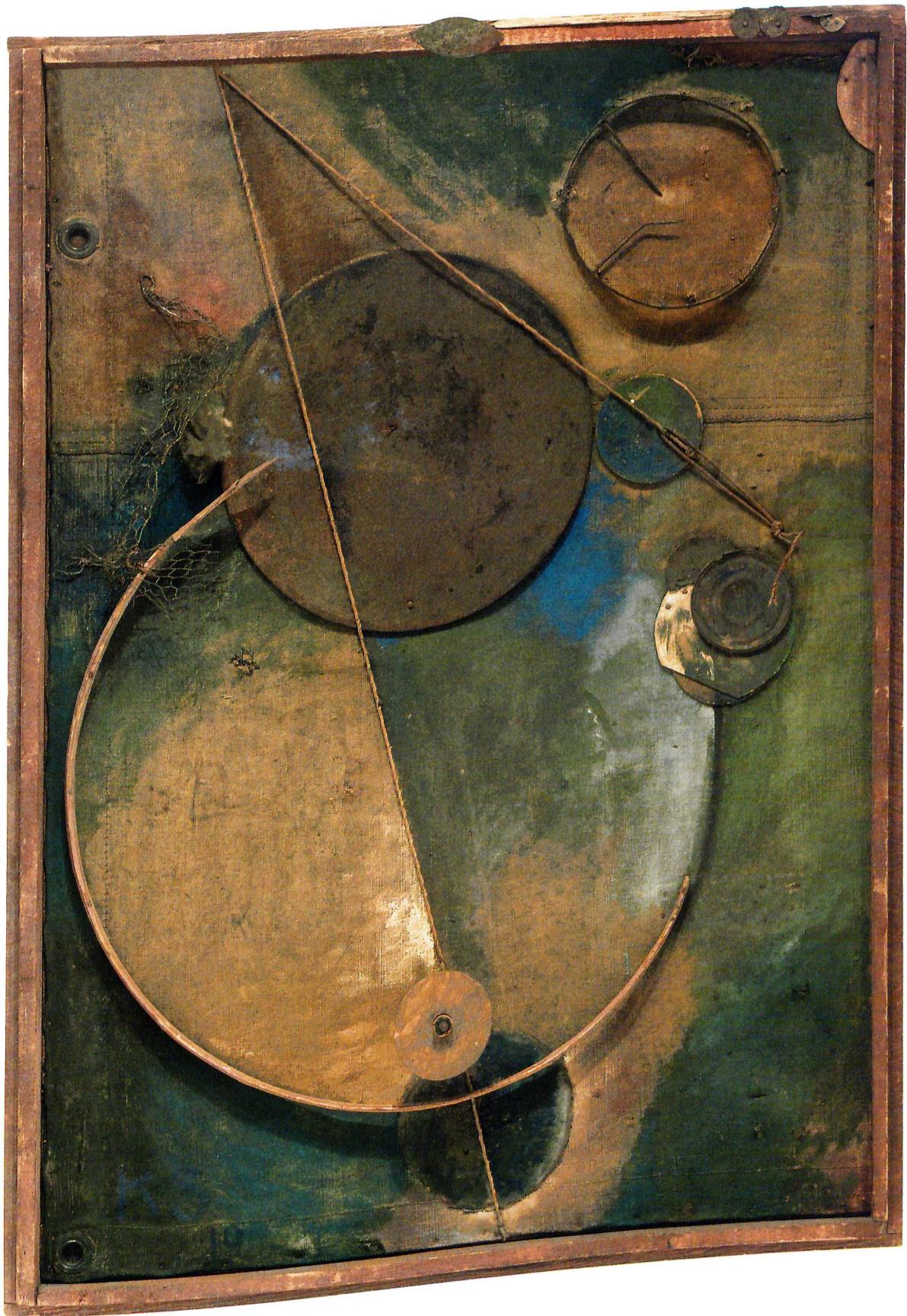
String — a material ready to hand, and unencumbered by the illusionistic associations of traditional art materials — became a linear element in its own right in Duchamp's *With Hidden Noise* (1916; plate 19), a ball of twine contained by two screwed-together copper plates, and in Francis Picabia's *Tabac-Rat* (Rat tobacco, 1919/1949; plate 160). It was fully let loose in *Sculpture de voyage* (*Sculpture for Traveling*, 1918; plates 5, 140), a work today known only from a few documentary photographs and from a letter Duchamp sent to his friend Jean Crotti that same year before traveling on from New York to Buenos Aires after leaving wartime France: "Do you remember those rubber bathing caps that come in all colors? I bought some, cut them up into uneven little strips, stuck them together, not flat, in the middle of my studio (in the air) and attached them with string to the various walls and nails.... It looks like a kind of multicolored spider's web."⁹

With its strings pulling in different directions, *Sculpture for Traveling* may have induced a sense of dynamic change each time it was displayed. Here Duchamp set free not only line, in the lengths of string, but also shape, through the cut pieces of rubber, as if a bright-colored collage were afloat in space. T.J. Demos has argued that Duchamp's dedication to mobility — the mobility embodied in the shape-shifting *Sculpture for Traveling*, but also his own, in his various exiles — can be read as a loosening of the self from the grip of identity in an era of catastrophic world war. Demos notes that Roman Jakobson, a leader of the Moscow Linguistic Circle in the late teens and early '20s, situated an aesthetic of exile in an emerging culture of relativity (Hilma af Klint, for example, explored Albert Einstein's theory of relativity in her *Atom Series* of 1917 [plate 20]), arrived at through a confluence of developments in science, historiography, and Marxist concepts of value and intensified by advances in the technologies of travel and communication. Another model of interaction between self and other was implied, rooted not in the confidence of being but in the fluidity of becoming. This would allow the encounter with difference to change the self and thus dissolve the sense of identity that had ultimately led to polarization and war.¹⁰

Another artist exploring the transformative possibilities of becoming during these years was Kurt Schwitters, who started his *Merzbau* installation (plate 4) in the early 1920s by tying lines of string from one object, picture, or artwork in his Hannover studio to another, emphasizing and materializing their interrelations and interactions — a method of assemblage already apparent in his *Merzbilder* (*Merz* pictures), collages of found objects extracted from the physical reality of post-World War I Germany (plate 21). Eventually the strings were replaced by wires, and then by wooden structures joined together with plaster. These connected forms came to occupy several rooms on different floors of the artist's house. Schwitters's gesture must be seen in the context of the Dada movement, radical for what Jakobson called a "systemless aesthetic rebellion" leading to an art of relativity and ultimately to a destabilization of identity.¹¹

Schwitters's abstract collages (plate 22) were influenced by the work of Jean Arp, who adapted Cubist collage to Dadaist ends. His *Untitled (Collage with Squares Arranged according to the Laws of Chance)* (1916–17; plate 23), in which rough squares torn from different-colored sheets of commercially available paper are glued to an empty page, seems to parallel such experiments with chance as Duchamp's *3 Standard Stoppages*, although any chance element may only have been ascribed to them or emphasized later on.¹² In any case Arp regarded his *papiers déchirés*, in their combination of chance, readymade, and the grid, as "a denial of human egotism," a displacement of the artist's "volition" in a move toward a condition of "anonymity."¹³ He also explored this interest through so-called automatic drawing and in the gridded "duo-collages" that he made in 1915 with his wife, Sophie Taeuber-Arp, the collaboration itself a autographic, these works were made before the first modular abstractions of Piet Mondrian.¹⁴ Eliminating the

If Mondrian, in such paintings as *Tableau No. 2/Composition VII* (1913) and later works (plate 24), elucidated the grid "in a way that exceeded the faceted planes of Cubism," as Hal Foster writes, more strands from the exploration of surface in collage were picked up by other artists: "The flat shapes of



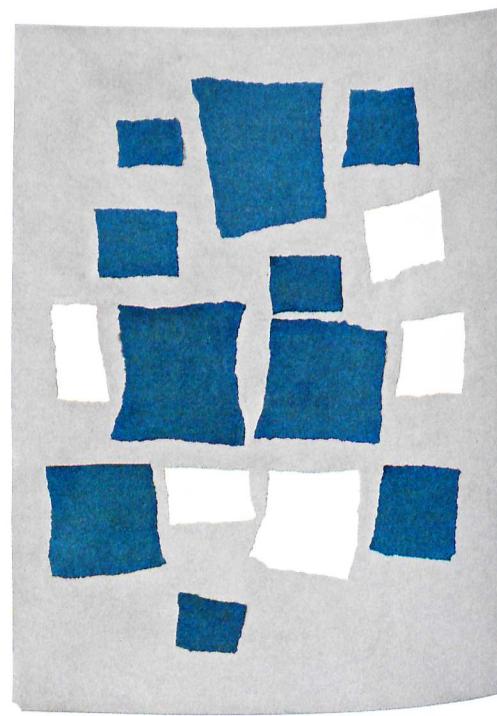
I call our world Flatland, not because we call it so, but to make its nature clearer to you, my happy audience, who are privileged to live in Space.

Imagine a vast sheet of paper on which straight Lines, Triangles, Squares, Pentagons, Hexagons, and other figures, instead of remaining fixed in their places, move freely about, on or in the surface, but without the power of rising above or sinking below it, very much like shadows — only hard and with luminous edges — and you will then have a pretty correct notion of my country and countrymen. Alas! a few years ago, I should have said "my universe": but now my mind has been opened to higher views of things.

In such a country, you will perceive at once that it is impossible that there should be anything of what you call a "solid" kind; but I dare say you will suppose that we could at least distinguish by sight the Triangles, Squares, and other figures, moving about as I have described them. On the contrary, we could see nothing of the kind, not at least so as to distinguish one figure from another. Nothing was visible, nor could be visible, to us, except straight Lines; and the necessity of this I will speedily demonstrate.

Place [...] a Triangle, or Square, or any other figure cut out of paste-board [on a table]. As soon as you look at it with your eye on the edge of the table, you will find that it ceases to appear to you a figure, and that it becomes in appearance a straight line.

— Edwin A. Abbott,
Flatland: A Romance of Many Dimensions, 1884



Cubist collage were the immediate precedent for the abstract color planes of Kazimir Malevich [plate 25], while the factual elements of Cubist construction, which Picasso showed Vladimir Tatlin in Paris in the spring of 1914, were one provocation of [the] Constructivist 'analysis of materials'" in Tatlin's *Counter-Reliefs*, which promoted an active rather than a contemplative engagement with art.¹⁵ Believing in the power of art to renew perception, according to Yve-Alain Bois, Malevich endeavored to "de-automatize" vision "so as to confront the viewer with the fact that pictorial signs are not transparent to their referents but have an existence of their own, that they are 'palpable,' as Jakobson would say."¹⁶ The inclusion in the work of either nominalist inscription or readymade objects produces a tautology: "the only purely transparent sign is that which refers to itself word for word, object for object."¹⁷ Ivan Puni followed Malevich here (plate 28). But rather than venture into the aesthetic disjunctions of collage, Malevich isolated large, undivided, often square planes of color as flat and delimited, announcing Suprematism, his own version of abstraction.

By now it had become clear that tearing and cutting into patterned or colored papers withdrew the drawn line so that contour accrued instead to the paper's edge, and became increasingly coextensive with real space. This transference directed the viewer's attention to outlining new relations; collage opposed the simple literalism of figure against ground, allowing a visual play of discrepant scales and styles. Increasingly, the focus was on relation and on line. The marks once used to augment representational resemblance — shading and modeling, hatching and crosshatching — all these faded in importance. In collage, the "iconic" was displaced by what semiology named the "symbolic," the realm of arbitrary signs that make up language, signs — words — bearing no visible or audible connection to the objects or meanings to which they refer. By adopting this arbitrary form, collage declared a possible break with the whole system of analogic representation, based on "looking alike,"¹⁸ that had long been the duty of line.

Extension, that is, ex-extension — leaving the surface and thus escaping surface tension — was line's next solution.

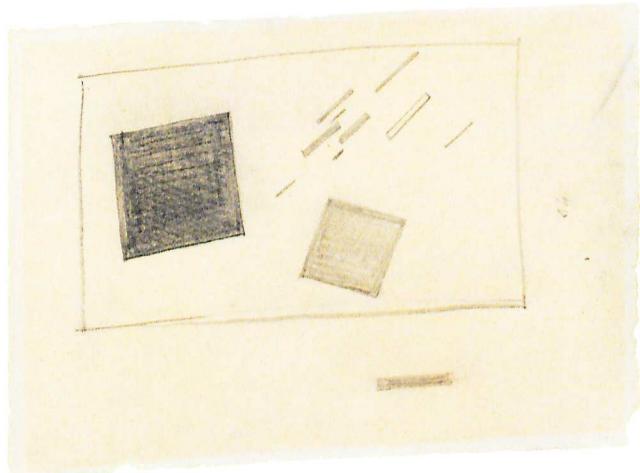
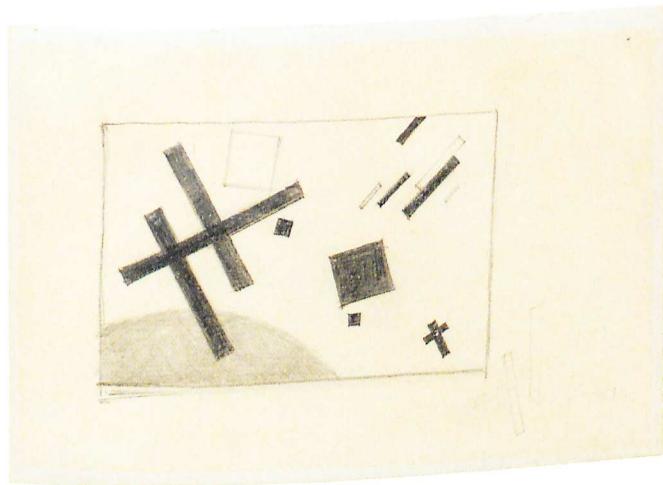


22. Kurt Schwitters
(German, 1887–1948)
Merz 1926 17. Lissitzky. 1926
Cut-and-pasted colored paper on
cardstock
11⁵/₈ x 8¹/₈" (29.5 x 20.6 cm)

23. Jean (Hans) Arp
(French, born Germany [Alsace],
1886–1966)
*Untitled (Collage with Squares Arranged
according to the Laws of Chance)*, 1916–17
Torn-and-pasted paper and colored
paper on colored paper
19¹/₈ x 13⁵/₈" (48.5 x 34.6 cm)

24. Piet Mondrian
(Dutch, 1872–1944)
Compositie No. 5, with color planes 5
(Composition no. 5, with color planes 5).
1917
Oil on canvas
19³/₈ x 24¹/₈" (49 x 61.2 cm)
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25. Kazimir Malevich
(Russian, born Ukraine, 1878–1935)
Reservist of the First Division. 1914
Oil on canvas with collage of printed paper, postage stamp, and thermometer
21 1/8 x 17 5/8" (53.7 x 44.8 cm)

26 and 27. Kazimir Malevich
(Russian, born Ukraine, 1878–1935)
Two drawings each titled *Suprematist Drawing*. Each: c. 1916–17
Each: pencil on paper
Each: 4 3/4 x 6 7/8" (12 x 17.5 cm)

28. Jean Pougny (Ivan Puni; Russian, born Finland, 1892–1956)
Relief. 1915
Wood mounted on canvas, painted in oil
25 3/8 x 31 1/8" (64.5 x 81 cm)

Plane and Line Extension (1910–1940)

In his *Pedagogical Sketchbook* (1925) and in lecture notes written at the Bauhaus, Paul Klee sought to define his fundamentally intuitive approach to artistic creation. His programmatic indirection is evoked in his credo "Art does not reproduce the visible; rather, it makes visible."¹⁹ For Klee, every blot or puddle in a watercolor wash held a latent image, while line was "the most primitive of elements" and drawing was "taking a line for a walk."²⁰ He believed that the movement of a line in the process of its execution could be conveyed to the viewer, for whom the image would unfold in time more than in space. Beginning with line as an abstraction and gradually, apparently playfully outlining the material depiction of an idea, Klee elaborated many fine drawings: in *Die Zwitscher-Maschine* (Twittering machine, 1922; plate 29), the line as hand crank supposedly sets the birds in motion, and in *Artistenbildnis* (Portrait of an artiste, 1927; plate 159), the line features an elongated figure as tightrope walker. Singular and unexpected, Klee's line always ensued from the apparently free wandering of a point, the record of an action.

Klee was deeply concerned with the process by which a point becomes a line, a line becomes a plane, and a plane becomes a body. He shared this interest with Kandinsky, his friend and colleague on the faculty of the Bauhaus school in Germany. In 1919–20, Kandinsky had published a series of essays on aspects of modern art and design in the context of Soviet Russia, where the artist then lived. Of these, "On Point" and "On Line" demonstrate his interest in the elements of art—in analyzing the intrinsic constituents of the visual artwork. In June 1920, in his "Program for the Institute of Artistic Culture," Kandinsky wrote,

Drawn form can be reduced to: 1. line and its moment of departure—the point, and 2. plane, produced by line. In turn, these two elements of drawn form fall into two groups: 1. A group of lines and planes of a schematic or mathematical character: the straight, the curved, the parabolic (zigzag) line, the plane—the triangle, the square, the circle, the parallelogram, etc. 2. A group of lines and planes possessing a free character, which cannot be accommodated by geometrical terms.²¹

Kandinsky elaborated on these essays in *Punkt und Linie zu Fläche* (Point and line to plane), published by the Bauhaus in 1926:

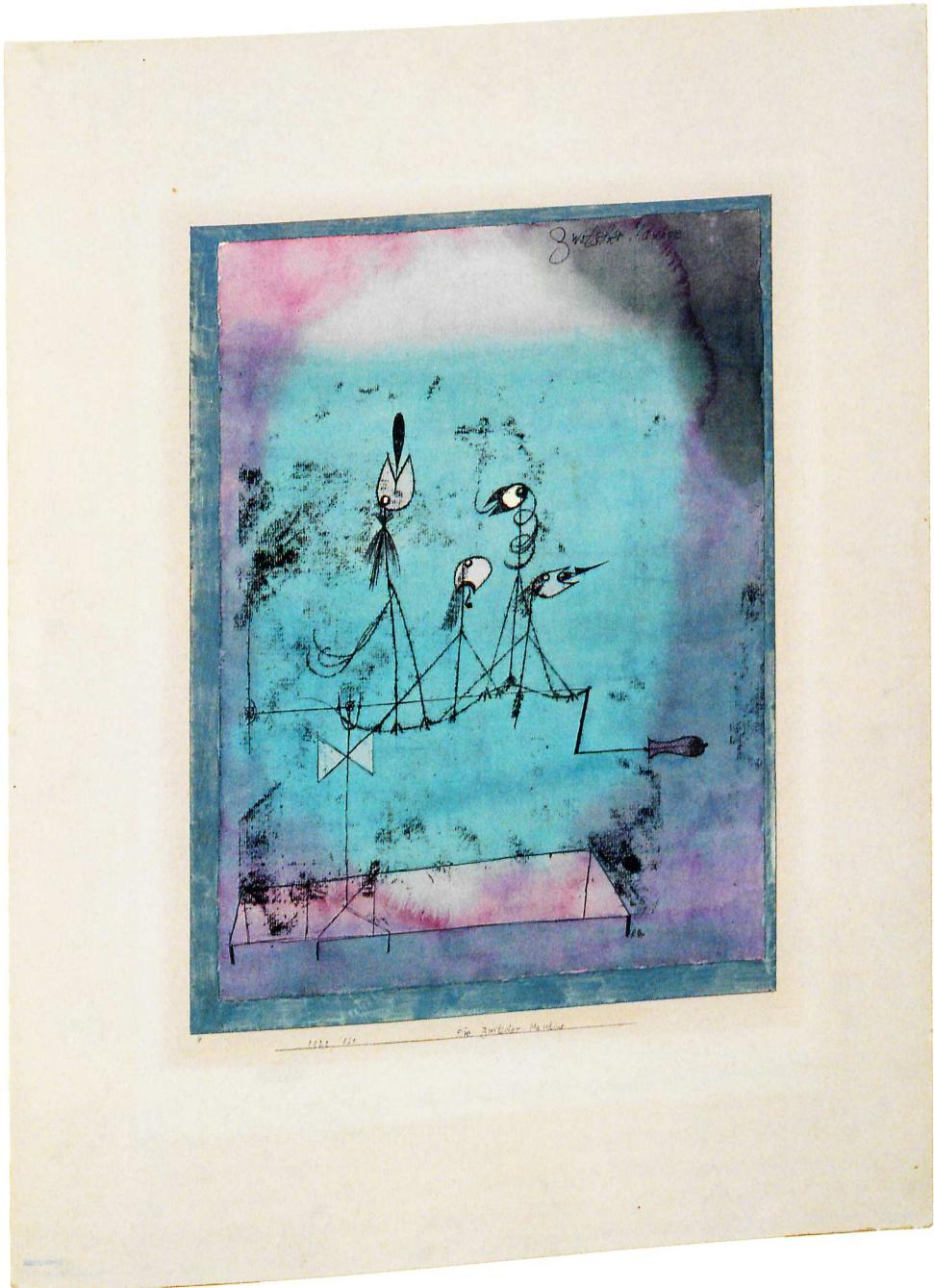
The geometric line is an invisible thing. It is the track made by the moving point; that is, its product. It is created by movement—specifically through the destruction of the intense self-contained repose of the point. Here, the leap out of the static into the dynamic occurs....

When a force coming from without moves the point in any direction, [a] line results [whose] initial direction remains unchanged and the line has the tendency to run in a straight course to infinity.

This is the straight line whose tension represents the most concise form of the potentiality for endless movement.²²

This potential for movement ultimately led out into the third dimension. So it was that Kandinsky, arguing that the artist drew with point, line, and plane, also asserted that the dancer—for example the modern dancers Gret Palucca, on whom Kandinsky based a group of drawings (plates 30, 156), and Aleksandr Sakharov—did the same:

Already in the classical ballet form existed "points"—a designated terminology which unquestionably is derived from "point." The rapid running on the toes leaves behind on the floor a trace of points.



29. Paul Klee
 (German, born Switzerland, 1879–1940)
Die Zwitscher-Maschine
 (Twittering machine). 1922
 Oil transfer drawing, watercolor,
 and ink on paper with gouache and ink
 borders on board
 25 1/4 x 19" (64.1 x 48.3 cm)

Shortly after application of the pencil, or any other pointed tool, a (linear-active) line comes into being. The more freely it develops, the clearer will be its mobility. But if I apply a line, e.g. the edge of a black or colored crayon, a plane is produced (at first and when the freedom of movement is very limited).

If we had a medium that made it possible to move planes in a similar way, we should be able to inscribe an ideal three-dimensional piece of sculpture in space.

But I am afraid that is utopian.

For the present then let us content ourselves with the most primitive of elements, the line. At the dawn of civilization, when writing and drawing were the same thing, it was the basic element. And as a rule our children begin with it; one day they discover the phenomenon of the mobile point, with what enthusiasm it is hard for us grown-ups to imagine...

From point to line. The point is not dimensionless but an infinitely small planar element, an agent carrying out zero motion, i.e. resting. Mobility is the condition of change.... The primordial movement, the agent, is a point that sets itself in motion (genesis of form). A line comes into being....

In all these examples the principal and active line develops freely. It goes out for a walk, so to speak, aimlessly for the sake of the walk.

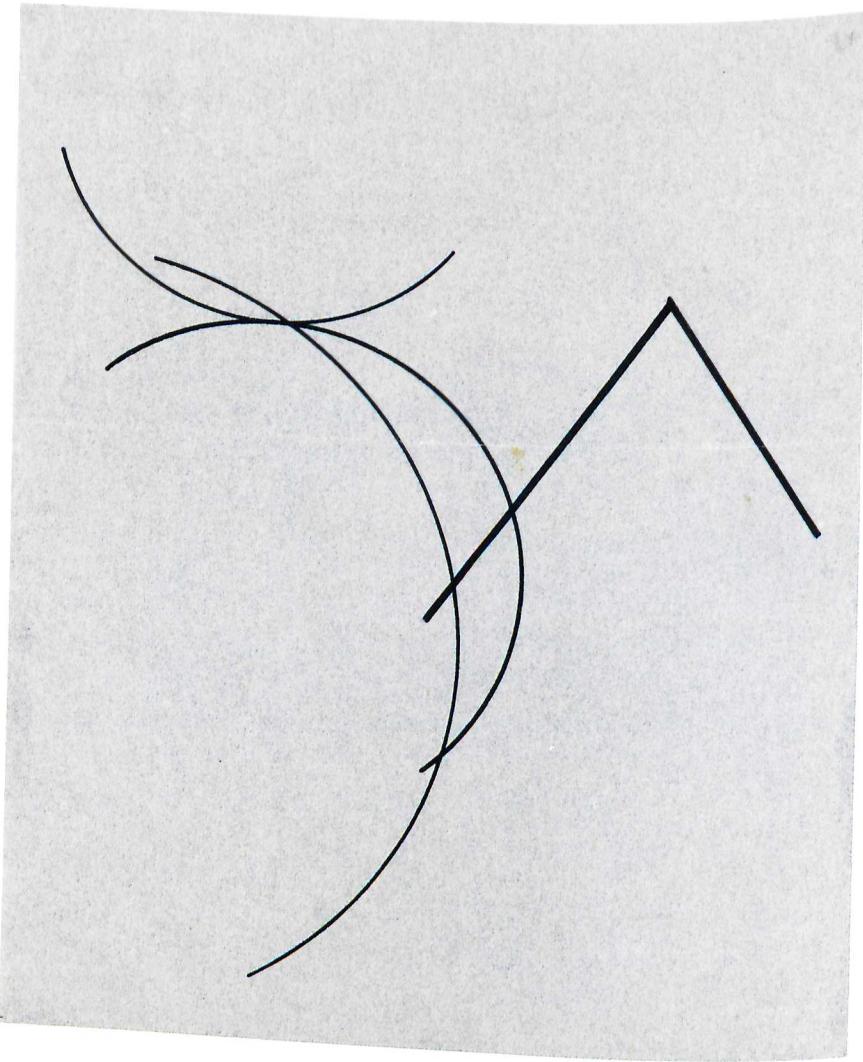
— Paul Klee, lecture notes, 1921

*Where their extremities meet
and where they delineate partic-
ular spaces, lines create new
beings — planes.*

— Vasily Kandinsky,
“On Line,” 1919

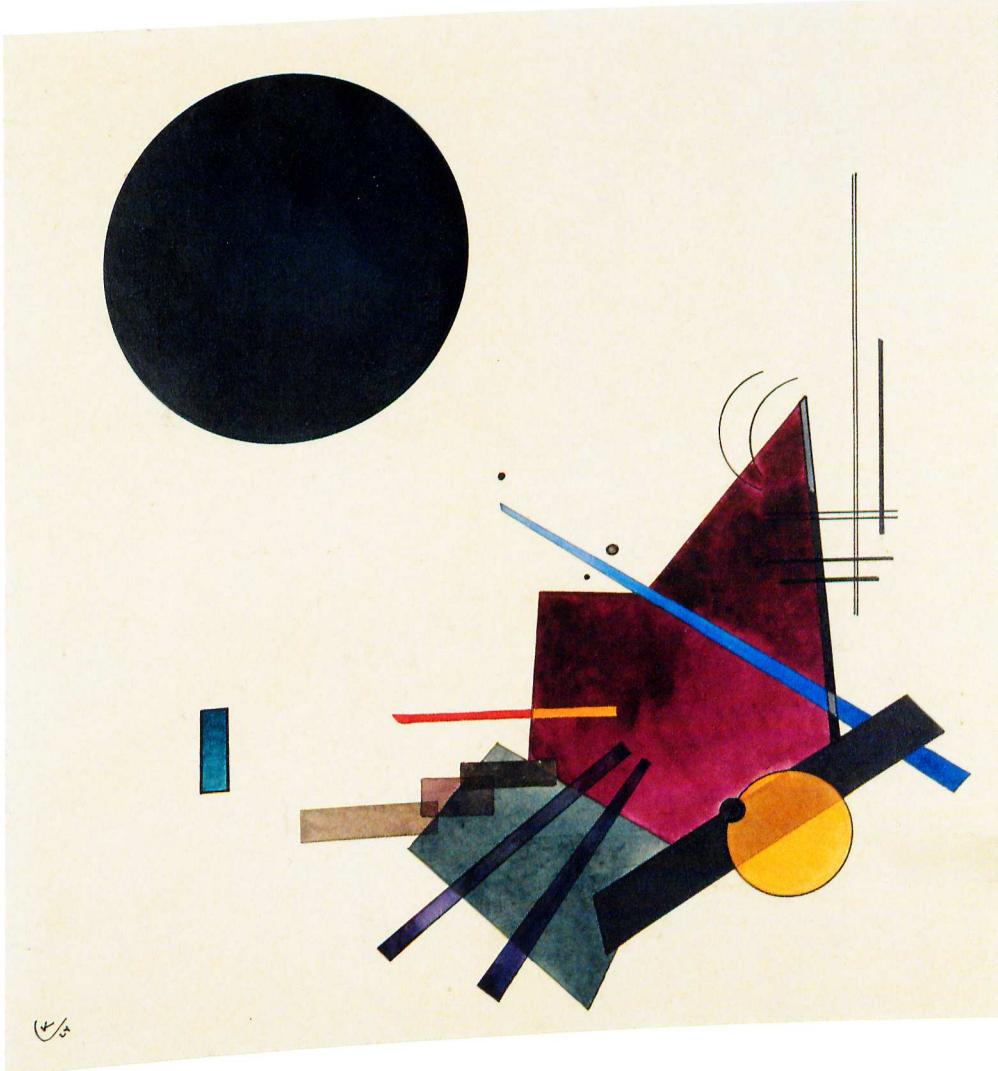
*In general, the element of time
can be recognized to a far greater
extent in the case of line than
in that of point — extension being
a temporal concept.*

— Vasily Kandinsky,
Point and Line to Plane, 1926



In the *dance*, the whole body — and in the new dance, every finger — draws lines with very clear expression. The “modern” dancer moves across the stage on exact lines, which he incorporates as an essential element into the composition of his dance (Sacharoff). The entire body of the dancer, right down to his finger tips, is at every moment an interrupted composition of lines (Palucca). The use of lines is, indeed, a new achievement but, of course, is no invention of the “modern” dance.²³

In 1921 Kandinsky resigned from the Institute of Artistic Culture in Moscow and left Russia for Weimar, Germany, to join the faculty of the Bauhaus. He had become estranged from a Russian avant-garde oriented toward Constructivism and Formalism. For Kandinsky, “Every phenomenon of the external and of the inner world can be given linear expression — a kind of translation.”²⁴ The line named the internal and became the external on the page, where it could be cognized and sensed by both artist and viewer (plate 31). The Constructivists took a more rational approach; as Kenneth Lindsay and Peter Vergo write, “While Kandinsky advocated the intuitive application of artistic elements such as the point and the line and declared that the ‘clatter of the falling ruler speaks loudly of total revolution,’ some of his colleagues, particularly El Lissitzky and [Aleksandr] Rodchenko, called for the rejection of caprice and intuition and the reliance on more scientific methods....as if in response to Kandinsky, Lissitzky asserted



30. Vasily Kandinsky
(French, born Russia, 1866–1944)
Drei Gebogene, die sich in einem Punkt treffen (Three curves meeting at a single point). Drawing after a photograph of the dancer Gret Palucca by Charlotte Rudolph. 1925
Ink on tracing paper
7^{5/8} x 6^{1/8}" (19.3 x 15.5 cm)

31. Vasily Kandinsky
(French, born Russia, 1866–1944)
Schwarze Beziehung (Black relationship).
1924
Watercolor and ink on paper
14^{1/2} x 14^{1/4}" (36.9 x 36.2 cm)

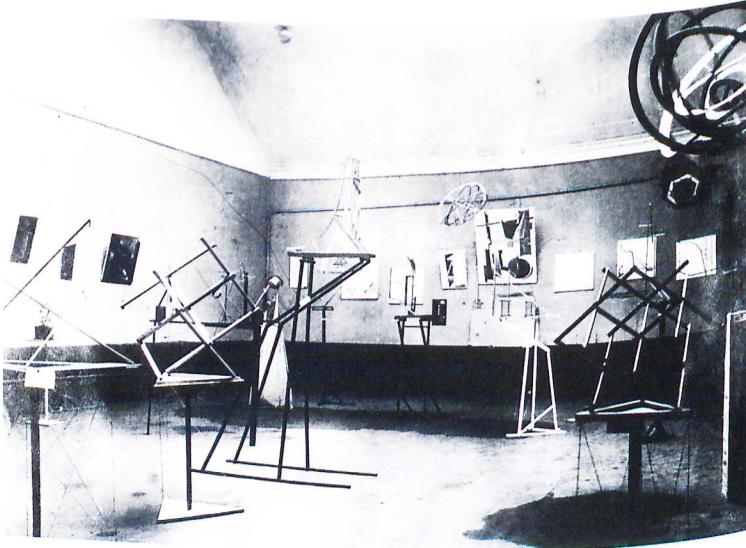
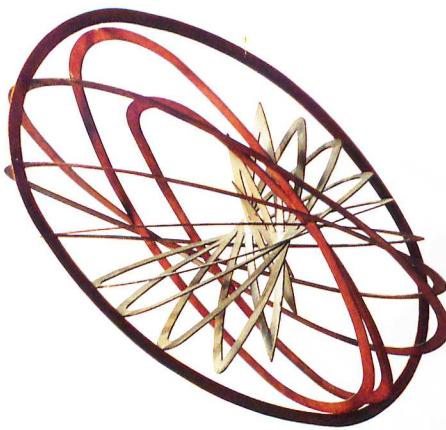
that 'those of us who have stepped out beyond the confines of the picture take ruler and compasses... in our hands.'"²⁵

Following the line, the Constructivist comrades Rodchenko and Lyubov Popova, and their Suprematist colleague Malevich, were exploring the extension of the plane in space and time. In 1918, Rodchenko wrote, "Sending the plane into the depths, I leave a projection as its trace."²⁶ Or, if a plane, bounded by four lines, is projected into depth, that plane becomes so flat that it is readable along its edge as a single line. Here the Cubist line as cut edge of a real newspaper fragment becomes the line of a plane generated by other lines on an imaginary surface. Far from constituting a return to illusion, however, the cognitive line as the edge of a plane was to become the non-objective line of construction. Malevich's form-generating line — the line by which the human being names the world, its tension an inner creative force — was also the line as a factor of construction in society's transformation, the line as motion and module.

In 1920 Rodchenko went further:

Recently, working exclusively on the building of forms and the system of their construction, I began to introduce the line into the plane as a new element of construction.

The perfected significance of the line was finally clarified — on the one hand, its bordering and edge relationship, and on the other — as a factor of the main



construction of every organism that exists in life, the skeleton, so to speak (or the foundation, carcass, system). The line is the first and last, both in painting and in any construction at all. The line is the path of passing through, movement, collision, edge, attachment, joining, sectioning.

Thus, the line conquered everything and destroyed the last citadels of painting—color, tone, texture, and surface.²⁷

The importance of line for Constructivism was acknowledged in the *Second Spring Exhibition of the OBMOKhU* (plates 6, 33) and $5 \times 5 = 25$ exhibitions of 1921, where Rodchenko showed, first, “spatial constructions” made in wood and metal and then drawings on graph paper relating to them. For *Spatial Construction no. 12* (c. 1920; plate 32), for example, he cut concentric lines through the plane of a single sheet of aluminum-painted plywood, so that a series of rings could be unfolded and rotated to create a geometric volume. This three-dimensional shape could easily be folded back to its original planar condition. In the spatial constructions Rodchenko realized an idea he had introduced in his non-objective paintings of 1917–18, where lines were imagined as cuts into the surface plane, invoking extension beyond flatness into real space. Meanwhile, in the $5 \times 5 = 25$ exhibition, Popova presented drawings and paintings collectively called “Space-Force Construction” (plate 37). In a statement for the catalogue of this exhibition, she wrote, “All included structures are representational, and should be regarded only as a series of preparatory experiments leading to materialized constructions.”²⁸ Both Rodchenko and Popova were following through on the Constructivist conviction that the artist’s purpose was to transform the two-dimensional into the three-dimensional, not only in the viewer’s imagination but also in reality. Having become construction, line now named and created a new world of objects and possibilities.

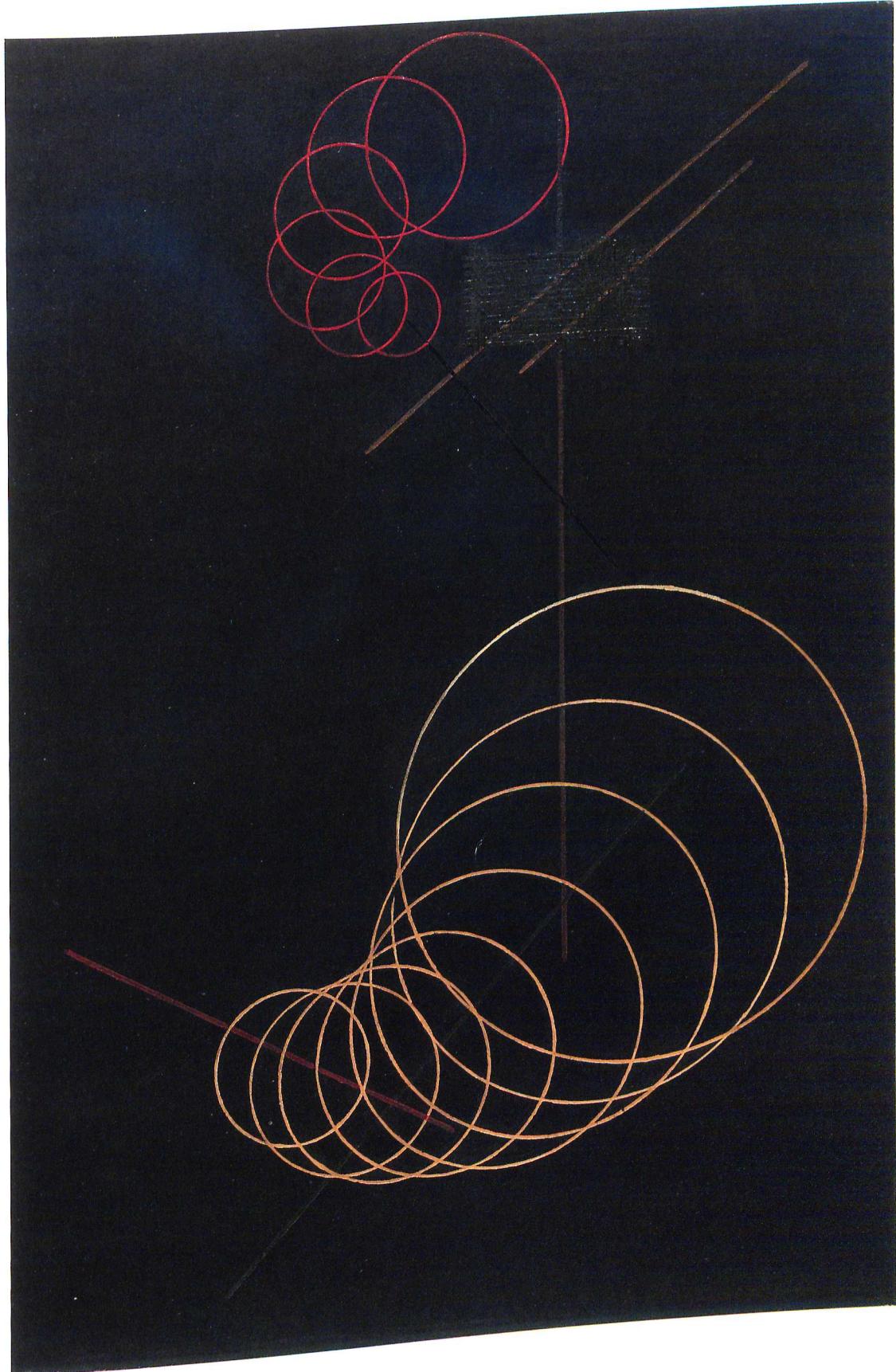
Popova’s and Rodchenko’s contributions to what the Constructivists dubbed “production art”—textile designs (plate 38), for example, of use to the proletarian masses—realized the prospect of spatial constructions entering and organizing actual social space. In 1921, in his essay “The Line,” Rodchenko wrote, “In the line a new worldview became clear: to build in essence, and not depict (objectify or non-objectify); build new, expedient, constructive structures in life, and not from life and outside of life.”²⁹ First extracted from everyday life in the Cubists’ collages of clippings from newspapers, the line was now building, constructing, as part of a process of real-world sociopolitical and economic change, a movement toward a new world that in turn would be promoted in newspapers. Rodchenko continued,

The work of art ceased to be painted from nature, and began instead to derive its structure from the nature of the problems it treated.

32. Aleksandr Rodchenko
(Russian, 1891–1956)
Spatial Construction no. 12. c. 1920
Plywood, partly painted with aluminum paint, and wire
24 x 33 x 18 1/2" (61 x 83.7 x 47 cm)

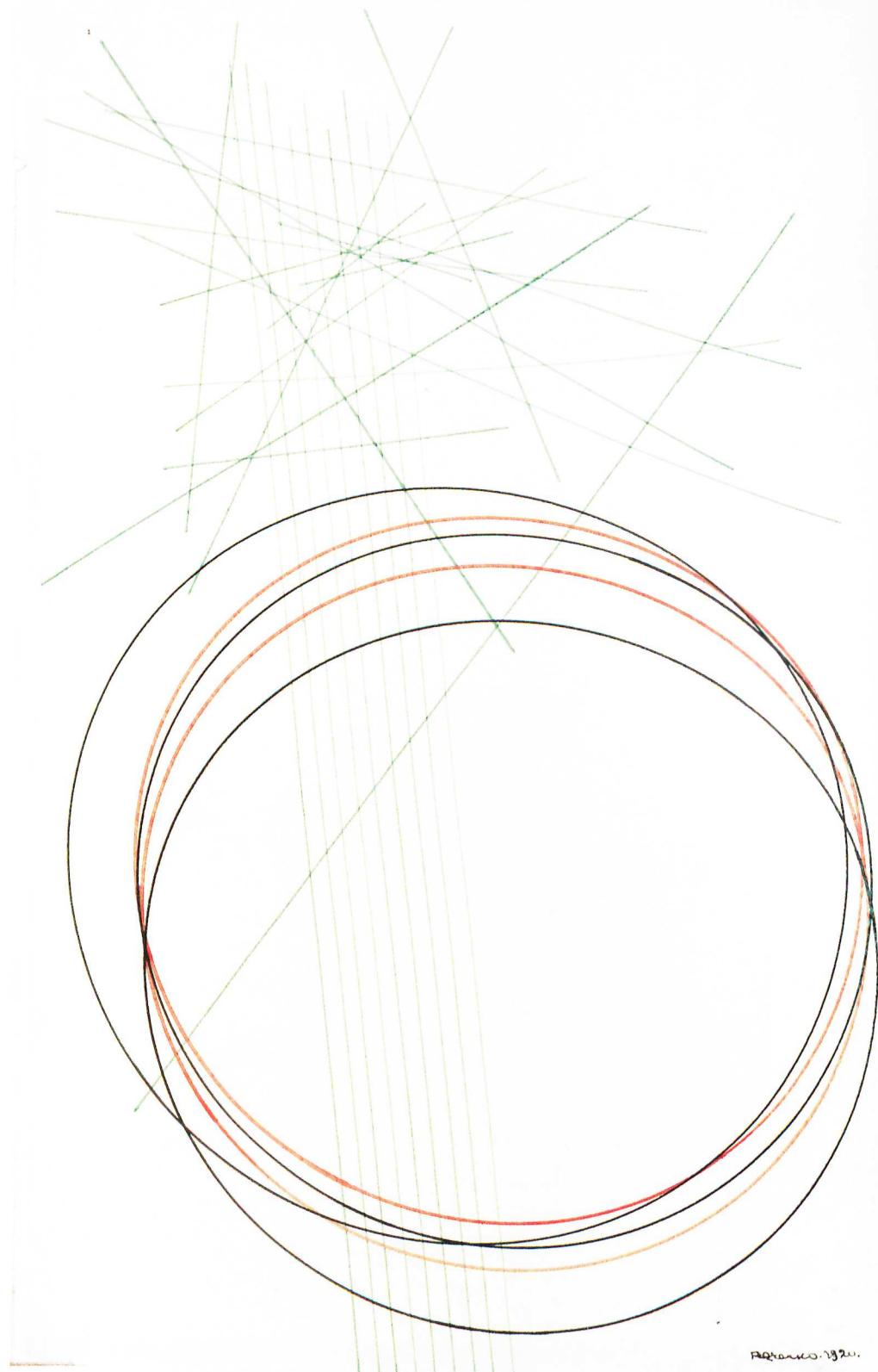
33. Second Spring Exhibition of the OBMOKhU (Society of young artists), Moscow, 1921. Installation view, with Rodchenko’s *Spatial Construction no. 12* (plate 32) at back

34. Aleksandr Rodchenko
(Russian, 1891–1956)
Construction no. 104. 1920
Oil on canvas
40 3/8 x 27 7/16" (102.5 x 69.7 cm)



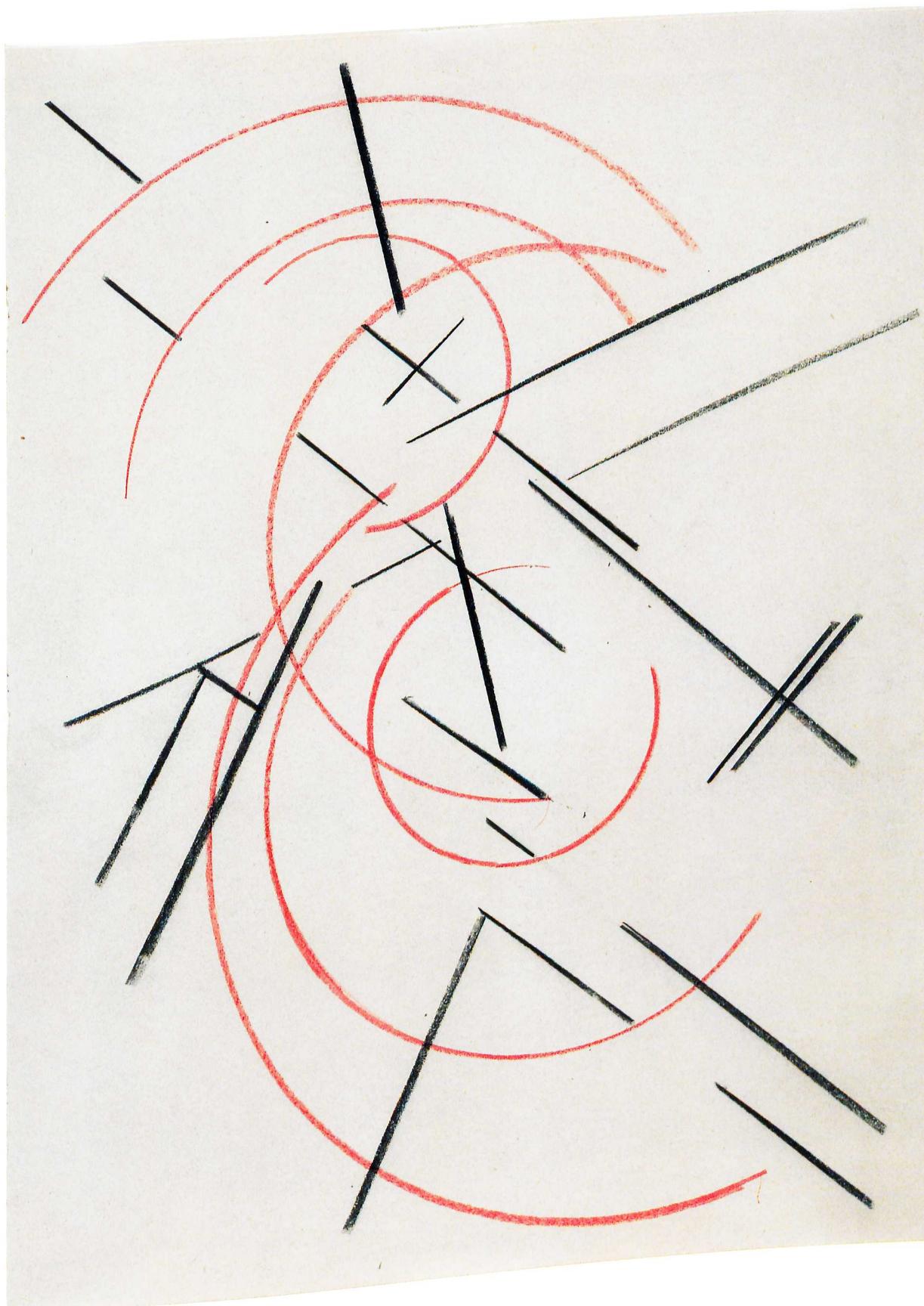
From an analysis of the volume and space of objects (Cubism) to the organization of the elements, not as a means of representation, but as integral constructions.

—Lyubov Popova, 1922

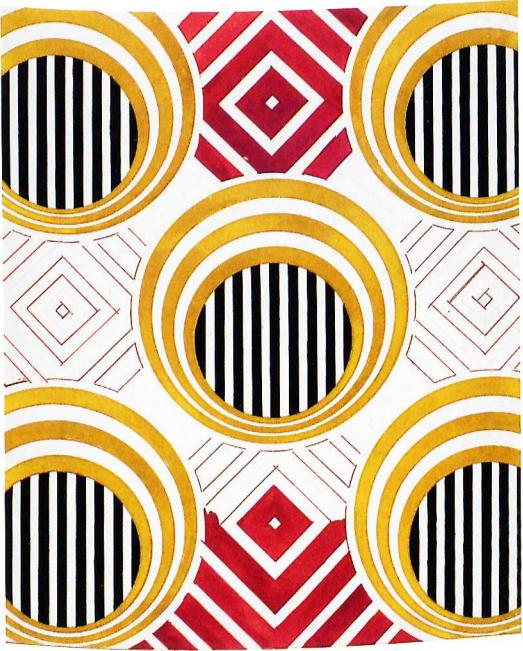


35. Aleksandr Rodchenko
(Russian, 1891–1956)
Construction, 1920
Ink and colored ink on paper
12 3/4 x 7 3/4" (32.4 x 19.7 cm)

36. Lyubov Popova
(Russian, 1889–1924)
Study for Space-Force Construction,
c. 1921
Crayon on paper
10 7/8 x 8 3/16" (27.6 x 20.8 cm)







37. Lyubov Popova
(Russian, 1889–1924)
Space-Force Construction. 1921
Oil with wood dust on plywood
28 x 25^{5/16}" (71.1 x 64.3 cm)

38. Lyubov Popova
(Russian, 1889–1924)
Textile design. 1923–24
Gouache, ink, and pencil on paper
13^{3/4} x 11^{1/8}" (34.9 x 28.2 cm)

39. Aleksandr Rodchenko
(Russian, 1891–1956)
Two Portraits of Varvara Stepanova
(detail). 1924
Gelatin silver print on paper
16^{1/8} x 11^{3/16}" (41 x 28.4 cm)

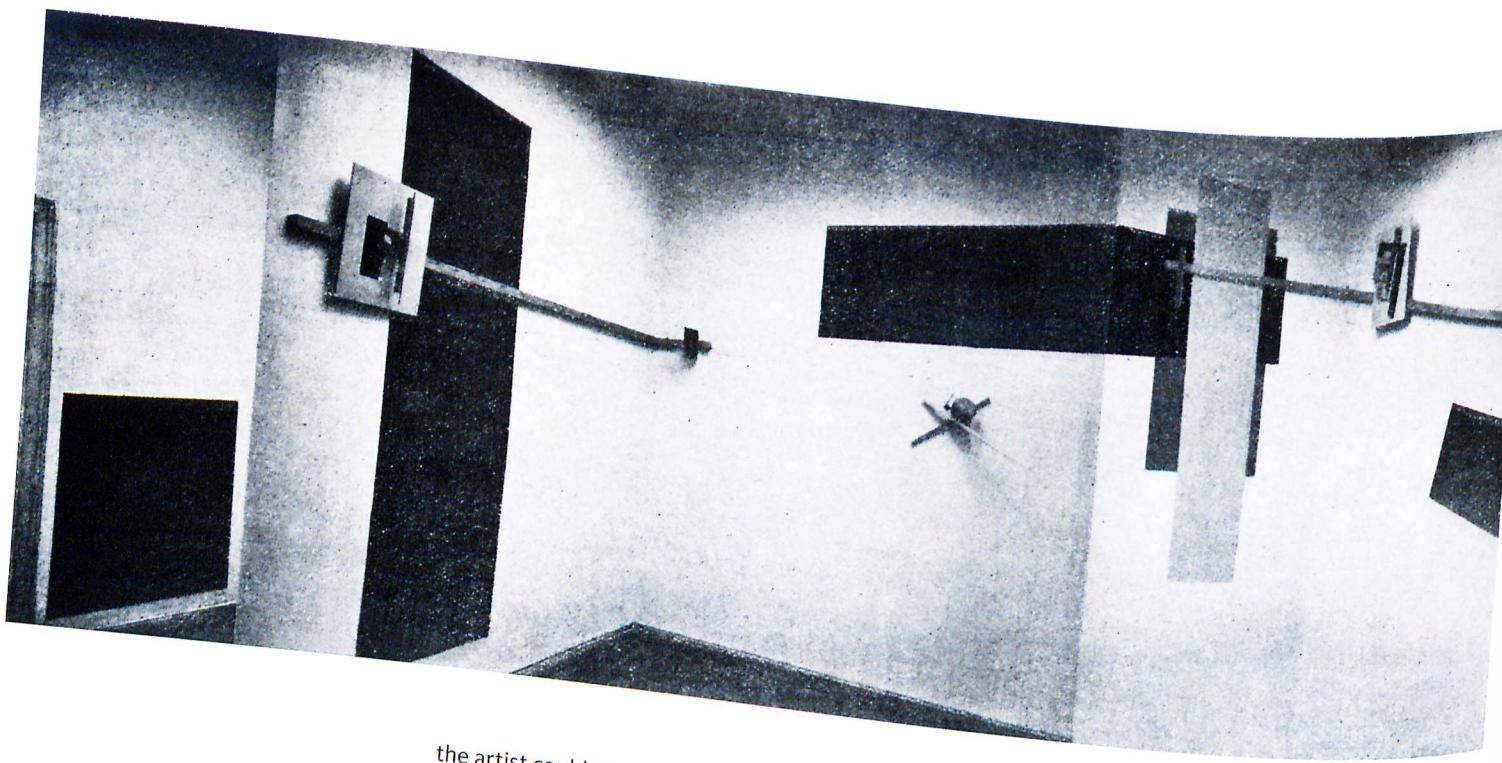


Thus the new form—the surface—required a new set of organizing principles. The construction of the work of art became a separate concern, on which everything else depended, just as the elements of an organism are systematically subordinated to the whole.

Work on the creation of forms and a structural system for them gradually brought the line into the surface as structural element.³⁰

The line of the new art was drawn not by hand but with a ruler and compasses (plates 34–36). Rodchenko wrote, “The craft of painting is striving to become more industrial. Drawing in the old sense is losing its value and giving way to the diagram or the engineering drawing.”³¹ Made with uniform tools, Constructivist works inevitably showed formal similarities, reflecting an emergent aesthetic grammar that emphasized the collective rather than the expression of an individual artistic self—a sense of self that the Constructivists saw as a product of capitalism. The lines on the paper are the traces not of an artist but of the implements of construction, and of the constructor as an element in a broad social dynamic. For Briony Fer, these metonymic attributes appear clearly in a photograph by Rodchenko, from 1924, of his partner Varvara Stepanova at her desk (plate 39): “The use of implements, such as ruler and set-square, enabled the works to appear as if untouched by human hands, as if the brush were the hand and the ruler its denial.”³² In Popova’s work, Fer continues, “The use of straight lines, parts of circles and the broken line of the diagram...invoked the notation of engineers and technical drawing.... As Popova wrote in notes on the 5x5=25 exhibition in 1921,... ‘Our work on each of the elements (line, plane, volume, space, textural color, material, etc.) goes beyond the bounds of a mere abstract exercise in elements’ to establish constructive principles in laboratory work.”³³ Yet while the structures of Popova’s compositions and constructions may be seen as alluding to a type of drawing, they also appear to elide the proper purpose of technical drafting, which they continually undercut.

In *The Non-Objective World*, published as a Bauhaus book in 1927, Malevich called line the element that generates form and, as such, the determinant of a way of perceiving the world. “It was through the conscious line—through being conscious of the line before focusing consciousness on the object—that



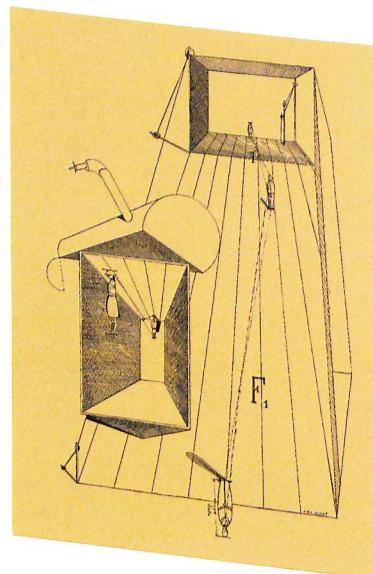
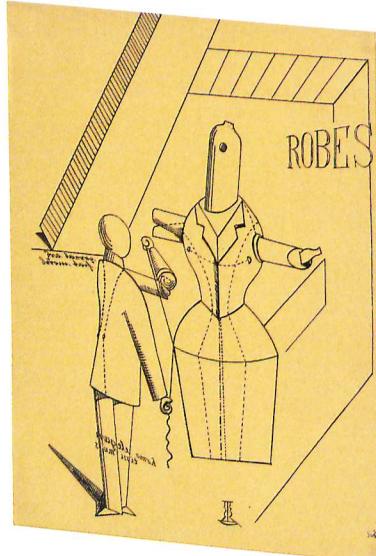
the artist could cognize not the object itself but what lay within that object: the non-objective forces that give structure and movement to it, to the world of space and time as such....Art would express a perception, whether it was an intuitive thought or a sensation, and transform this non-objective sensation into knowing.³⁴ For Malevich, this integration of a sensation of space and movement in time was achieved through an understanding of line as giving unity to those disparate realities on a plane. That understanding had been realized for the first time in Cubism and Futurism, which, along with Suprematism, Malevich saw as reflecting the transnational consciousness of the non-objective world and its universe of forces. This new cognition engendered another experience of space-time, based on the principle of relativity and on a movement from a three-dimensional to a four-dimensional world. Malevich recognized an emerging awareness of a world in constant motion, and of a humanity with lives past, present, and future, never fixed or static. Rather than depicting the world of earthly objects, Suprematist art stimulated a universal experience of space-time.

From the beginning of the exploration of line in the twentieth century, hierarchies of drawing, painting, and sculpture, of architecture, typography, and environment, were broken down, as in Duchamp's *Sculpture for Traveling* and Schwitters's *Merzbau*. Malevich's collaborator Lissitzky was among those who blurred these disciplinary boundaries when he transformed his Prouns into "abstract rooms" (1923–28; plate 40), visualizing a new geometry of space and movement. Abstract images realized in a number of mediums, the Prouns (plate 41; "Proun" being an acronym for "Project for the Affirmation of the New" in Russian) were intended as prototypes for Lissitzky's visionary designs for inhabitable abstractions, in which the visitor could experience the gravity-defying sensation of geometric shapes and linear vectors wrapping around corners and launching to the ceiling. In 1922, Lissitzky and Schwitters became friends and collaborated on the "Nasci" ("being born" or "becoming") issue of Schwitters's magazine *Merz*, published in April 1924, an explicit, programmatic alliance of Constructivist and Dadaist ideas. The dynamic between these two apparently dialectical models found further expression in 1926–28, when Lissitzky's *Kabinett der Abstrakten* (Room of abstractions) was constructed in the Hannover Museum, in the home city of Schwitters's *Merzbau*.

40. El Lissitzky
(Russian, 1890–1941)
Prounenraum (Proun room). 1923
Installation, as reproduced in
G: *Material zur elementaren Gestaltung*
no. 1 (July 1923)

41. El Lissitzky
(Russian, 1890–1941)
Proun 19D. c. 1922
Gesso, oil, paper, and cardboard on
plywood
38 3/8 x 38 1/4" (97.5 x 97.2 cm)





42 and 43. Max Ernst
(French, born Germany, 1891–1976)
Plates I and VI from *Fiat modes pereat ars*
(Let there be fashion, down with art).
1920
Two of eight lithographs on paper
Each: $17\frac{3}{16} \times 12\frac{9}{16}$ " (43.7 x 31.9 cm)

A Lineament in Space (1930–1960)

While Constructivists and Suprematists were advancing the cognitive line, Dadaists and Surrealists embraced the irrational. The title of Max Ernst's lithograph portfolio *Fiat modes pereat ars* (Let there be fashion, down with art, 1920; plates 42, 43), a witty inversion of the Futurists' slogan *Fiat ars, pereat mundus* (Let there be art, though the world perish), subordinated traditional art to commercial text design, but the prints themselves, as if challenging the Constructivists, showed the rational world industry gone awry. Although the tracing technique is diagrammatic and relatively orderly, the image includes nonsensical equations and ineffective measuring instruments, such as dysfunctional plumb and weights.

Soon the Surrealists would set out the terms for a line reflecting, in André Breton's words, "psychic automatism in its pure state.... Dictated by thought, in the absence of any control exercised by reason, exempt from any aesthetic or moral concern."³⁵ Automatic and collective drawing had already emerged as ways of rendering what lies hidden behind reality, as in the sketchbooks used during the spiritualist séances of af Klint and "The Five" as early as 1896 (sometimes in the form of the *cadavre exquis*). Now they were applied to the capture of the unconscious and the surreal.

The ensuing production of unrestrained line is exemplified in the automatic drawings of André Masson (plate 44) and in the "dream paintings" of Joan Miró, who by 1923 had joined Breton's circle in Paris. Letting the line loose to meander with the vagaries of erotic desire, Miró presented a space without limits. Bodies, objects, and words float in an infinite colored space, as if suspended in the narrative of progress—a modernist imperative embodied by the linear. Miró's engagement with the real and the corporeal, with movement and chance, is most apparent in tactile, sexually charged collage-objects such as *Spanish Dancer* (1928; plate 45), with its nails penetrating the support. While the Dadaists, as Anne Umland writes, advocated "the use of real objects as a means to reflect the post-World War I circumstances, Miró, a decade later, pushed his chosen objects and materials further to register not only as pictorial elements and as real-work objects but also as corporeal, carnal, and sexual signs."³⁷

Miró himself remarked that he looked at "real things with increasing love—the carbide lamp, potatoes—in fact, I caress anything, it doesn't matter what, with my eyes."³⁸ His hand is evident in the shaping of the Spanish dancer's body, in part from materials of drawing—a drafting triangle or square, a plumb line—but also from sandpaper, nails, plaster, cord, a cork, bits of crumpled paper, leather, thread, a tuft of hair, and flocked paper, all mounted on wooden boards. Miró's drafting paper, like Umland continues, is "forced into service as a sign for female genitalia, bawdily sporting (for those who care to get close enough) a small oval label advertising free entry: ENTRADA LIBRA."³⁹ How remote the line from the similar set square we have seen on Stepanova's desk, an instrument of tracing and building used to efface human touch. Thus line is driven in diametrically opposite directions by the Constructivist and the Surrealist—opposite also in relation to women, phrased respectively as active subject and passive object of the gaze. In the developing ideology of modernism, it seems alternately charged by the physical and the erotic. And as line comes to focus on the corporeal, it is increasingly corporealized or made

Alexander Calder would remember a visit to Miró's Montmartre studio in December 1928, when Miró showed him no paintings but instead a collage, "a big sheet of heavy gray cardboard with a feather, a cork, and a picture postcard glued to it. There were probably a few dotted lines.... I was nonplussed, it did not look like art to me."⁴⁰ Some time later, Miró attended a performance of the *Cirque Calder*, the miniature circus that Calder had created and operated between 1926 and 1931. Joan Simon Calder

Calder's *Circus* figures were mobile, made of wire, wood, corks, bits of leather, and hand-sewn fabric, and had devices, springs and strings that launched acrobats in the air, and caused trapezists to fly from one rig to another or a cowboy to lasso a steer....



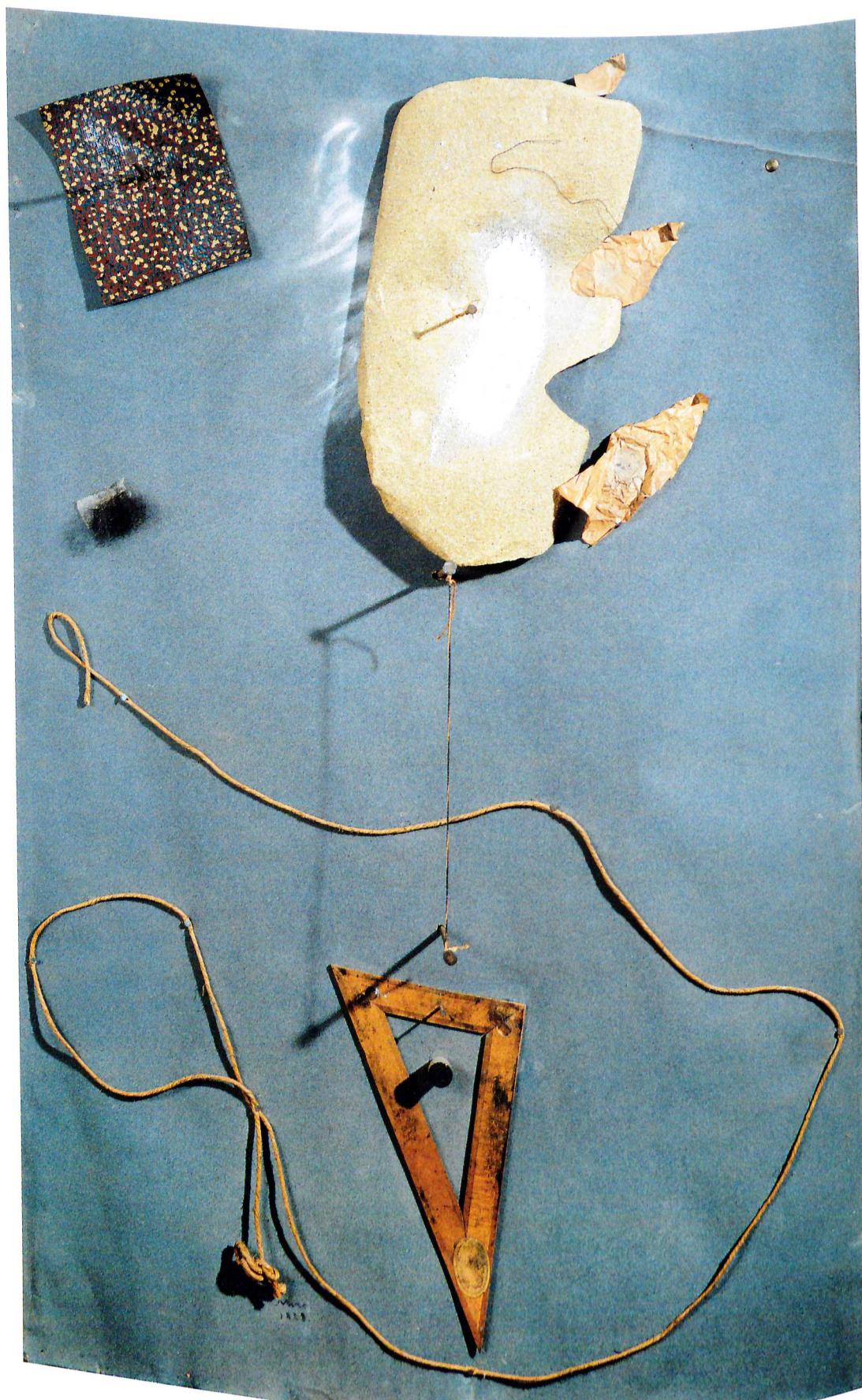
44. André Masson
(French, 1896–1987)
Combat de poissons (Battle of fishes).
1926
Sand, gesso, oil, pencil, and charcoal
on canvas
14 1/4 x 28 3/4" (36.2 x 73 cm)

Calder's first Paris-made three-dimensional objects were in many ways unclassifiable, in part because they were made with commonplace materials and because their mechanical workings gave some a gadgetlike appearance, but mainly because his works did not look like sculpture: they lacked mass, had the linearity of drawing outlining volumes, and often moved through space.⁴¹

Rather as the Constructivists were working with the opening of form, Calder was drawing three-dimensional forms in space with wire lines—"much as if the background paper of a drawing had been cut away leaving only the lines," as the curator James Johnson Sweeney would later write.⁴²

In 1930, after a visit to Mondrian's studio in Paris, Calder painted a group of abstractions, precursors to his now-well-known "mobile sculptures," or "spatial drawings." A year later, while continuing to work figuratively, he joined the *Abstraction-Création* group, which also included Mondrian and Jean and Sophie Taeuber-Arp (plate 46, 47, 49, 50). He would soon start to make works that combined line with movement to varying degrees, whether by moving with air currents or the touch of a hand, such as *Sphérique I* (1931), or power-driven in some way, such as the hand-cranked *Two Spheres within a Sphere* (1931) and the motorized *A Universe* (1934; plate 48). The line that had indicated motion now actually initiated it, embodying it in time and in space. Interestingly, the line of Calder's moving-wire works recurs in his circus drawings on paper of 1931–32 (plates 165, 224), where it takes on airiness and even translucency, as if benefiting from his explorations in real space.

Leaving its phallic status of righteousness, line now oscillated between the geometric and the gestural, becoming unstable, wandering, seductive—the supposed attributes of the feminine. It was as though a congenital pulse drove it toward motion and, now, toward color. Until well into the twentieth





century, art historians and academic theorists had generally considered color sensual and “feminine.” A certain truth of the hand, the stroke of pen or pencil manifest in the line — a certain honesty and discretion — had been favored over color’s allure. Drawing itself, of course, was assigned an instrumental role, to which color appeared not to submit — yet color was seen as no more than a superfluous ornament, a supplement, embellishment, or enhancement to drawing. While line was to be dilated, color was still sublated — an instrument of an instrument. Color had to be kept in line! As did the emerging, unleashed line itself, sinuous, promiscuous, out of control.

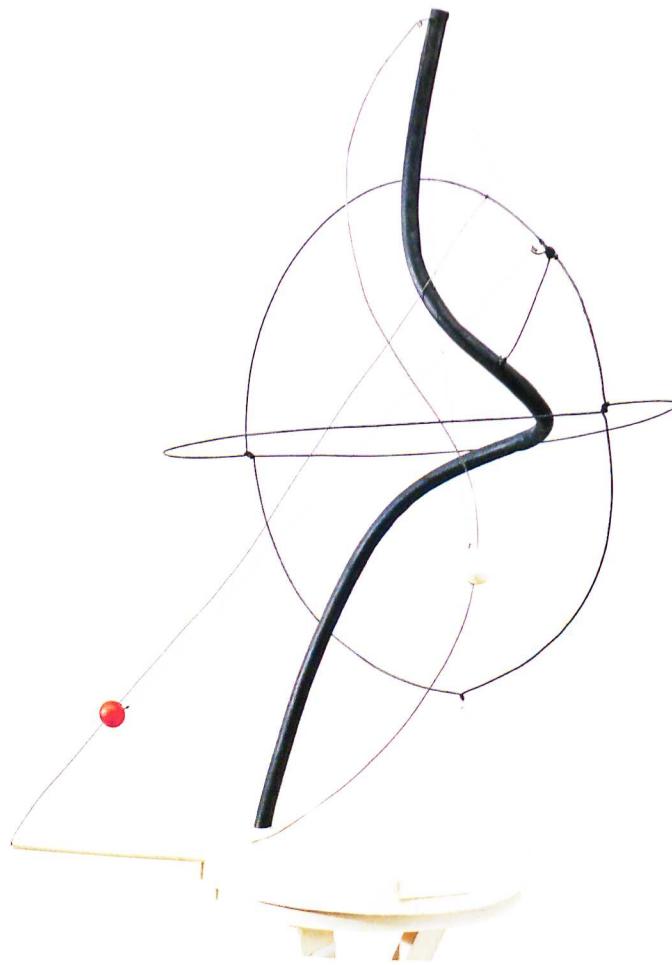
As the century progressed, however, the antinomy between drawing and color began to wane, particularly in abstract art, as both liberated themselves, George Roque writes, “from the once-dominant instrumental-representational function, in order to stand on their own and assert their independent value.”⁴³ In works such as Taeuber-Arp’s *Mouvement de lignes en couleurs* (Movement of colored lines, 1940; plates 8, 162), a dance of colorful tracings seemingly alluding to her choreographic work or to the moving strings of her puppetry, or in the delicately painted lines of Georges Vantongerloo’s *Relation of Lines and Colors* (1939), an attempt emerged to bridge the conventional division between line and color, motion and emotion. Again, the diagnostic charts that Emma Kunz made with a ruler and color crayon in a state of trance reflect an effort to merge gesture and geometric lucidity in an intuitive diagram. As Duchamp once remarked, “To all appearances, the artist acts like a mediumistic being who, from the labyrinth beyond time and space, seeks his way out to a clearing.”⁴⁴

At the brink of World War II, as a tragic period of dislocation, exile, and separation engulfed the lives of millions, an open-ended aesthetic model became apparent in which transformation and connection, asserted by the Surrealists through intimate relations of beings and things, were set against fixed definition and determination. The *Sixteen Miles of String* with which Duchamp filled a room at the *First Papers of Surrealism* exhibition in New York in 1942 (plate 167) — a show, organized by Breton, that featured a number of artists in flight from Europe — seems to epitomize such a model, rooted in responses and associations. In impeding walking, however, the twine of this immense “vintage cobweb? Indeed not!,” as Duchamp remarked, effectively acted as an obstacle between the audience and the artworks in the room of the residential mansion in which the exhibition was installed.⁴⁵ While resembling the tinted tangle of Maria Helena Vieira da Silva’s painting *Les Lignes* (The lines, 1936; plate 166), Duchamp’s string lines rather established a perceptual and ideological mediation among objects, viewers, and what

45. Joan Miró
(Spanish, 1893–1983)
Spanish Dancer. 1928
Sandpaper, paper, string, nails,
linoleum, drafting triangle, hair, cork,
and paint on flocked paper mounted
on wood boards
43 1/8 x 28" (109.5 x 71.1 cm)

46. Jean (Hans) Arp
(French, born Germany [Alsace],
1886–1966)
Two Heads. 1927.
Oil and cord on canvas
13 3/4 x 10 5/8" (35 x 27 cm)

47. Jean (Hans) Arp
(French, born Germany [Alsace],
1886–1966)
Leaves and Navel. 1929
Oil and cord on canvas
13 3/4 x 10 3/4" (35 x 27.3 cm)



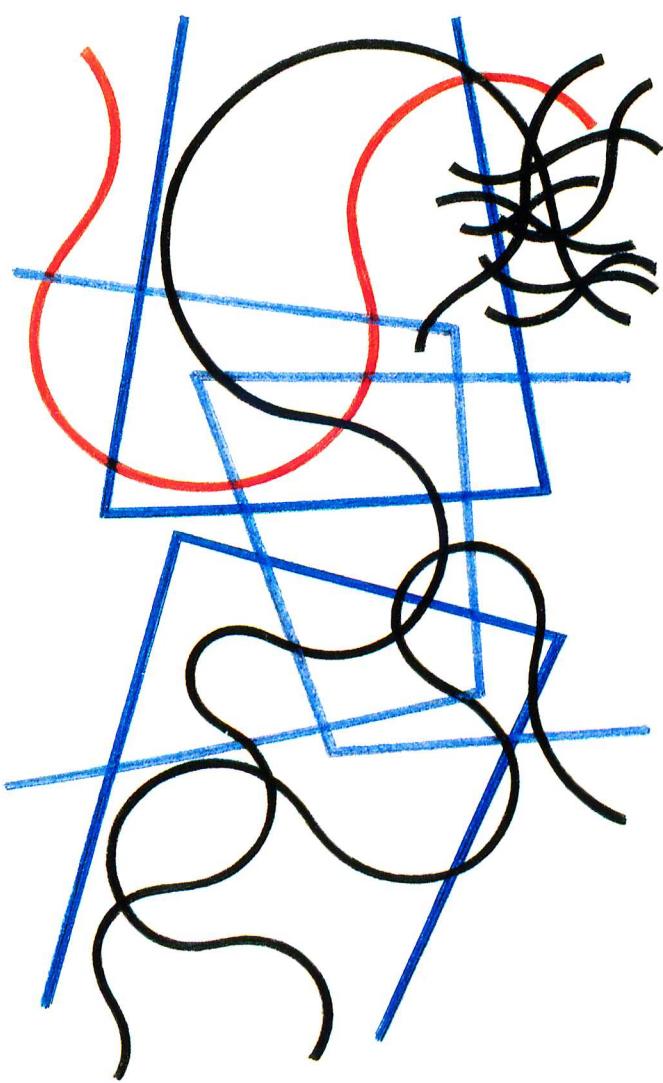
48. Alexander Calder
(American, 1898–1976)
A Universe, 1934
Painted iron pipe, steel wire, motor,
and wood with string
40 1/2 x 30" (102.9 x 76.2 cm)

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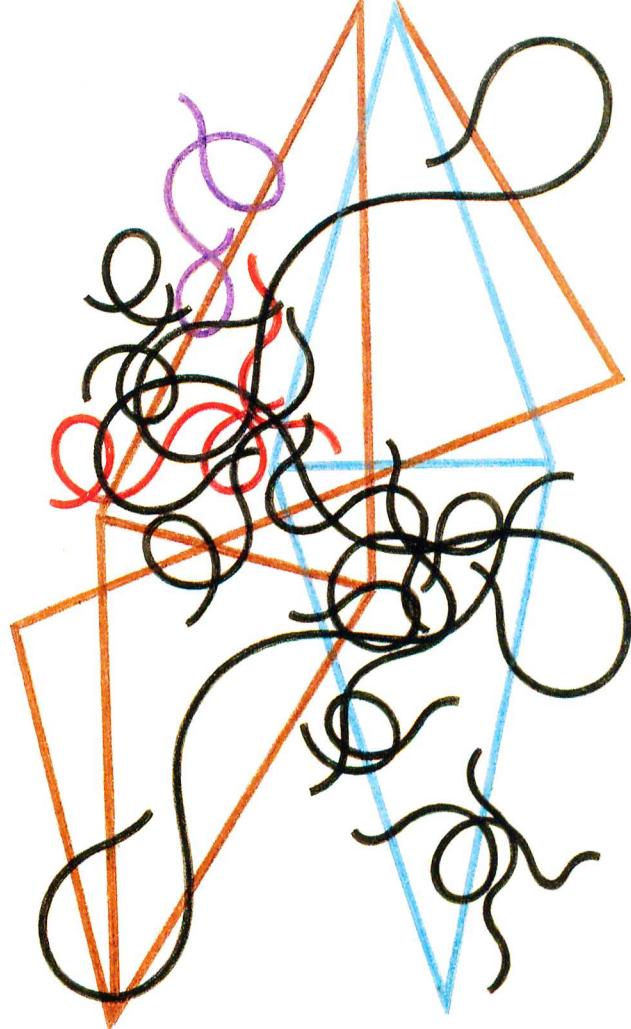
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was for many a “homeless” reality, addressing conditions of insecurity and exile. Embodying at once an insistence on the home as the locus of “the fantasy of fusion” and a resistance to “the ‘home’ as ideological site of nationalism,”⁴⁶ this confusing, aleatory cobweb seems to have had both the nurturing and the devouring traits of the spider. In fact *Sixteen Miles of String* replicated the condition of exile, refusing the potential of connectedness, of being in relation. Characterizing human existence as absurd, it reinforced separation in a solipsistic iteration of alienation. Ultimately the elaborate conceit of the web and, as Demos argues, “its promise of escape from ultimate arrest,” only manifest the sour bad faith of frustrated exile. Over thirty years later, when Cildo Meireles realized his weblike *La Bruja* (The Witch, 1979–81; plate 125) for the Bienal de São Paulo, he, like Duchamp, accepted the preexisting matrix of language, architecture, and institutional determination as inevitable preconditions for his work’s reception and similarly elicited forces of disorientation from within the work itself.

With the radical extension of line into the spatial dimensions of sculpture and architecture, its connectedness to space and time brought a dilation of its meaning. Freed from the support, becoming itself in space, it no longer figured as merely the outline or delineation of form, so that its meanings were liberated from the task of depiction. Line’s liberation from the two-dimensional surface over the course of the twentieth century found parallels not only in sculpture’s similar break from containment into real space but in the reinvention of social space, first as a fragmented dimension of modernity and then as contiguous with self. In avant-garde practice, these impulses anticipated the material and spatial experimentation with drawing that preoccupied neo-avant-garde practice in the postwar era in disparate societies across the globe.



49. Sophie Taeuber-Arp
(Swiss, 1889–1943)
Lignes géométriques et ondoyantes
(Geometric and undulating lines). 1941
Colored pencil on paper
8 3/4 x 5 1/2" (22.2 x 13.9 cm)



50. Sophie Taeuber-Arp
(Swiss, 1889–1943)
Lignes géométriques et ondoyantes
(Geometric and undulating lines). 1941
Colored pencil on paper
8 7/16 x 5 1/4" (21.5 x 13.4 cm)





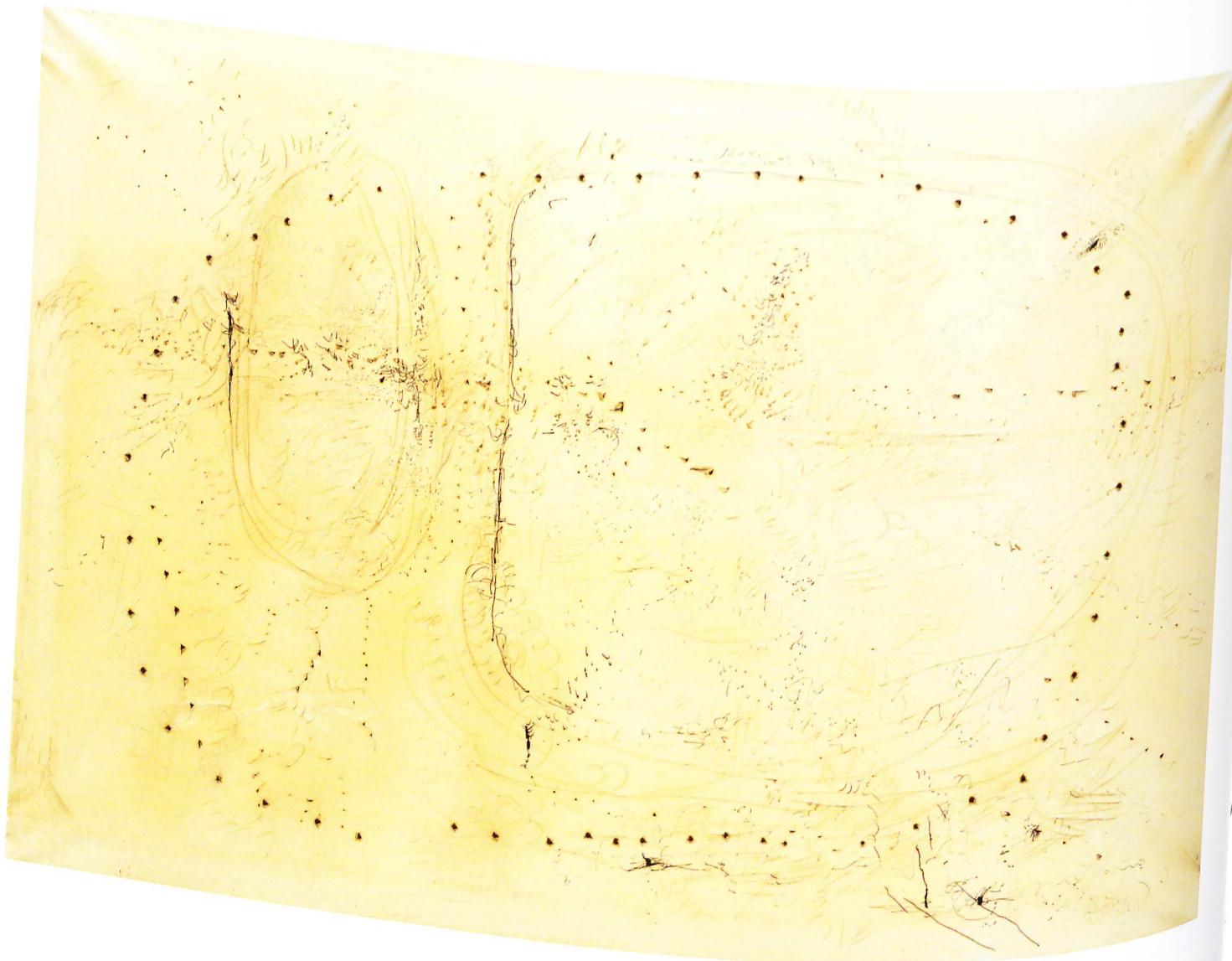
Longing for a space "without dimensions,"⁴⁷ Vantongerloo, who in 1917 had cofounded the de Stijl group with Mondrian and Theo van Doesburg, created his first linear sculptures in the 1940s: *Etendue (ligne dans l'espace) un point en mouvement engendre un volume* (Extended [line in space] a moving point engenders a volume), *Espace infini* (Infinite space), and *Vecteur* (Vector, all 1945), to which he would later add color paint. In a letter to Max Bill that same year, he wrote, "A point in movement traces a line which is not necessarily straight and evenly wide over its full length. On no. 163 there are two lines, emerging from a point that follows its own course without asking for my advice."⁴⁸ Vantongerloo was fascinated by Suprematism and Constructivism; his suspended linear *Revolution* (1946) could almost be a materialization of the line cut into the planar surface of Rodchenko's *Spatial Construction* no. 12. The titles of his works refer to geometry and astrophysics, the lines and vectors being those of cosmic energy. In 1947, to suggest infinity while using a material ground, he began to work with transparent Plexiglas, so that, in sculptures such as *Des éléments (ligne fermée)* (Elements [closed line], 1954), *Espace et couleur* (Space and color, 1956), and others (plate 51–53), line and colored dots appear to float free, mobile in space. Reflecting, in part, a common longing for liberation in Europe during and after World War II, the drive to elude confinement was an important motive for Vantongerloo, who wrote, "From 1938 until 1946, I have increasingly freed myself from labels. I am thus free. That is my right, and also yours. Art expresses itself in freedom, and I hope nobody will apply a new label for my view with the excuse that it is a new form of art — like film."⁴⁹ He increasingly saw his work as an attempt "to express space — the immensity of space — the universe, not scientifically nor philosophically nor allegorically, but through the comprehension of the immeasurable itself. I just made a work in which the colors are no more material but are present by radiation."⁵⁰ Following the credo "the volume + the void constitute space,"⁵¹ he wanted his Plexiglas sculptures and white monochrome paintings to dissolve in infinity, to become one with the immeasurable cosmos. To capture space in light, he fused the color of painting, the spatiality of sculpture, and the linearity of drawing, seeking a result that was none of the above: line made transparent void, line devoid of contour — "no longer painting," Vantongerloo wrote, "nor sculpture or what they call plasticity, nor existence according to the laws of chance, but creations within creation."⁵²

Across the Atlantic in Buenos Aires, Carmelo Arden Quin, Gyula Kosice, and Rhod Rothfuss, founders, in 1946, of the Madí group, were similarly aiming to transcend the formal limits of concrete art.

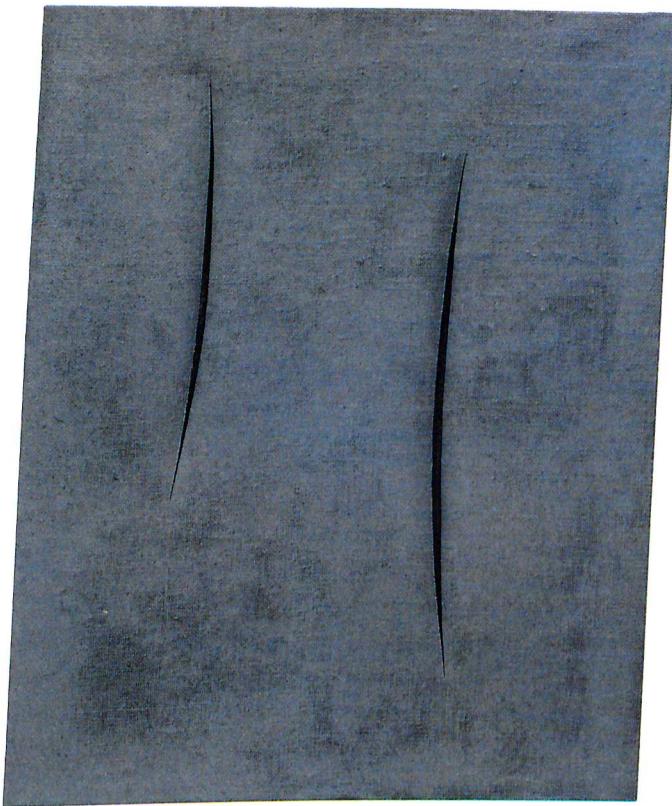
51. Studio of Georges Vantongerloo
(Belgian, 1886–1965), Paris, 1960

52. Georges Vantongerloo
(Belgian, 1886–1965)
Espace et couleur (Space and color). 1956
Plastic
 $9\frac{13}{16} \times 11\frac{7}{16} \times 3\frac{15}{16}$ " (25 x 29 x 10 cm)

53. Georges Vantongerloo
(Belgian, 1886–1965)
Cocoon, chrysalide, embryonnaire
(Cocoon, chrysalis, embryonic). 1950
Plexiglas
 $3\frac{15}{16} \times 5\frac{1}{8} \times 3\frac{1}{8}$ " (10 x 13 x 8 cm)



Their experiments with materials paralleled those of Vantongerloo, whom Arden Quin and Kosice would meet when they moved to Paris, at the end of the 1940s, and whose aesthetic of dematerialization strongly influenced Arden Quin's idea of "*plastique blanche*" (white plasticity). Also in 1946 in Buenos Aires, Lucio Fontana and his students published their *Manifesto Blanco*, which introduced the concept of "Spatialism." In an embrace of celestial dynamism recalling Vantongerloo's, and ultimately inspired by Futurism, Fontana sought escape from the imprisoning flat surface to explore movement, time, and space. In 1949, having returned to Italy, he began to develop his *Concetti spaziale* (Spatial concepts; plates 54, 55), puncturing and piercing the surfaces of sheets of paper to reach into the space behind, beyond, the illusionistic plane—in other words into the real, into what he called "a free space."⁵³ Rips, tears, and holes made in the page with an old-fashioned steel-nib pen were imagined as opening onto a space without physical boundaries. In 1958, as if realizing the potential of Rodchenko's linear "incisions"—lines traced as "cuts" into the surface plane—Fontana began to slash linear cuts in stretched canvases. He completed these works, giving them body, by easing open the edges of the cut with, effectively, an erotic gesture of the hand. The opening thus obtained onto the real, onto space, indeed onto the universe, was to allow for a sensation of boundlessness, a vertiginous ecstasy of dilation. Shedding its materiality, line became both orgiastic and cosmic, coextensive with infinite space, with creation itself. More literally, the works were intended as an art for the "space age"—an age of new technologies of science and transmission.



*Infinity passes through
[the cut lines of the Concetti
spaziale], light passes through
them, there is no need to paint.*

—Lucio Fontana, n.d.

These artists' fascination with the white ground is striking not only in its reference to the pure, virginal state of the empty page (related to drawing) but also because of white's potential to fuse with the space around it, with the void. This artistic construct was conceived in the aftermath of World War II, when, in the face of destruction and annihilation, the idea of the *tabula rasa* was prompted by the wish for a new beginning, relieved of the burden of memory: an emerging model of creativity seen as universal, outside history, outside language, but inside space. Two decades earlier, Mondrian had pursued a utopian desire for the "dissolution of art into the environment" in his grid paintings (plate 61).⁵⁴ In his work of the late 1930s, however, line, previously subservient to structures of planes, had become the most active element, breaking down the particularity of the planes by its profusion. As line multiplied, it could no longer be fundamentally different from plane, and the one dissolved into the other.

In the 1940s and '50s, with Vantongerloo using unframed, white-painted canvas and Fontana slashing linear cuts through the canvas, line passed from bodily existence to a metaphorical zone of energy and light, released from physical containment. In Vantongerloo's suspended Plexiglas works, line was apparent only as transparency; in the *Concetti spaziale*, line was the absence between the lips of Fontana's cuts. Even when still material, in the "drip" paintings of Jackson Pollock (plate 56), line had a new volatility. Krauss writes that while Pollock's skeins or tightly woven webs of paint are

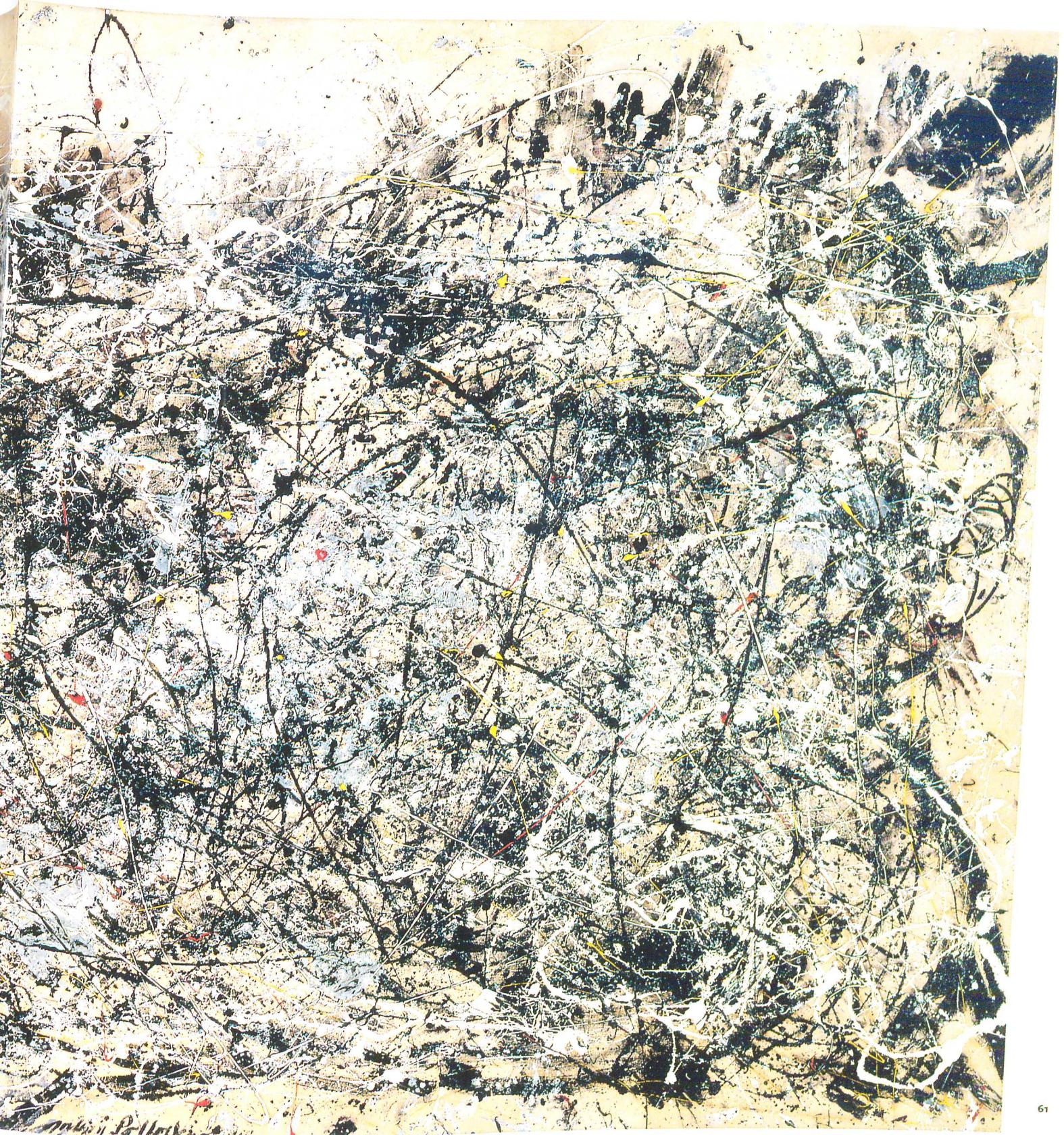
54. **Lucio Fontana**
(Italian, born Argentina, 1899–1968)
Concetto spaziale (Spatial concept). 1957
Ink and pencil on paper on canvas
55" x 6' 6 7/8" (139.7 x 200.4 cm)

55. **Lucio Fontana**
(Italian, born Argentina, 1899–1968)
Concetto spaziale. Attese
(Spatial concept: expectations). 1959
Synthetic polymer paint on
slashed burlap
39 3/8 x 32" (100 x 81.5 cm)

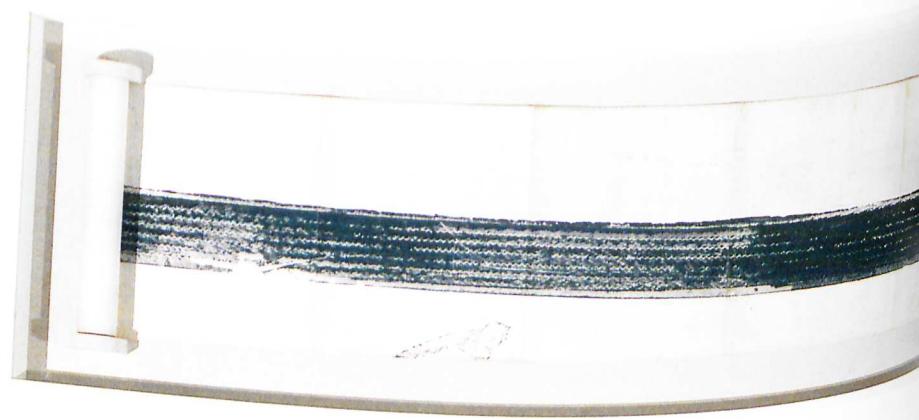
constituted of pure line, the very stuff of drawing, they manage to undermine the goal of drawing, which is to bound an object by describing its contour. Constantly looping back on themselves, they not only disallowed the formation of anything like a stable contour but they also dispersed any sense of a focal point or compositional center within the optical field. In this sense, line was put to the service of the creation of a kind of luminous atmosphere, formerly the province of color, and...canceling or suspending the distinction between line and color.⁵⁵

56. Jackson Pollock
(American, 1912–1956)
Number 1A, 1948, 1948
Oil and enamel paint on canvas
68" x 8' 8" (172.7 x 264.2 cm)





Jackson Pollock



CONTIENE UNA LINEA LUNGA 1000 METRI
ESECUTA DA PIERO MANZONI
IL 24 LUGLIO 1961





The wild, untamed line of Pollock and other American Abstract Expressionists began to be coded as a form of freedom — “a liberated sensibility increasingly deemed as setting a good example for the cause of democracy in Cold War-torn Europe.”⁵⁶ Yet while many artists of this period let line loose into an ultimately metaphysical space, Pollock — famously laying canvases on the floor and dribbling paint onto them — regrounded it in the conditions of the earth, its gravity and reality. With no verticality, no contour, and no form, line was brought back from space to the surface, creating what would come to be called “antiform.” Pollock’s performative gestures recalled the movements of a dancer — perhaps those of Françoise Sullivan, a member of the Automatist group of Montreal, in her *Danse dans la neige* (Dance in the Snow) of 1948 (plates 169–73), both artists similarly leaving a picture of chance, choice, and chaos in kinesthetic traces on the white plane/plain.⁵⁷

The painting and drawing of the Gutai group, founded in Japan in 1954 (plates 177–79), and the mechanically generated, meter-long lines boxed in containers by Piero Manzoni in 1959–61 (plates 57, 58) explored related concepts of gestural performativity in their different actions with line. This development would continue in the process and performance art of the 1960s. Yet Pollock’s expressive line would soon be countered in works by Barnett Newman, Robert Rauschenberg, Ellsworth Kelly (plates 149, 150), and even Cy Twombly (plate 127, p. 225). Against the unique trace of the individual, against notions of spontaneity and authenticity, were posited the indexical imprint of a shadow, a tire print, or a graffiti mark, suppressing the autographic and the compositional. Though also created on the ground, and no less rooted in the real than Pollock’s work, the readymade line in *Automobile Tire Print* (plate 59), made by Rauschenberg with John Cage in 1953, was conceived as being as uns spontaneous, as devoid of the maker’s character, as a line could be.⁵⁸

The use of the index as a counter to action painting’s sense of authorial presence coincided with the autonomous movement of the line in European and South American kinetic art. Jesús Rafael Soto, who moved from Caracas to Paris in 1950, made reliefs that featured a vibrating line (plate 84) recalling Duchamp’s *Rotary Demisphere (Precision Optics)* (1925) and Calder’s first mobiles. These works steadily grew in scale, to the point where, in the *Penetrables* (Penetrables, 1969), they became environments enveloping the viewer. Back in Venezuela, Gego, a contemporary of Soto’s who had made the reverse journey from Europe to South America, developed modular three-dimensional systems, disembedding gesture and rematerializing line. Her *Reticuláreas* (“Reticuláreas” [a coinage of the artist’s], 1969; plate 85) use lines, or the distance between them, to produce transparency and interpenetration, as if she were studying their behavior in multidimensional space. She pointedly called one group of works *Dibujos sin papel y sin marco* (Drawings without paper, 1976–89; plate 207, p. 219), believing, as Robert Ryman later would, that the presence of line defined these works as drawings.⁵⁹ Like Vantongerloo, Gego experimented with space as a unity of volume and void, making art from an absence of substance as nonobstruction, in what was, in part, a critique of conventional sculpture.

In the late 1950s and early 1960s, Lygia Clark and Hélio Oiticica, cofounders of the Neo-Concretist movement in Rio de Janeiro in 1959, seemed to share an endeavor with Italian *arte povera* artists such as Giovanni Anselmo, Luciano Fabro, and Pier Paolo Calzolari in what was to follow on from the relation

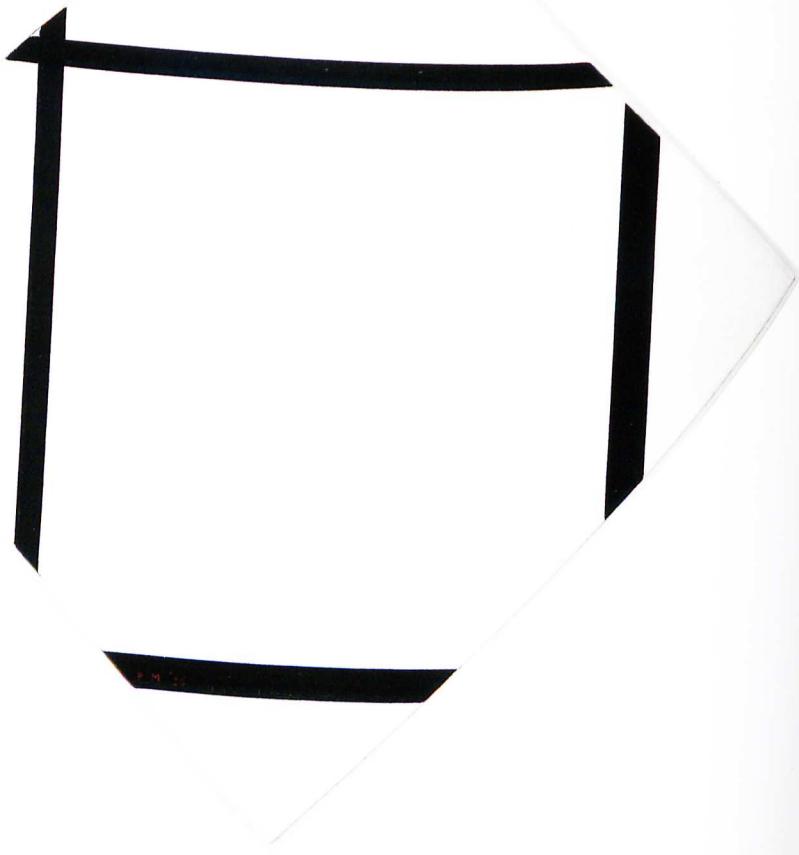
57 (far left). Piero Manzoni making *Linea m 7200* (7200-meter line) at the paper mill of Herning Avis Printers House, Herning, Denmark, July 4, 1960

58 (near left). Piero Manzoni (Italian, 1933–1963) *Linea m 1000* (1000-meter line). 1961 Chrome-plated metal drum containing a roll of paper with an ink line drawn along its 1000-meter length 20 1/4 x 15 3/8" diam. (51.2 x 38.8 cm diam.)

59 (above). Robert Rauschenberg (American, 1925–2008) *Automobile Tire Print*. 1953 Black paint on twenty sheets of paper, mounted on fabric 16 1/2" x 22" 1/2" (41.9 x 671.8 cm)



60. Lygia Clark
(Brazilian, 1920–1988)
Espaço modulado II
(Modulated space II), 1958
Cut-and-pasted colored cardstock
on cardstock
11 3/4 x 3 7/8" (29.9 x 9.9 cm)



61. Piet Mondrian
(Dutch, 1872–1944)
*Tableau I: Lozenge with Four Lines
and Gray*, 1926
Oil on canvas
44 3/4 x 44" (113.7 x 111.8 cm)
© 2010 Mondrian/Holtzman Trust
c/o HCR International Virginia

There is only one type of duration: the act.

— Lygia Clark, “Walking,” 1964

To my mind, looking at [Mondrian's] verticals and horizontals, he divided up the picture simply into its own lines of construction. My own problem is tied up with this, that is to say when I am virtually turning the surface sideway, working with its peripheral “edge of space,” as I called it.... The great importance of Mondrian, to me, was that he “cleaned” the canvas of representative space, and from this came the contemporary questioning of this space.

— Lygia Clark, “Mondrian”



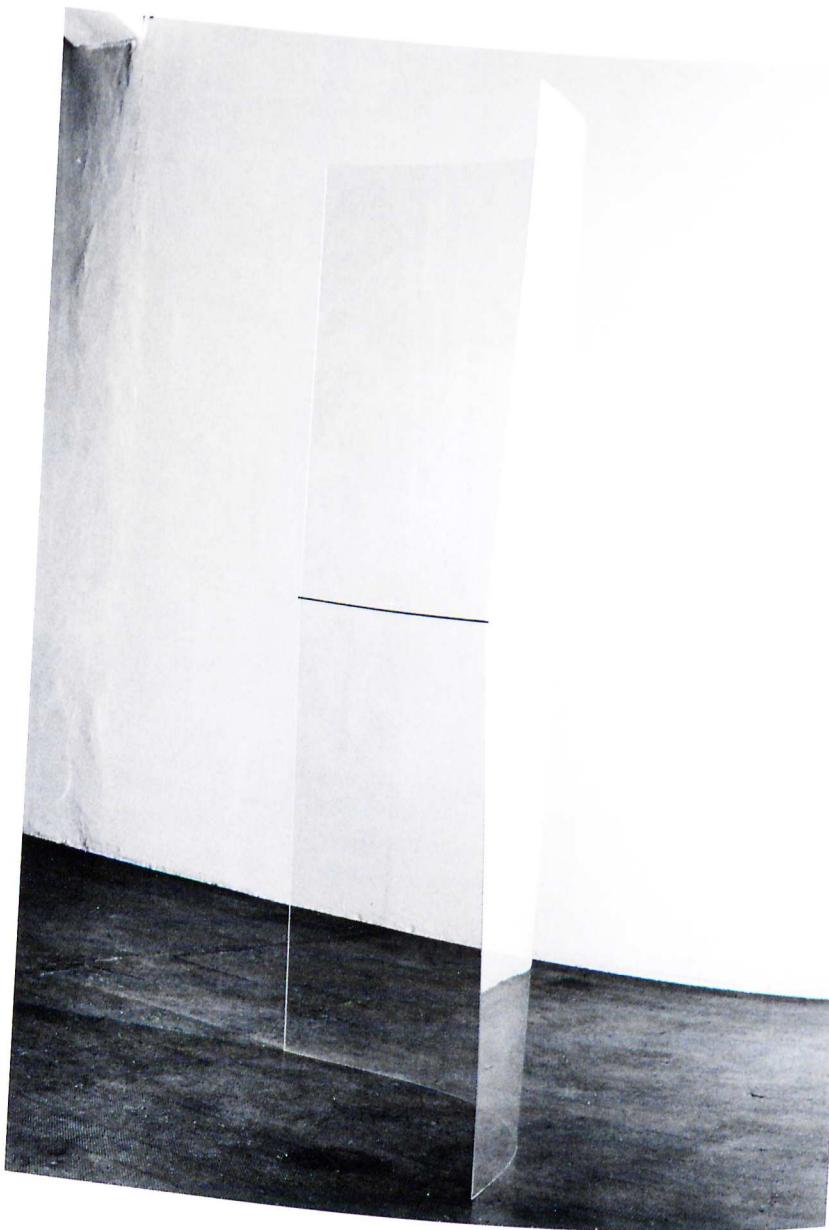
between matter and space posited by Fontana's empty line. And while the two groups differed widely in their approach to the legacy of earlier avant-gardes — Oiticica explicitly emphasized their different uses of “poor” materials — they had a common concern with art as environment and process to be experienced rather than as object to be consumed. Each sought a revolutionary art, freed both from aesthetic convention and from the power of the corporation and the marketplace. They aimed to reconnect art with daily life, to liberate the art object from its formalist inertia by creating “living objects” in which could be glimpsed the primary energy, the endless process, the vital forces that stir in all things, thus engaging viewers and freeing them from their own inertia. When Anselmo, in 1967, bent a large sheet of transparent acrylic into a curve and connected its vertical edges with an iron wire (plate 63) — the line as sign of tension — he not only made energy apparent but reconfigured the relation of plane and void, inverting Fontana's “absent” vertical line into a horizontal solid, suspended over a transparent surface that appears to become one with space. Fabro's *Contatto-Tautologia* (*Contact-tautology*, 1967; plate 62), a metal beam running high in the air between one wall and another — but cut in the middle, the two parts unable to meet — similarly asks the viewer to reflect on relation in a state of tension. Fabro's many experiments with mechanisms of suspension demonstrate a constant concern with questioning the relationship between the artwork, the viewer, and the environment.

Meanwhile, Clark's and Oiticica's Neo-Concrete line led into the empty interstices or joints between planes that touch. Clark tried to reveal the “processuality” of geometry by “freeing the line in the plane” from its supposedly inanimate condition.⁶⁰ The emptiness of the seam between the planes in *Espaço modulado I* and *II* (*Modulated space I and II*, 1958; plate 60), for example, becomes a “line-space,” which Clark called the “organic line”: “The planes are juxtaposed with lines and gaps that make the surface dynamic,” Suely Rolnik writes, “as if irrigating it with life-giving sap, causing the work to spill over and contaminate space.... The plane thus recovers its poetic pulse.”⁶¹ Eventually Clark translated her geometric paintings, with their perceptually unstable planes, into freestanding constructions, the *Bichos* (*Animals*, 1960–64), hinged planes of metal that could be unfolded (much like Rodchenko's Spatial Constructions) and manipulated into various shapes, acquiring volume in real space. The two-dimensional plane, “pregnant from its fertilization by space” and revealing “the virtual presence of relief,” spread into three dimensions.⁶² The fusing of opposites — inside and outside, subjective and objective, erotic and ascetic — in *O dentro é o fora* (*The inside is the outside*, 1963; plate 185) reflects Clark's desire to undo the binary, on which, in her

62. **Luciano Fabro**
(Italian, 1936–2007)
Contatto-Tautologia
(*Contact-tautology*). 1967
Stainless steel
Installation view, Museo d'Arte Contemporanea Donnaregina, Naples, 2007

*Space has fun between
the straight line and the curve.*

—Luciano Fabro,
Attaccapanni, 1978



63. Giovanni Anselmo
(Italian, born 1934)
Untitled, 1967
Transparent acrylic and iron wire
6' 5 11/16" x 47 3/8" (197.3 x 120.3 cm)

64. Luciano Fabro
(Italian, 1936–2007)
Asta (Pole), 1965
Stainless steel
Installation view, Museo d'Arte
Contemporanea Donnaregina,
Naples, 2007

66

view, planar geometry and indeed the rational structures of society were based, and instead to develop the in-between, the relational, in order to counter the dissociating experience of what she called the "empty" full" in subjectivity. These conversations between line and plane, subject and object, in time led both Clark and Oiticica to collective, interactive performances intended to announce not only the fluidity of relation but also a beginning of the gradual disappearance of the authorial subject, and indeed of the art object as such. Convinced of the therapeutic potential of her artistic proposition of relation, Clark continued to treat individuals with "relational objects" in her studio until the end of her life (plate 186).

The wearable *Indumenti* (Garments) Fabro made in 1966 reflect a similar relational dynamic. Intimate items, these clothes include a *Posaseni* (Breast rest); a *Bandoliera* (Bandolier), a double ribbon passed between the legs and over the shoulder to support the male organ; and two pairs of cotton-wool *Calzari* (Footwear), one for a man, one for a woman. Fabro claimed, "These are garments which have no need to be understood but are simply worn." They represent the "shadow line," the subtle boundary between inner space (here understood as the body) and outer space, between the private sphere of existence and its public dimension.⁶³

