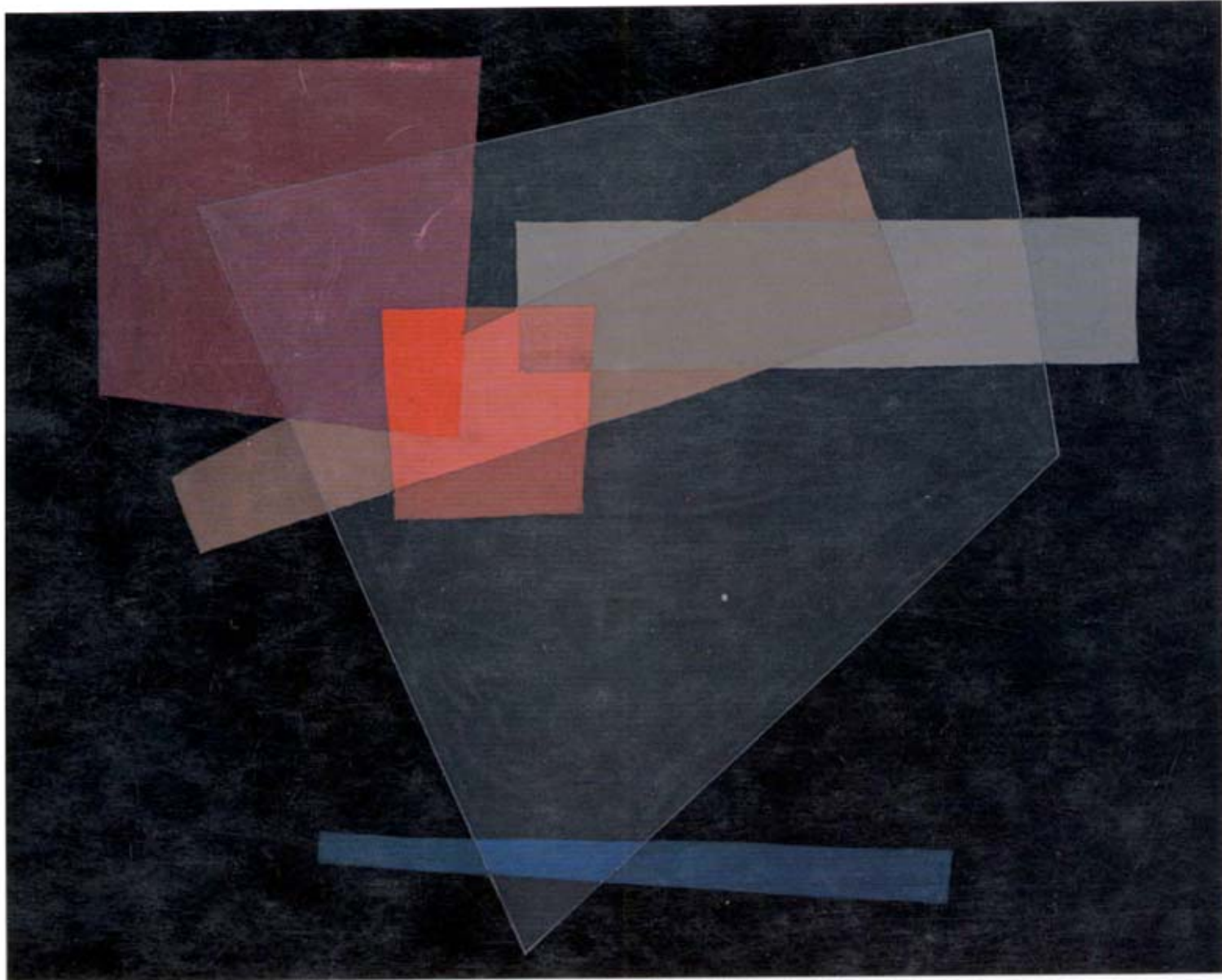


Kandinsky's Teaching at the Bauhaus

Color Theory and Analytical Drawing



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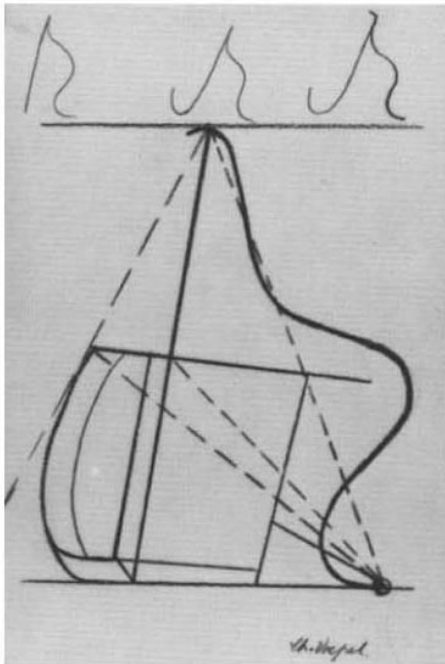
Analytical Drawing

As an adjunct to his class on Abstract Form Elements, Kandinsky taught Analytical Drawing, all as part of the program of basic instruction for first-semester students. While the first of these consisted of lectures on his theories of form and color, in addition to the student exercises and class discussion, the drawing instruction was evidently simply a studio course, constituted by student work and the comments of Kandinsky and the class. Accordingly, no lecture notes exist for these sessions, though there do survive outlines of the principles and methods, occasional references to the class in his notes, a few brief descriptions by former students, and a substantial group of exercises.¹

The class work was, therefore, primarily an empirical investigation of visual principles, but it had significant connections with Kandinsky's formal theories and applications in his teaching of pictorial composition. Although in the whole range of his artistic theory, analytical drawing would seem a limited subject, it is significant in that it shows the influence of a wide range of artistic and theoretical sources. Furthermore, the student exercises offer a fascinating view of diversity of individual approach, even in some cases in the treatment of the same motif, as well as demonstrating an analytical design process in a clear, step-by-step manner. Kandinsky's conception of ana-

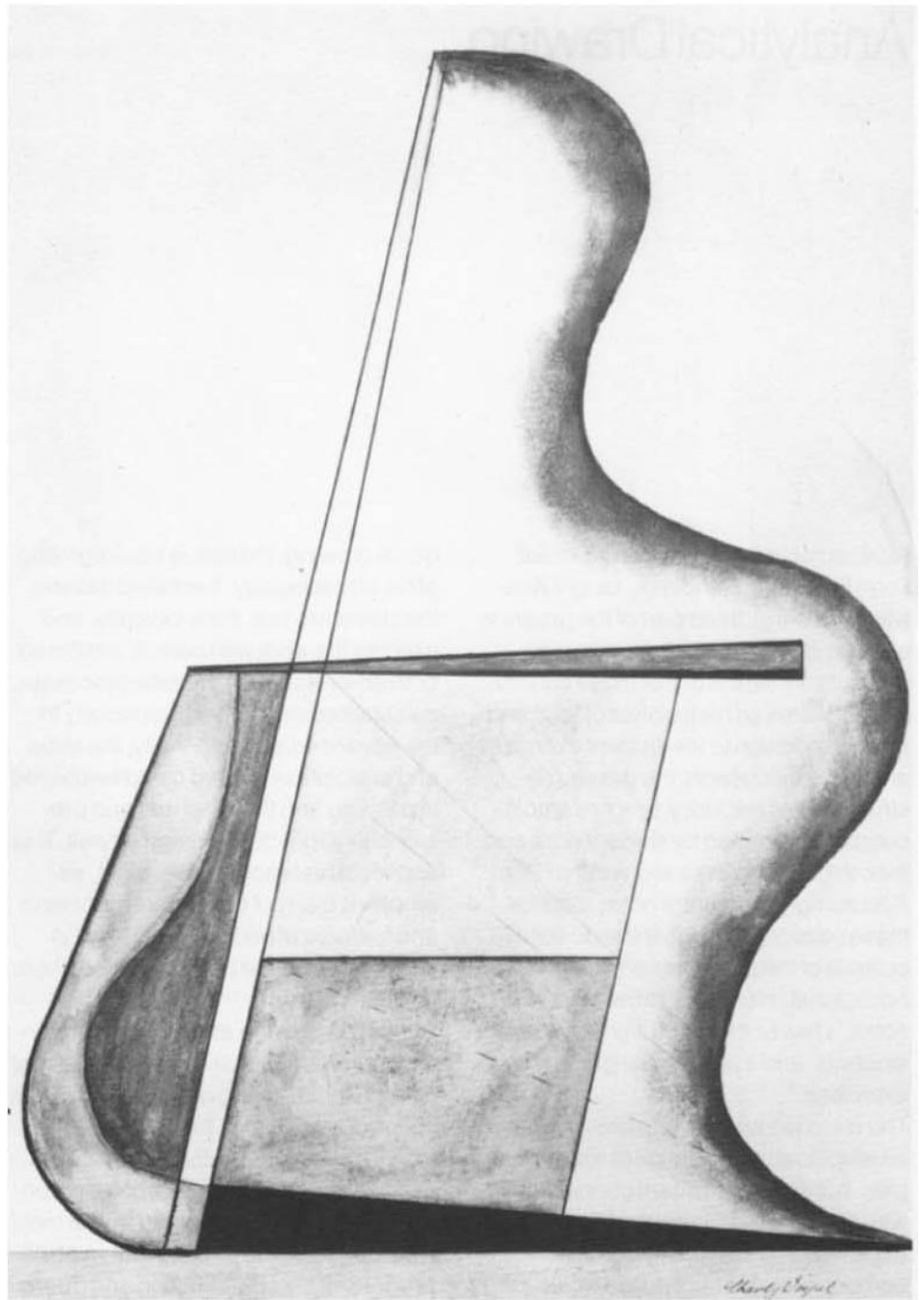
lytical drawing, indeed, is paradigmatic of his art pedagogy. It entailed training the student to see, think logically, and execute the work with care. It combined both analytical and synthetic processes, calculation and intuition, especially in the advanced stages. Finally, the skills and principles involved could be utilized in painting and the other arts and presumably in practical design as well. This aspect of his teaching, therefore, exemplifies many of the general concepts and features of his approach to art instruction that have been discussed here in Section I.

Analytical drawing as taught by Kandinsky was an investigation of the structural relationships among objects, following a series of stages that, briefly stated, involved progressively the simplification, analysis, and transformation of the graphic characteristics presented by the motif. Appropriate to the primary nature of the program of basic instruction and true to Kandinsky's own conception of art education, this was an ideal approach to drawing, rather than a practically or technically oriented one. It would not provide the beginning student with a specific skill to apply subsequently in one of the workshops, as might be claimed for mechanical or projective drawing. These technical procedures were included as adjunct areas in the preliminary program.² Kandinsky succinctly explained the pur-



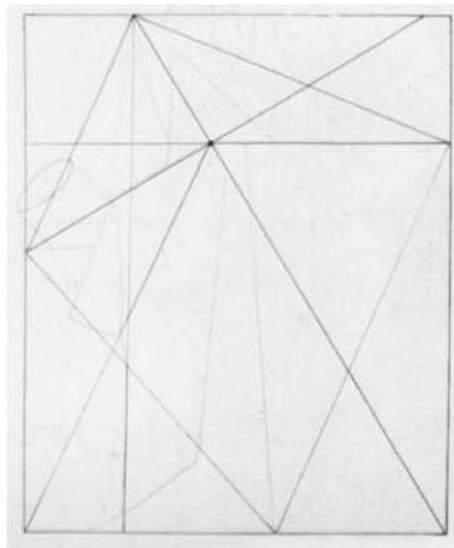
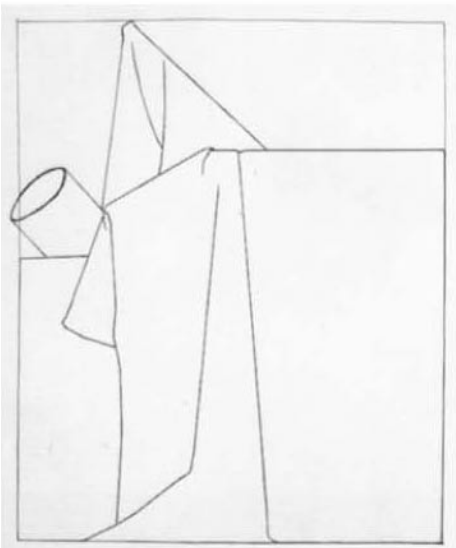
95 Charlotte Voepel-Neujahr. *Analytical Drawing with Schemata*, ca. 1927/28 (C. 193)

96 Charlotte Voepel-Neujahr. *Color Composition after an Analytical Drawing*, ca. 1927/28 (C. 188)





97 Charlotte Voepel-Neujahr. *Color Composition after an Analytical Drawing*, 1927/28 (C. 198)



98 Bella Ullmann-Broner. *Representation—Geometric Network With Centerpoint—Depiction of Main Tension*, 1929/30 (C. 163)

pose of his course in his brief article "Analytical Drawing," published in the Bauhaus journal in 1928:

"The teaching of drawing at the Bauhaus is an education in looking, precise observation, and the precise representation not of the external appearance of an object, but of constructive elements, the laws that govern the forces (= tensions) that can be discovered in given objects, and of their logical construction."³

Some of its general principles he had expressed a bit more specifically in introducing the course to the students in September 1926. The training, he asserted, would develop their ability to perceive the abstract, the essential form, undistracted by secondary aspects or insignificant features. This would lead to an understanding of certain basic structural laws: principles of equilibrium, parallel construction, and major contrasts. He cited the example, on another occasion, of an equilibrium of vertical and diagonal accents, with the diagonal slightly predominant—presumably a way of achieving a balance that was not static.⁴ The other principles, of parallelism and contrast, are referred to in Max Bill's description of the products of the course as

"studies in which only the horizontal or only the vertical or diagonal elements were represented, variously emphasized according to their importance. Or else the round and the angular forms were contrasted to each other."⁵

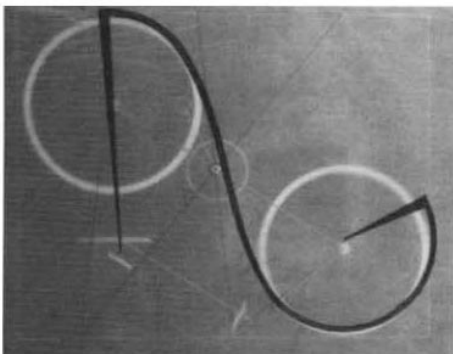
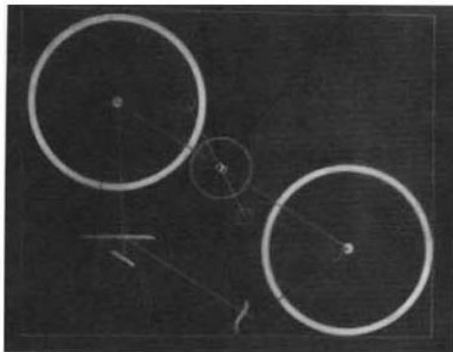
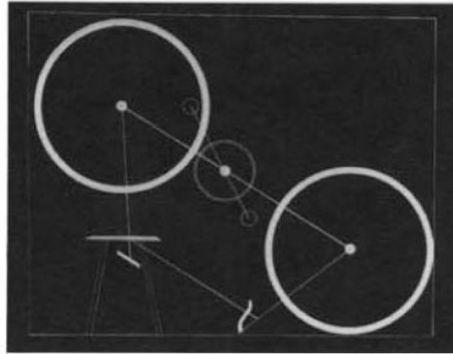
By the evidence of the surviving examples, his use of the word *only* seems to be an exaggeration, but the main directions were often strongly emphasized through the repetition, length, and weight of the lines.

The actual subjects of this analytical enterprise were rather restricted, consisting of still lifes set up by the students. These were quite different from traditional still lifes, in part because they were not intended as subject matter that would be expressive of an ambiance or lifestyle. As a rule these didn't employ small-scale objects such as the fruit and utensils so often seen in earlier compositions; and they were quite unlike the Cubists' arrangements of objects that evoke an intimate world of Bohemian leisure moments—the musical instruments, newspapers, and aperitif bottles of their studios and cafés. Instead, the materials were mostly gathered from around the school and its workshops. Chosen for their large, simple shapes, they were ar-

ranged to create clear axial and geometric relationships. Thus, when they are recognizable, in the earlier stages of the analytical process, the objects do refer to the environment and suggest the spirit of the Bauhaus, in spite of the fact that such was not the intention behind their selection.

Simple furniture—tables, chairs, stools—and hanging or draped curtains or cloth. Another category was building materials and related tools: lumber, molding, a sawhorse, stepladder, and saw.⁶ Essentially abstract elements were also included: cylindrical tubes and canisters, hoops, simple wheels or disks, spheres, rectangular boxes or bases, and plain picture frames and stretchers. Two special objects appear in the student works: a bicycle supported at the rear end by a stool, in Bella Ullmann-Broner's study (Fig. 99, C. 162); and a grinding wheel in its stand, seen in the drawing by Erich Fritzsche illustrated in Kandinsky's article, as well as in several other studies (Fig. 108).⁷ Typically the objects were compactly grouped, often on a table, platform, or base, and sometimes tilted, frequently forming overall rectangular or triangular silhouettes. Against the strict geometry of most of the forms, the draped pieces of cloth provided irregular curves as a counterpoint. A good example of such setups is provided by the composition recorded in a photograph, on which Hannes Beckmann based a series of four drawings in 1929 (Fig. 100, 101).⁸ Here a chair, table, and stepladder serve as background and supports for a grid-patterned tablecloth, a wastepaper basket, and a breadbasket. This nonfunctional arrangement positions the objects sideways or frontally, so as to provide the clearest possible view of what could otherwise be a confusing set of relationships. The organization renders this complexity susceptible to resolution in a two-dimensional, linear design, ultimately abstract in character.

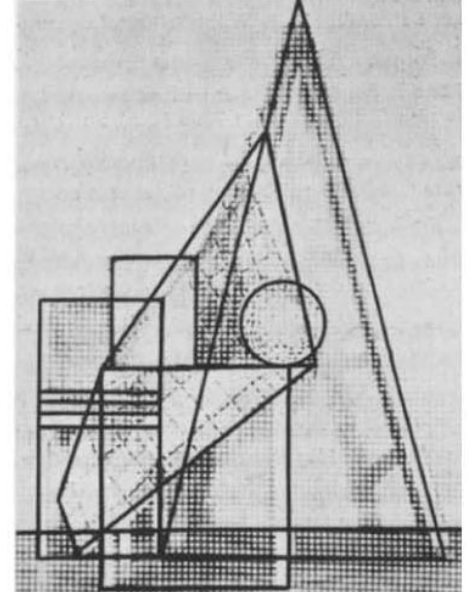
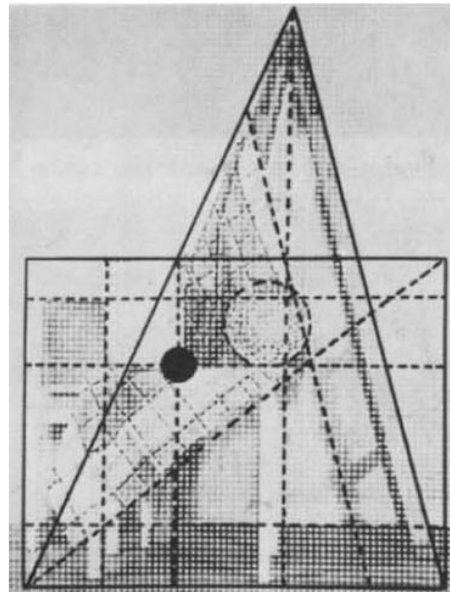
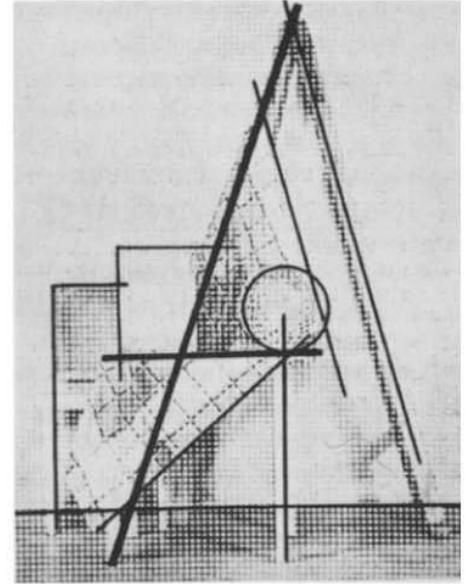
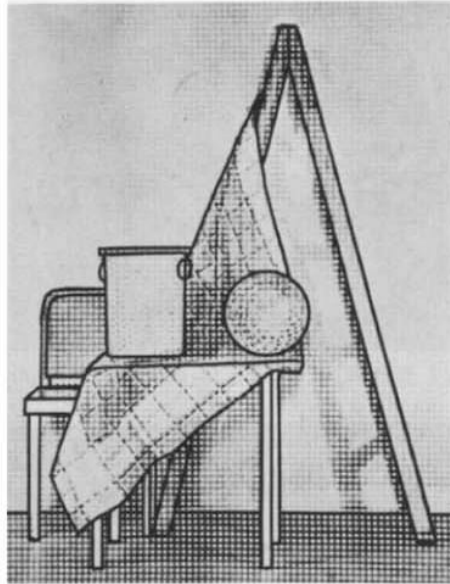
The importance that Kandinsky assigned to still life as a pedagogical tool dates back to his first teaching experience, at



99 Bella Ullmann-Broner. *Analytical Drawing*, 1929/30 (C. 162)



100 Photograph of a typical still-life construction, 1929



101 Hannes Beckmann. *The Different Stages of Analysis*, 1929

the Phalanx school, which he established in the winter of 1901–2. There he instituted a special class in still life, which evidently was an innovation for that time.⁹ Much later, as already mentioned, he recommended still lifes as models for his Bauhaus painting class, to be used as a point of departure and interpreted freely in developing a composition.¹⁰ He conceived of still life as an artistic medium with an important transitional role in the evolution of abstraction, as he made clear in his essay "Reflections on Abstract Art" (1931). He saw a development from imagery of the human figure, to landscape, to still life, in which the progression was toward increasing "silence." The painter, he declared, "needed discreet, silent, almost insignificant objects." The reason was that the outwardly silent forms were felt to be internally resonant with expression. Abstract, geometric forms possessed this quality in full.¹¹ The Bauhaus analytical drawings, therefore, provide the transitional link between still life and the abstract, through the medium of geometry.

Cubism represented for Kandinsky a key historical intermediary. This he suggested as early as *On the Spiritual in Art*: "Cubism, for example, as a transitional form reveals how often natural forms must be forcibly subordinated to constructive ends. . . ."¹² He made the point more specifically in his Bauhaus teaching in 1931, citing the still lifes of Gleizes, Metzinger, and Braque as utilizing the principles of supporting and accenting lines in their composition. The ultimate importance of such examples was that they pointed toward an abstract, expressive kind of construction, in conformity with the laws of nature. In particular, he mentioned the vertical as a vegetal principle, presumably referring to the upward movement of growing plants.¹³

The question of the "relationships between the laws of art and of nature" was a complex one, concerning which he apparently changed his opinion. In *Point and Line to Plane* (1926), he wrote that the relationship of art and nature lay in the

most basic laws, but he also asserted that the laws of these "two great realms" were separate and independent. Instead, it was from the contrast of the two sets of laws that the artist could learn.¹⁴ Nevertheless, he went on to discuss examples from nature of complexes of lines, both in geometric constructions and in loose structures of "free" lines, that paralleled his own account of abstract linear groupings.¹⁵ These would lend substance to his suggestion that for the artist it was important

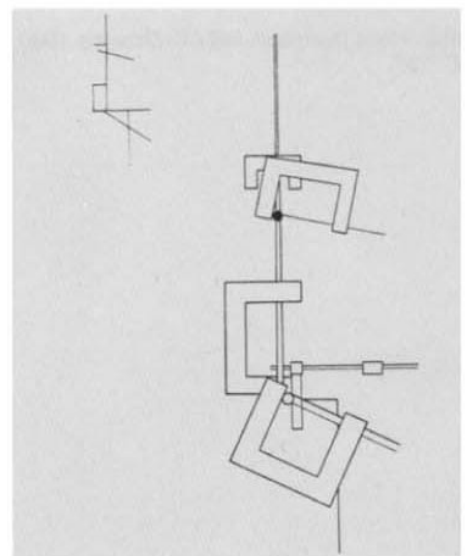
"to see how the independent realm of nature uses the basic elements: which elements are given consideration, what qualities they possess, and how they are formed into combinations."¹⁶

By 1931 Kandinsky had resolved this apparent equivocation, writing that the connection between abstract art and nature is "greater and more intimate than in recent times." This was due to the development of a new sensitivity, allowing one "to touch under the *skin* of nature its essence."¹⁷ The analytical drawings contributed to the formation of this "new faculty," training the student to see both the evident and the hidden relationships among forms, relationships parallel to underlying natural principles.

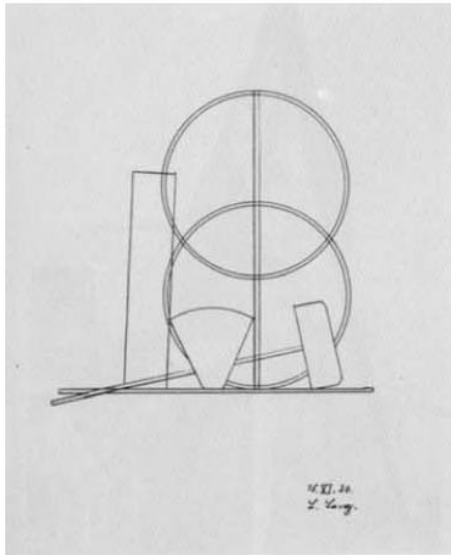
As outlined in Kandinsky's 1928 article, analytical drawing was a process in three stages, each of which had three subsidiary aspects or tasks. The first stage required the students:

- "1. to subordinate the whole complex to one simple overall form, which . . . must be precisely drawn in.
2. to realize the formal characterization of individual parts of the still life, regarded both in isolation and in relation to the other parts.
3. to represent the whole construction by means of the most concise possible schema."¹⁸

The drawing that illustrated this first stage, by Robert Eduard Kukowka, shows a



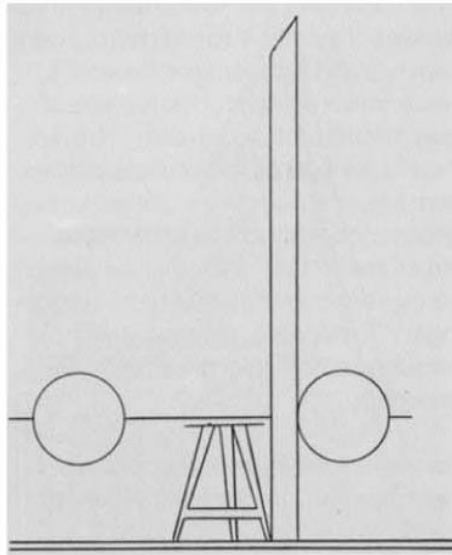
102 Robert Eduard Kukowka. *Analytical Drawing of the First Stage with Schema*, 1926



103

103–104 Lothar Lang. *Analytical Drawing of the First Stage*, 1926/27 (C. 102, 104)

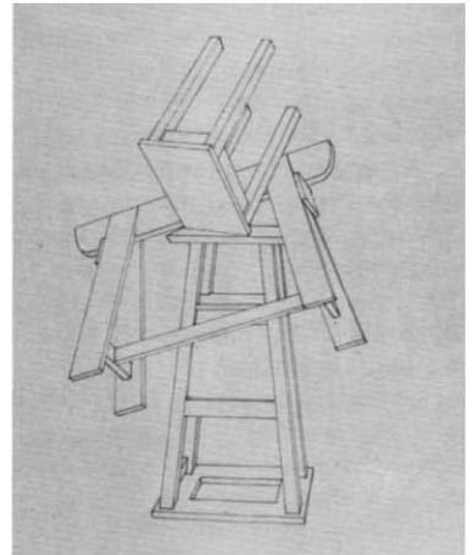
105 Hans Thiemann. *Still-Life Drawing*, 1930 (C. 133)



104

grouping of rectangular C-clamps or braces along with some rods—simple, repetitive forms depicted as flat outline drawings, with no shading (Fig. 102). As emphasized in the accompanying schema, the elements are primarily vertical in their orientation, with horizontals and verticals as subsidiary directions. In his teaching, Kandinsky described such small graphic diagrams as consisting of a few lines representing the axes of the forms and demonstrating the relations between the horizontals, the verticals, and the diagonals.¹⁹ These schemata are seen in a great many of the surviving student exercises.

A particularly fine group of first-stage drawings is made up of six of Lothar Lang's studies from the end of 1926 (Fig. 103, 104; C. 102, 104). Precisely drawn with ink lines of nearly uniform thickness, the objects are two-dimensionalized even in their arrangement, grouped for the most part along a shallow ledge of space parallel to the picture plane. The choice and rendering of the items is informed by a sense of simple geometry, and the alignments are in accord with the three main axes stressed by Kandinsky. An instructive comparison is offered in a drawing by Hans Thiemann representing a small upside-down table and a sawhorse, resting askew on a tall open stand (Fig. 105, C.



105

133). The setup is obviously for the purpose of studying the forms, but the result is not as ripe for subsequent structural, formal analysis. The relative completeness of the objects, including subsidiary details, and the sense of a fully three-dimensional space, work against the clarity of the overall shape, the "large form," and the relationship of individual elements achieved in Lang's studies. One of the latter's drawings (Fig. 106, C. 108) exemplifies what Kandinsky termed the "gradual transition to the second level." The forms—triangle, disk or sphere, and tall standing cylinder—are more severely simplified, as comparison with Figure 107 shows, and the schema is even more concise and abstract.

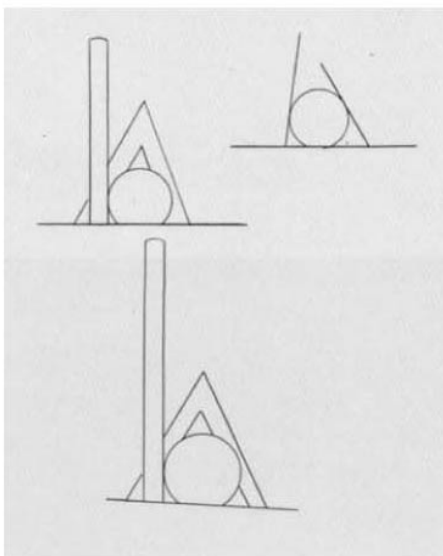
The second stage was designated "development of the structural network," in the course outline published in the catalogue of the congress of art teachers in Prague (1928).²⁰ Kandinsky's article listed its tasks:

1. making clear the tensions discovered in the structure, which are to be represented by means of linear forms.
2. emphasizing the principle tensions by means of broader lines or, subsequently, colors.
3. indicating the structural network by means of starting or focal points (dotted

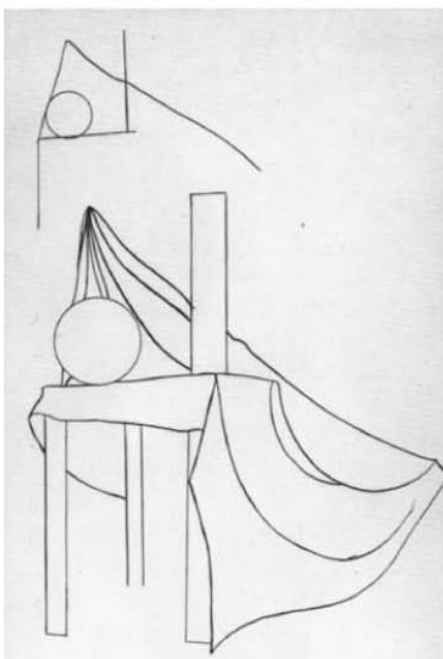
lines).²¹

This phase is the heart of the analytical approach, and many of the surviving student works exemplify it, most clearly the majority of those by Eugen Batz, Friedly Kessinger-Petitpierre, Thiemann, Ullmann-Bröner, and Charlotte Voepel-Neujahr. The objects remain at least vaguely recognizable, although not as obviously as in the first stage. The example by Erich Fritzsche that illustrates the article combines a saw, a grinding stone, and a bucket, as specified in the text, their forms rendered almost entirely by diagonals (Fig. 108). Solid lines are used for actual contours of the utensils, while dotted lines indicate the implicit visual connections between key points in the representation, tied together at the lower left in the “point of departure for the structural [network].”²² The schema shows those contours that form the main axes of the composition, which are given broader lines in the drawing.

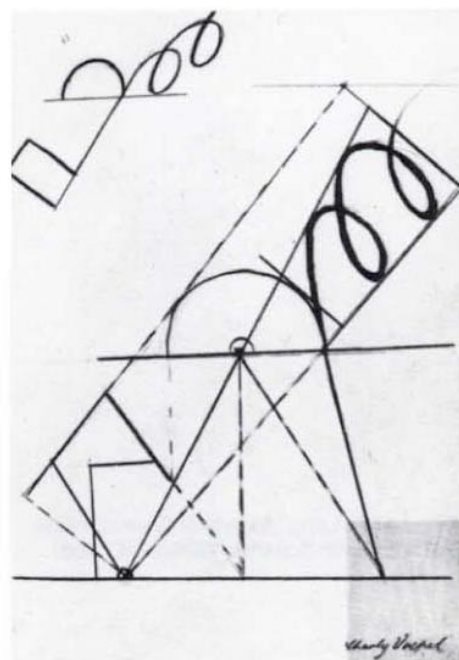
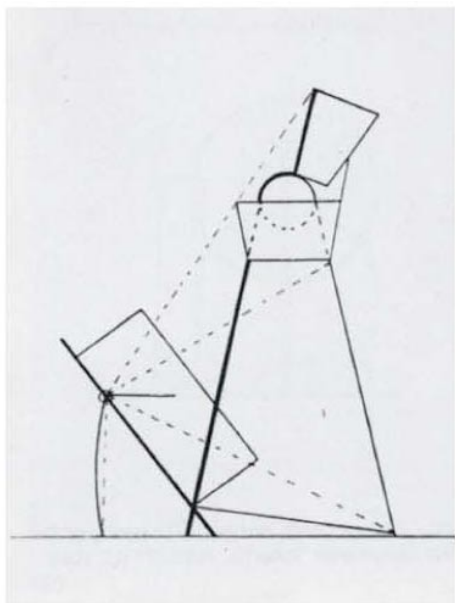
It is interesting that another drawing by Voepel-Neujahr, apparently of the same setup, has survived, showing a different way in which the same composition could be analyzed (Fig. 109, C. 186). In general this study presents the objects less recognizably, and integrated more into an overall silhouette of tension-lines, solid and broken. In most of this student’s drawings distinctions between the kinds of lines are reinforced by a color differentiation, black pencil lines versus broken blue ones. In a variant based on the analysis of the grinding-wheel still life, the areas are translated into colors—yellow, red, blue, and brown, as well as gray and black (Fig. 110, C. 187). This not only clarifies the separate parts but also creates a color composition suggestive of a general progression: from a solid base—black, browns, and gray—to the vibrant center—blue versus red—to the light, yellow top. A vigorous spiral interprets the shape of the bucket, as seen also in the drawing, and along with the increased abstractness of the color study, this dynamic accent suggests a transition to the



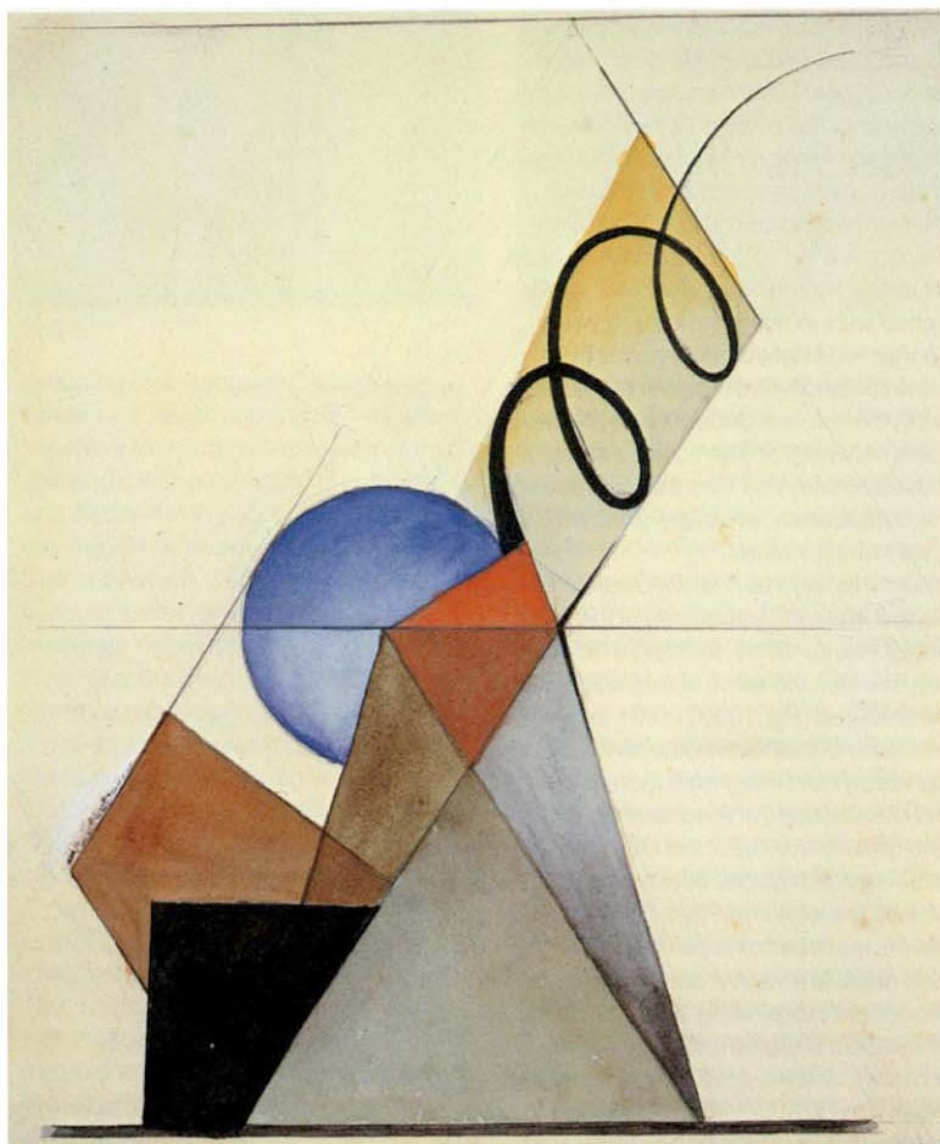
106 Lothar Lang. *Analytical Drawing of the First Stage with Schema*, 1926/27 (C. 108)



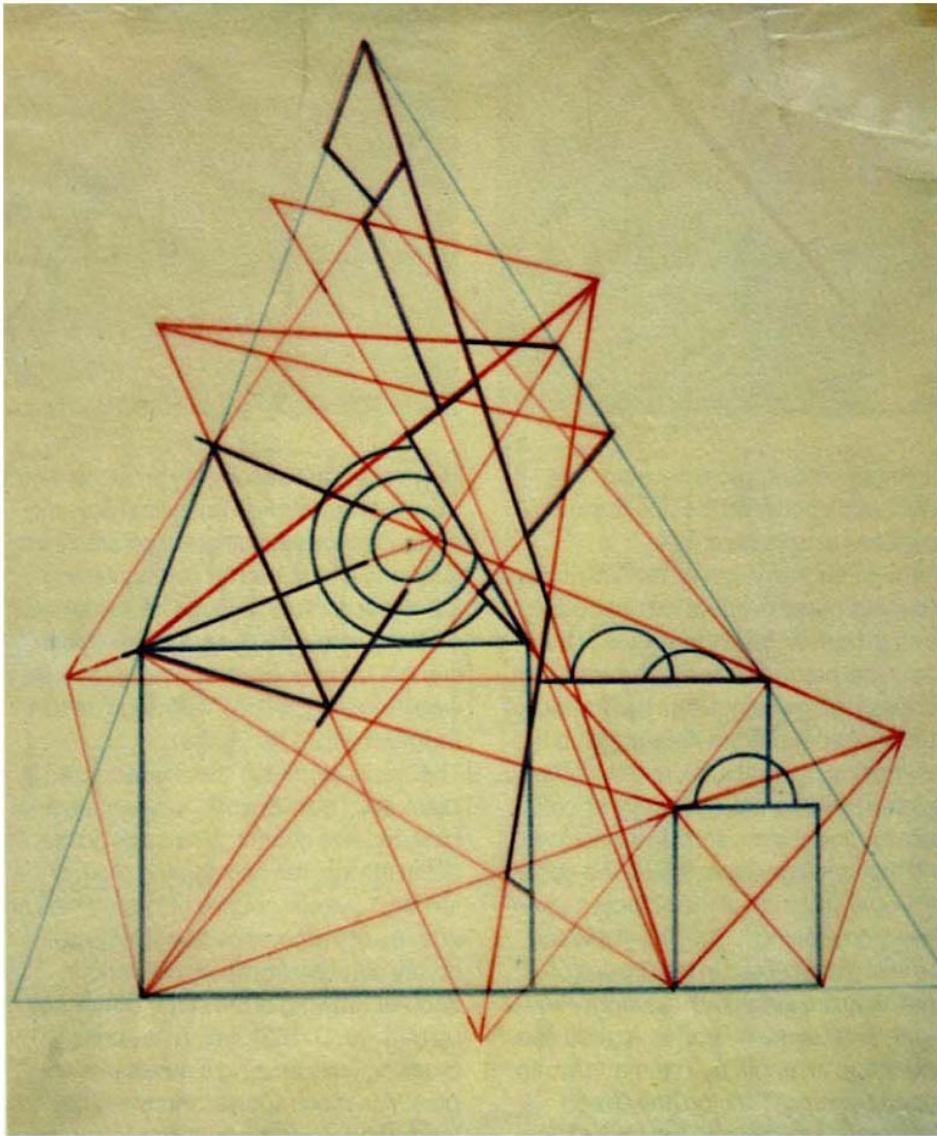
107 Lothar Lang. *Analytical Drawing of the First Stage with Schema*, 1926/27 (C. 106)



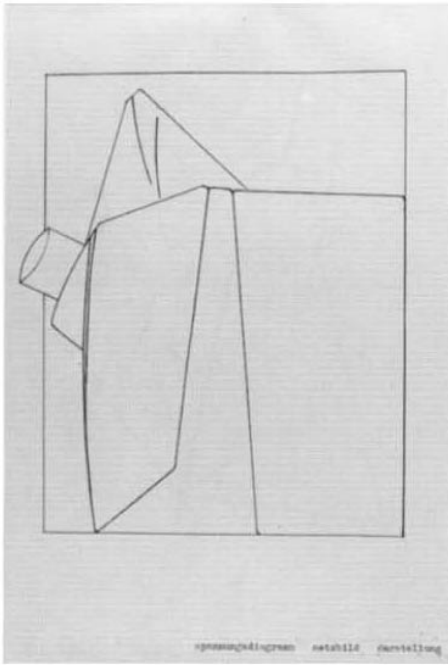
109 Charlotte Voepel-Neujahr. *Analytical Drawing of the Second Stage with Schema*, 1927/28 (C. 186)



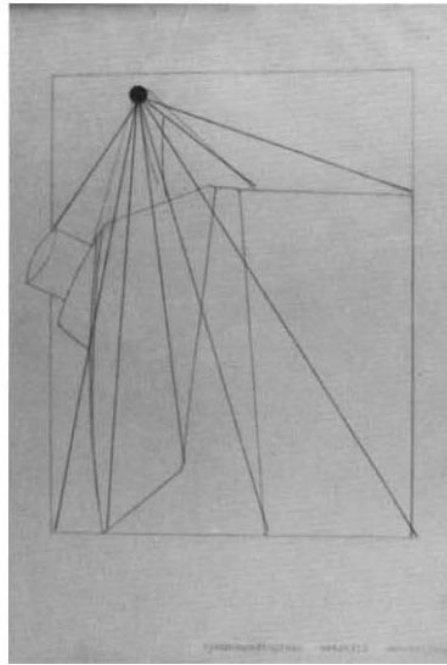
110 (right) Charlotte Voepel-Neujahr. *Analytical Drawing with Tensions Translated into Zones of Color*, 1927/28 (C. 187)



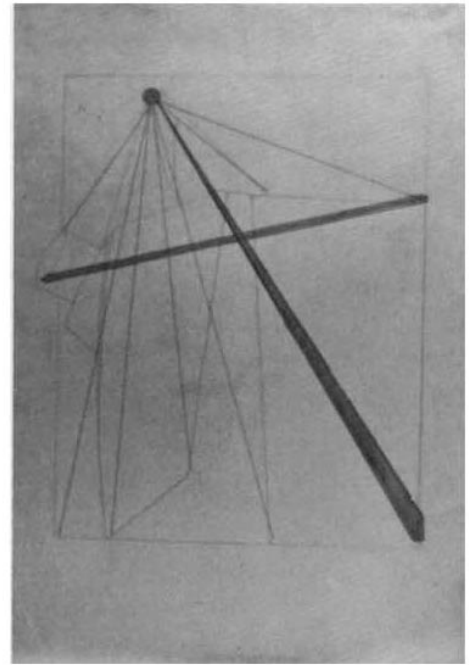
111 Hans Thiemann. *Principal Tension (the Green Triangle) Overlaid with a Network of Secondary Tensions*, 1930 (C. 132)



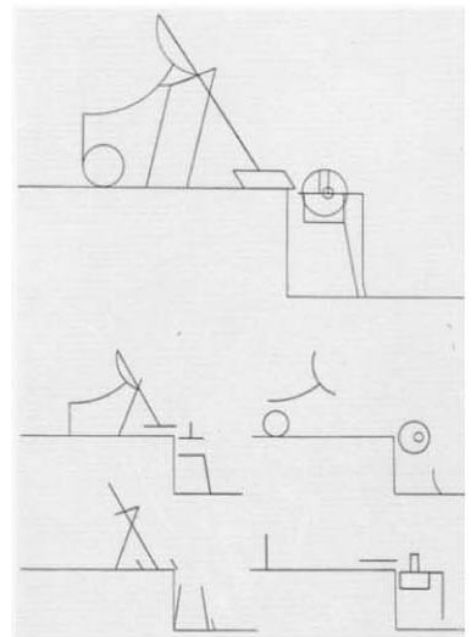
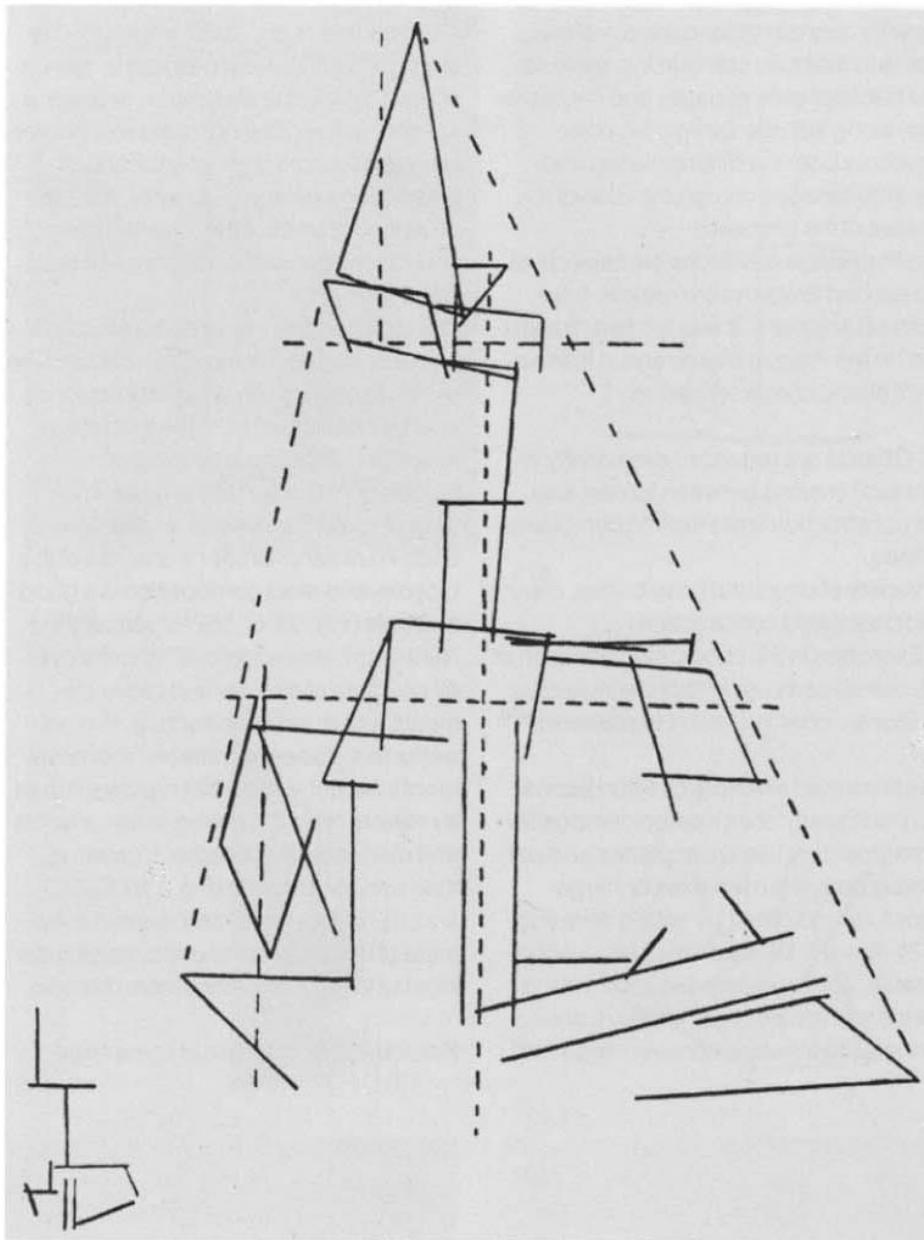
112 Bella Ullmann-Broner. *Representation—Geometric Network—Tension Diagram*, 1929/30 (C. 168)



third stage of analytical drawing. The boundaries between the phases are by no means always clear-cut. By the winter semester of 1929/30 the use of tracing-paper overlays was introduced, so as to register all of the stages of the analytical process in the same work and yet keep them distinct. The base sheet of opaque paper carried the simplified representation of the still life; and the one or two superimposed transparent sheets bore the linear analysis of the tensions and their relationships, that is, the essential visual structure of the objects as Kandinsky conceived it. Studies of this sort are well represented in the groups of analytical drawings by Kessinger-Petipierre and Ullmann-Broner. A good second-stage example by Thiemann is captioned *Principal Tension (the Green Triangle), Overlaid with Network of Secondary Tensions* (Fig. 111, C. 132). The base sheet has a diagrammatic representation, which includes a three-legged stool resting on its side on a table or base. The still life is done in blue ink, circumscribed by the green ink line of the triangle, and the overlay has an elaborate set of crisscrossing red ink lines, projecting from and interconnecting parts of the still



life, to show the secondary tensions. The device of the layered analytical drawing in conjunction with different colored inks is indeed well suited for distinguishing the aspects of the analysis, as the labels on many of the studies suggest—for instance, Ullmann-Broner's three-layered work *Representation, Network, Tension Diagram* (Fig. 112, C. 168). The "representation" here is rendered in black ink. The "network" is a sequence of blue ink lines radiating from a large black dot at the top, the culminating peak of the still life, to various points of intersection or corners of the composition. This pattern is very different from the "network" in another drawing of the same still life set-up (Fig. 98, C. 163), which has crisscrossing lines forming a series of triangles. Variations such as this show the thoroughness of the analytical approach fostered by the course. In the present exercise, the "tension diagram" consists of a dramatic crossing of two yellow diagonal lines, the longer of which tapers as it rises from the lower right to the upper left, narrowing to a point where it meets the black dot below. The yellow lines are rendered in transparent ink, thus allowing the dark blue lines of the "network" to



114 Kandinsky instruction. Above, overall schema; below, construction variations, 1928

113 (left) Fritz Fiszmer. *Analytical Drawing of the Third Stage with Schema*, 1928

show through, another example of the desire to maintain clarity in the analysis. The transparency of paper and ink, therefore, along with the variation in color, promotes both the differentiation and the simultaneous comprehension of the phases of the process.

The third stage advances the aspects of the second toward more radical, freer abstract solutions. It was termed "translation" in the Prague outline and in Kandinsky's article characterized as:

- "1. Objects are regarded exclusively in terms of tensions between forces, and the construction limits itself to complexes of lines.
2. Variety of structural possibilities: clear and concealed construction. . . .
3. Exercises in the utmost simplification of the overall complex and of the individual tensions—concise, exact expression."²³

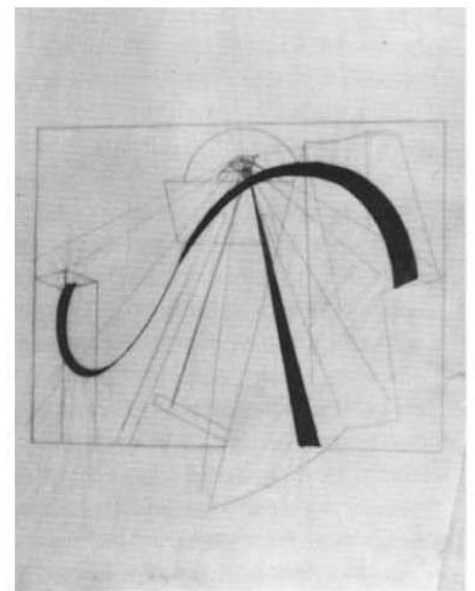
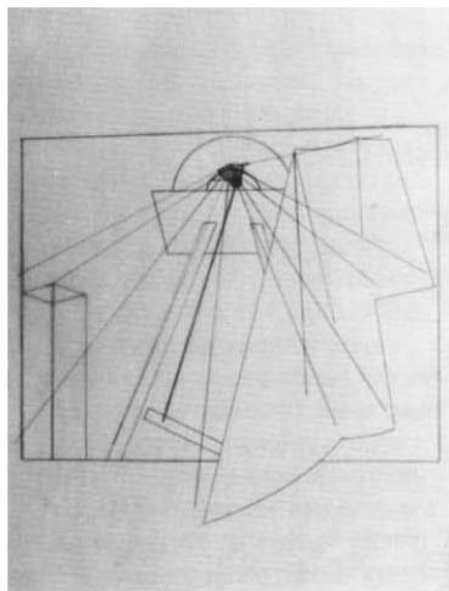
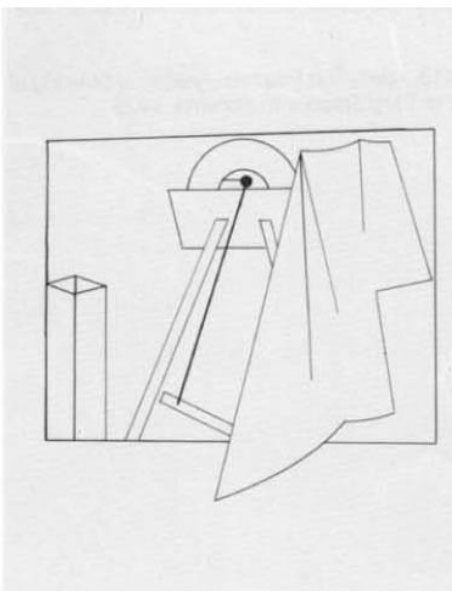
The illustrated example by Fritz Fiszmer is a particularly complicated composition of fragmentary triangular planes and parallelograms, the main axes or "larger structure" indicated by dotted lines (Fig. 113). The still-life elements are unrecognizable, appropriately described in the caption as "objects completely transformed into tensions between forces."²⁴

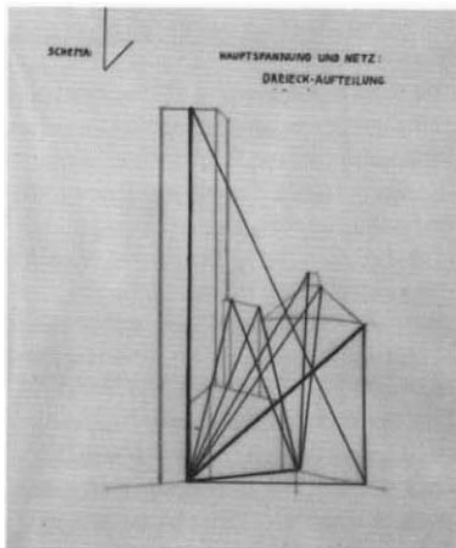
The freedom of approach implicit in this stage of the analytical process is demonstrated by another illustration, in which a second-stage drawing, at the top, is interpreted in four different ways. Each of these "constructional variants" focuses on selected parts of the "overall theme," such as the curved, or diagonal, or rectilinear elements.²⁵

The top sheets of the three-layered analytical drawings often display the extreme simplicity, selectivity, and expression of energy characteristic of the third stage, as well as revealing an aspect of the hidden construction of the motif. The swooping red S-curve with angled, spiked ends in Ullmann-Broner's analysis of the bicycle-and-stool composition is a good example (Fig. 99, C. 162). It renders the "tensions between forces" and the overall structure of circular and radial elements with great conciseness. In other works this student expressed the movement inherent in the initial representation by means of bold tapering lines—curves and diagonals that intersect, creating their own focal points (Fig. 115, C. 165 and 163). These are like the small schemata of the first- and second-stage drawings but larger in scale and more dramatic.

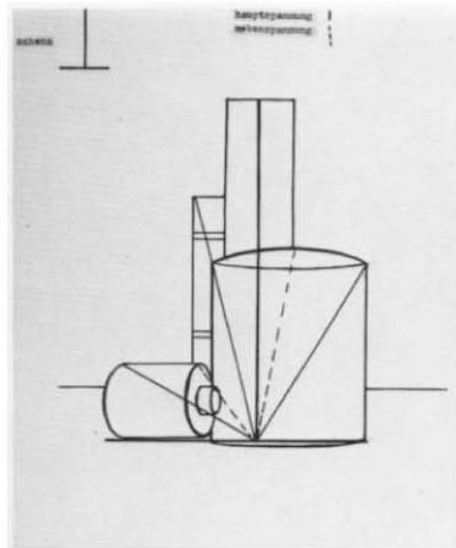
Kessinger-Petitpierre did some "free

115 Bella Ullmann-Broner. *Analytical Drawing*, 1929/30 (C. 165)

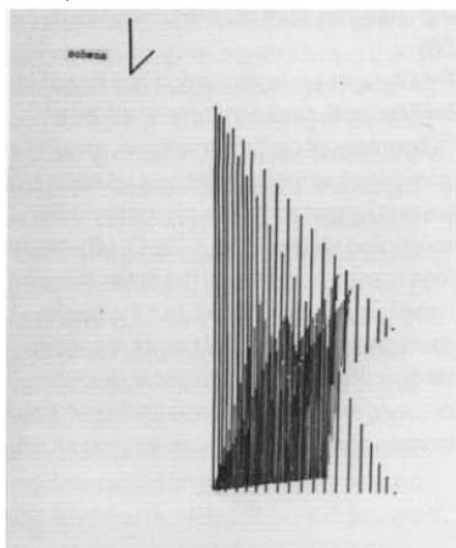




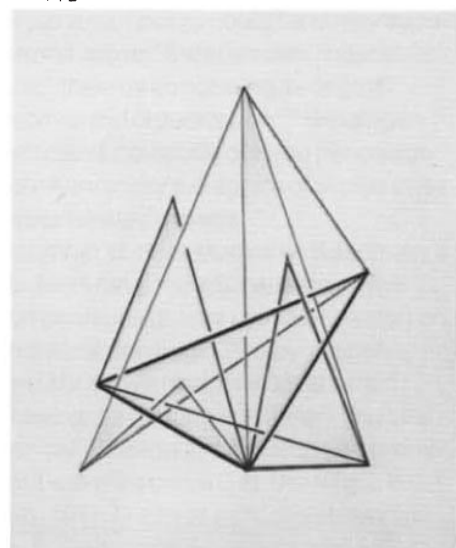
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116 Friedly Kessinger-Petitpierre. *Theme 1; Main Tension and Geometric Network; Triangular Division*, 1929/30 (C. 48)

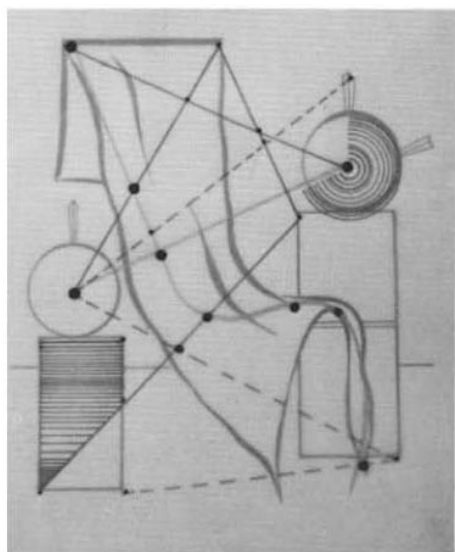
117 Friedly Kessinger-Petitpierre. *Free Variation on Theme 1*, 1929/30 (C. 49)

118 Friedly Kessinger-Petitpierre. *Theme 2; Main Tension—Secondary Tension*, 1929/30 (C. 50)

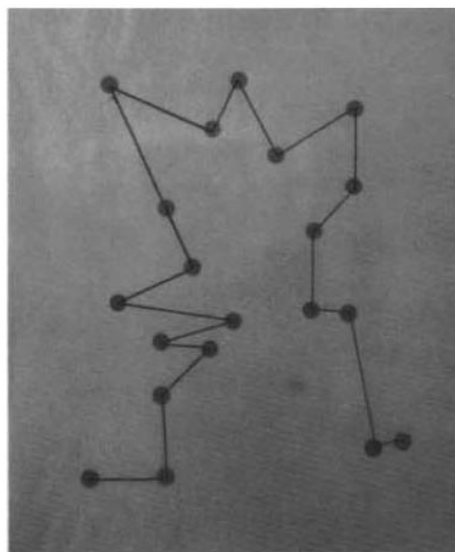
119 Friedly Kessinger-Petitpierre. *Variation on Theme 2: Inner Tensions*, 1929/30 (C. 51)

variations" based on analytical drawings, which are more complex than the diagrams by Ullmann just considered. In two of these the triangular relationships between still-life objects are translated into completely abstract images (Fig. 117, 119; C. 49, 51). In the initial study for the first, the still life was analyzed as a series of outlined triangles, with one of the angles drawn with thicker lines, providing the form of the schema (Fig. 116, C. 48). *Free Variation on Theme 1* takes this cipher as its dominant form (Fig. 117, C. 49). Utilizing the outlines in the original network drawing, Kessinger-Petitpierre

built up a set of triangles with differently spaced vertical lines, creating a series of transparent planes that have a fugal, musical quality. The second variation, captioned *Inner Tensions*, has a more energetic quality (Fig. 119, C. 51, cf. Fig. 118, C. 50). It consists of an elaborate constellation of crisscrossing diagonals that connect the key points in the initial drawing, and as such it is like a second-stage constructive net raised to the level of an independent composition. Compared to the study just discussed, this one is further from the network diagram on which it is based, and it transforms the rather flat



120 (left) Friedly Kessinger-Petitpierre. *Theme 6: Main Tension—Secondary Tension—Point Distribution, 1929/30 (C. 57)*



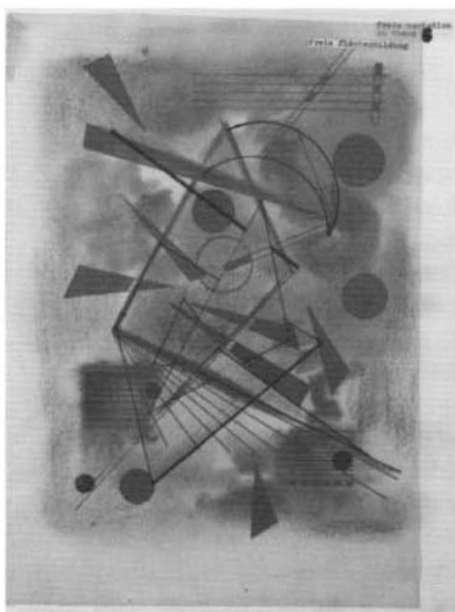
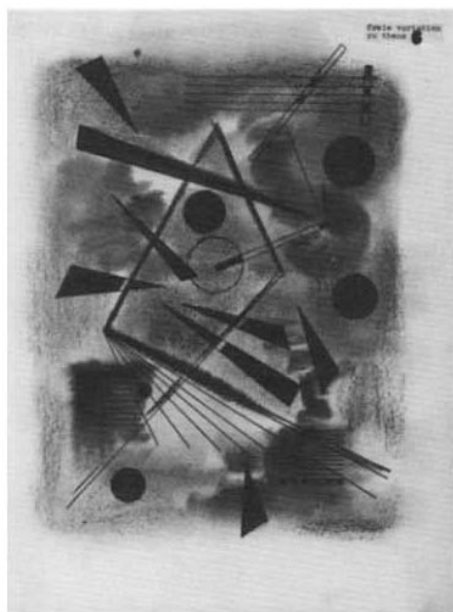
121 (right) Friedly Kessinger-Petitpierre. *Continuation of Theme 6: Point Distribution Copy—Sum of Lines, 1929/30 (C. 58)*

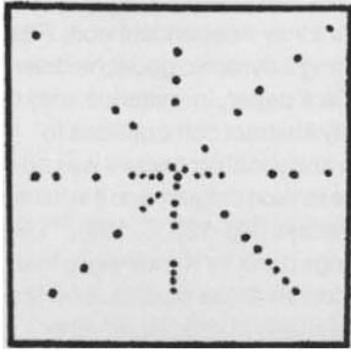
analytical still-life drawing into a more spatial image.

The most extensive and fully worked out of the variations are those that Kessinger-Petitpierre derived from her analytical drawing of a setup containing two stools on bases, flanking a long curving curtain (Fig. 120, C. 57). On the top overlay of this drawing, labelled *Point Distribution*, the intersections of the primary and secondary tensions on the two under-sheets are marked by a set of points. The first variation, entitled *Continuation of Theme 6*, transposes this set of points (*Point Distribution, Copy*), rendering it as a clearer pattern of small, uniform black circles; then it is resolved into a coherent abstract figure by a continuous series of connecting lines, the *Sum of Lines* (Fig. 121, C. 58).

Finally, a three-layer work, *Free Variation on Theme 6*, presents an elaborate arrangement of circles, triangles, and linear groupings whose positions and contours were suggested by the elements in the foregoing studies (Fig. 122, C. 59). Needless to say, all traces of the initial still life have long disappeared, but the basic axes and their terminal points, as registered in the original analytical drawing, are evident in the multicolored abstract composition that is the underlying sheet

122 Friedly Kessinger-Petitpierre. *Free Variation on Theme 6: Free Depiction of Planes—Free Curves, 1929/30 (C. 59)*

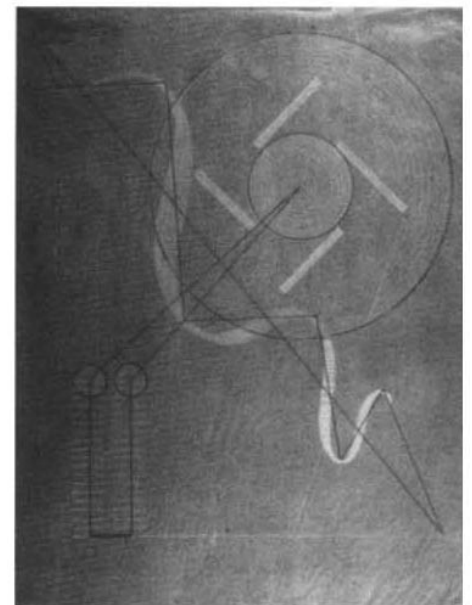
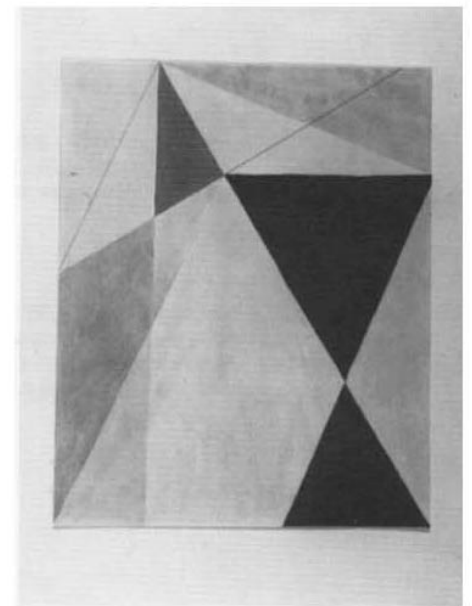




123 (left) Wassily Kandinsky. *Diagram of Horizontal-Vertical-Diagonal Points for an Independent Linear Structure*, 1926

124 (center) Bella Ullmann-Broner. *Colored Treatment of a Network*, 1929/30 (C. 174)

125 (below) Fritz Tschaschnig. *Free Composition with Analytical Drawing*, 1931 (C. 139)



of the *Free Variation*. Like other works by Kessinger-Petitpierre, most notably the drawings in the portfolio *The Square*, this picture is very close to the style of Kandinsky's paintings from his Bauhaus years. His influence is seen in the small-scale geometrical shapes drawn toward the center as if in a magnetic field of force, the sets of parallel or radiating lines, and the floating quality of the placement of the forms, with its attendant spatial ambiguities. The first overlay, the *Free Structure of Planes*, is a constellation of intersecting planes that also seems to hover in midair and is closely derived from the *Continuation* study (Fig. 121). The top layer, labelled *Free Curves*, joins all the positions of the *Point Distribution*, *Copy* with a set of animated, almost biomorphic, irregular curved lines, ultimately related to the freely undulating curves discussed by Kandinsky.²⁶ The resulting pattern oddly recalls the *Sum of Lines* of the *Continuation* study: both images possess an almost comic quality, though inflected differently by the separate curves and the abruptly angular continuous line. This fascinating sequence shows the extension of third-stage principles to the creation of pictorial compositions. Furthermore, it reflects important aspects of Kandinsky's ideas concerning the role of visual structures in paintings. In perceiving the set of linear relationships in the motif and determining the points of their intersections, the student revealed a structure. Then she used that geometrical order to suggest a composition that in turn, however, veiled the structure. Kandinsky

had recommended the "hidden construction," in *On the Spiritual in Art*, as offering the richest or most expressive possibilities.²⁷ Subsequently in *Point and Line to Plane* he effectively showed how a regular pattern of points could be utterly transformed into an "independent linear structure," thereby concealing its original geometrical organization.²⁸ Kessinger-Petitpierre obviously derived her design from Kandinsky's diagram or similar ones demonstrated in class. A number of other studies by Kandinsky's students have the appearance of free compositions but are ultimately based on analytical drawings. Two by Voepel-Neujahr derive from a rather abstract drawing, translating in different ways its basically triangular silhouette and prominent wavelike curve (Fig. 95–97, C. 193, 188, 198). The lines indicating tensions and structural relationships in the original are selectively followed in both variations to create the basic forms and areas for color. The less elaborate version, although it is the more forceful of the two, retains the character of a free-standing nonrepresentational figure, as in the original analytical drawing (Fig. 96, C. 188, cf. Fig. 95, C. 193). The other variation, however, goes further, developing the broken lines that indicate the inherent structure, as well as the solid tension-lines of the drawing (Fig. 97, C. 198). The composition has, thereby, become more two-dimensional, albeit ambiguously so, with the primary figure more integrated with the surrounding areas. Thus achieving a more fully abstract and pictorial image, this

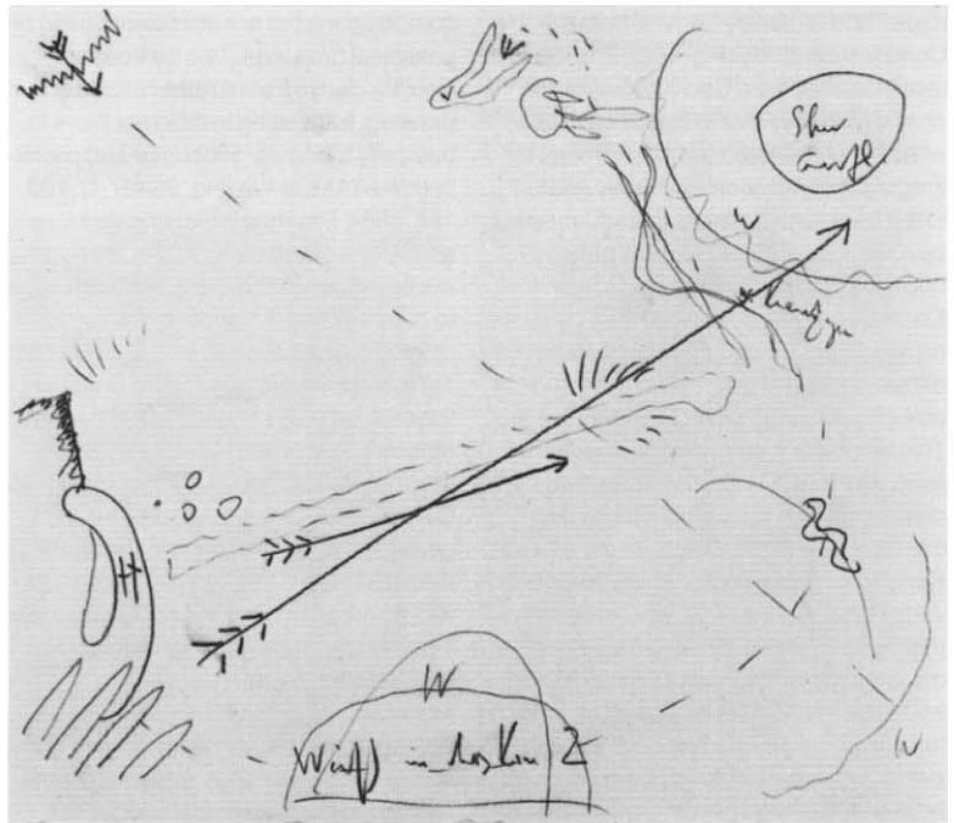
study is another example of the use of the principles of analytical drawing in free compositional studies.

In these studies the viewer can nevertheless still imagine elements of the kind of still life assembled in Kandinsky's classes, but in other student works even those suggestions are eliminated. Ullmann-Broner's *Colored Treatment of a Network* was produced by filling in the network from one of her analytical drawings with flat areas of color (Fig. 98, C. 163, first overlay, and Fig. 124, C. 174). The resulting composition, primarily of triangles, is an extremely flat image that fills the rectangular field, in no way suggesting the solid objects that made up the original still life. Instead, it exploits the diagonal in the initial "representation," which was emphasized in the drawing of the "principle tension," and renders the set of abstract relationships diagrammed in the "network."

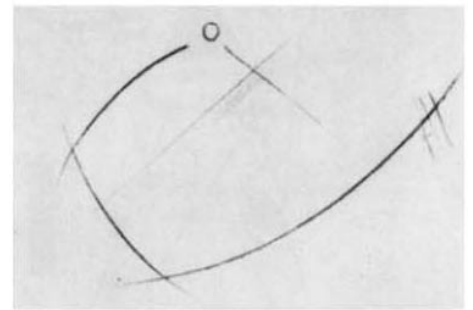
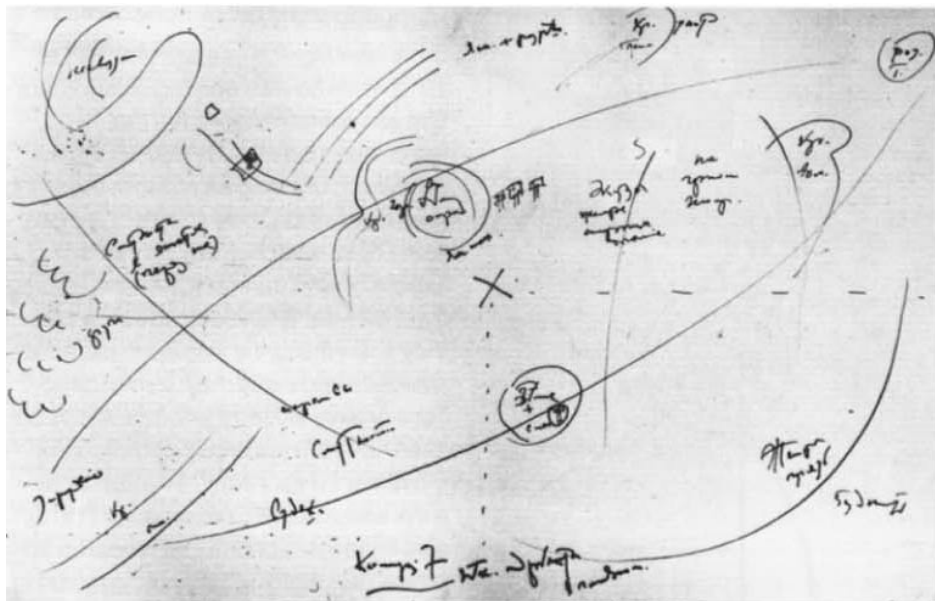
In a number of other cases, the absence of the initial analytical drawing makes it

impossible to tell whether a study is a variation or a truly independent work. Fritz Tschaschnig's dynamic gouache drawings on black paper, for instance, may be completely abstract compositions to which the analytical procedure was applied in the tension diagrams on the transparent overlays (Fig. 125, C. 139).²⁹ Like the paintings done for Kandinsky's free painting course, these studies show the range and vitality of images, whether geometricized representations or pure abstractions, that could be ultimately derived from the analytical drawing approach.³⁰

The background to this approach lies in Kandinsky's early methods of pictorial composition and in his theoretical sources. Generally speaking, the analytical drawings are geometrical simplifications and abstractions from the motif, and as such they have their roots in both certain nineteenth-century academic drawing techniques and in some of the innovations of the early modern movement. But

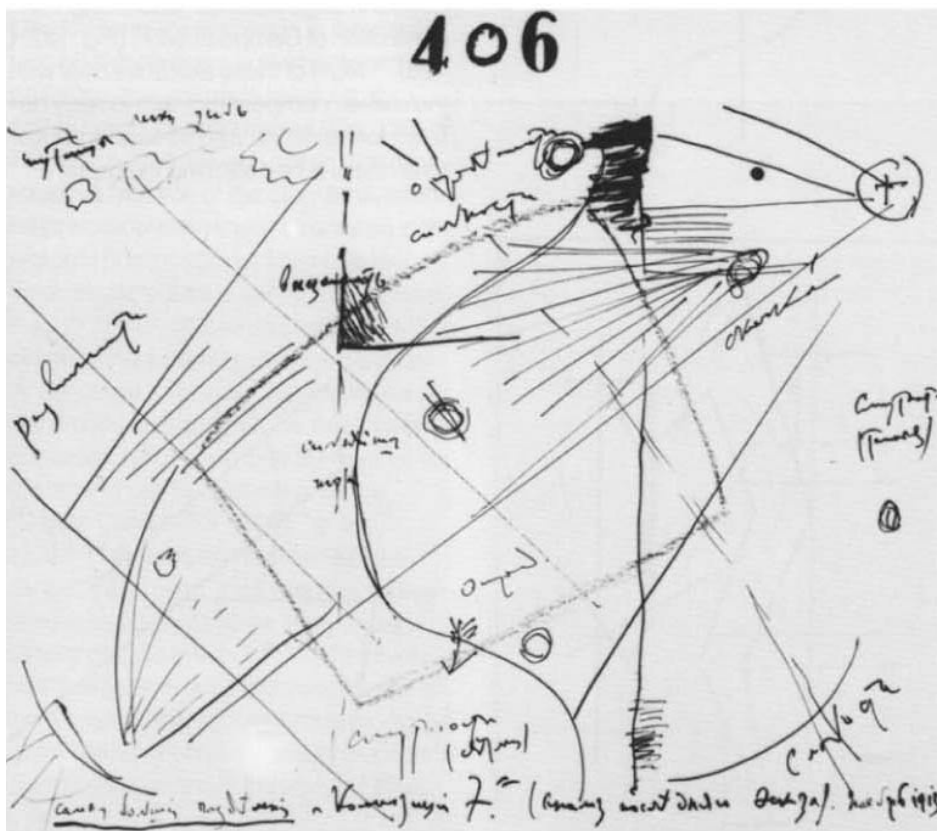


126 Wassily Kandinsky. Compositional diagram for *Painting with White Border*, 1913. Lenbachhaus Municipal Gallery, Munich

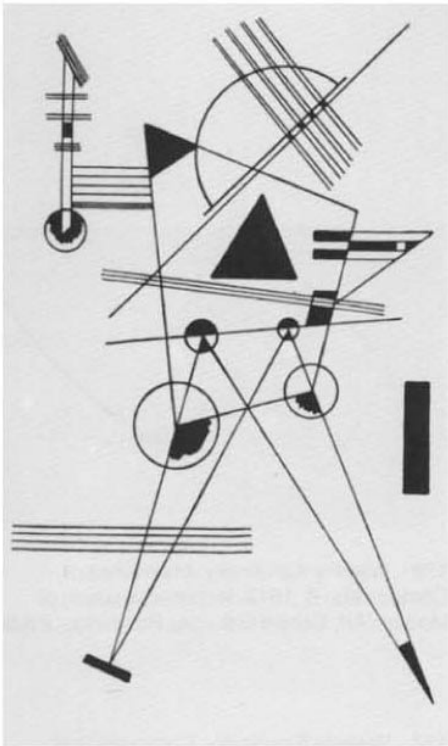


129 Wassily Kandinsky. *Main Lines of Composition 6*, 1913. National Museum of Modern Art, Centre Georges Pompidou, Paris

127 Wassily Kandinsky. Compositional diagram for *Composition 7*, 1913. "Some details in large outlines." Lenbachhaus Municipal Gallery, Munich



128 Wassily Kandinsky. Compositional diagram for *Composition 7*, 1913. "Rough organization of *Composition 7*." Lenbachhaus Municipal Gallery, Munich

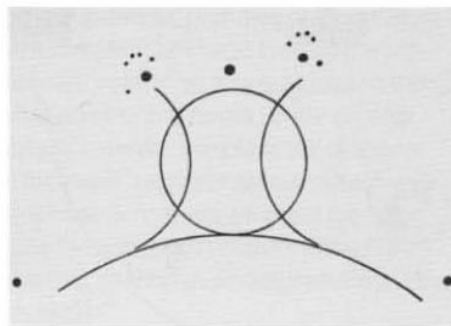


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130 Wassily Kandinsky. *Inner Relationship Between Complex of Straight Lines and Curve (Left-Right) for the Picture, Black Triangle* (1925)

131 *A Leap by the Dancer Palucca*

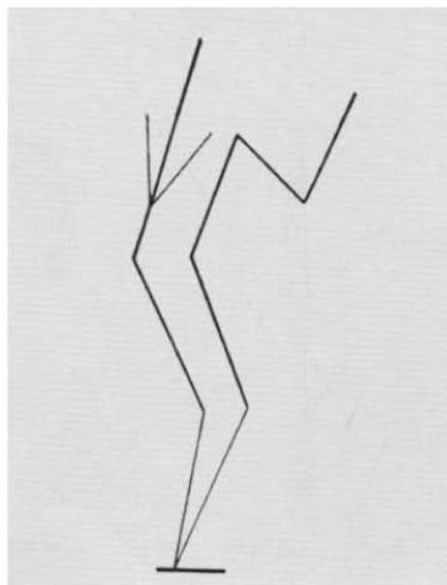
132 Wassily Kandinsky. *Diagram of a Leap*



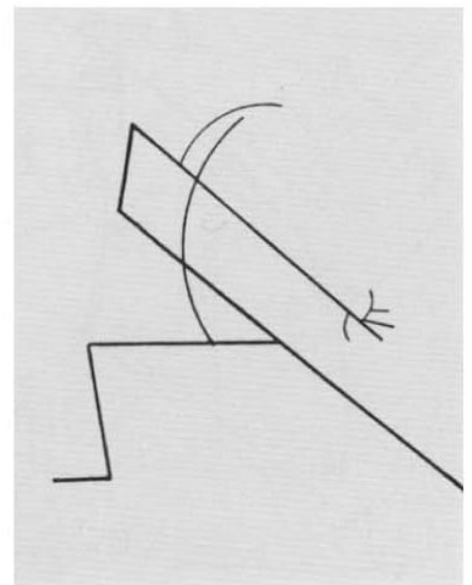
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their distinctive characteristics are the translation of the analytical observations into dynamic graphic elements and their synthesis of these features in the schema. Kandinsky fused a range of sources and his experience of developing the organization of a picture in conceiving his own analytical method.

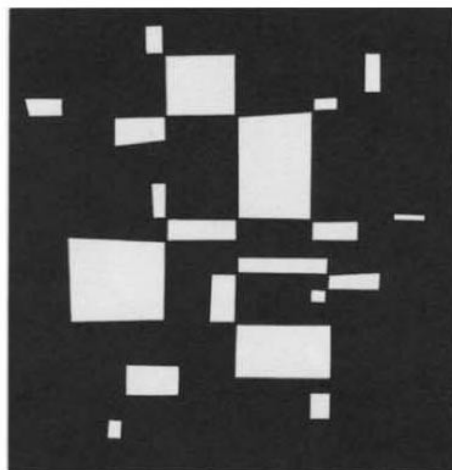
In his later Munich years, from 1911 to 1913 when he was working on his important early series of abstract paintings, Kandinsky had already developed the schematic drawing as an aid in the elaborate process of formulating a composition. These sketches are very loose in execution and thus lack the strict geometry of the later analytical drawings, but they show the same interest in essential structure and in the main formal directions or axes linking the forms. A number even have arrows explicitly indicating movement (Fig. 126).³¹ Two compositional schemata for *Composition 7* (1913) also have inscriptions that reveal an approach he might well have suggested in later years to his Bauhaus students: "some details in large outlines" and "rough organization of *Composition 7*" (Fig. 127, C. 128).³² Most of these sketches deal with the overall composition, with loosely defined forms distributed throughout. However, there is one startling example, a



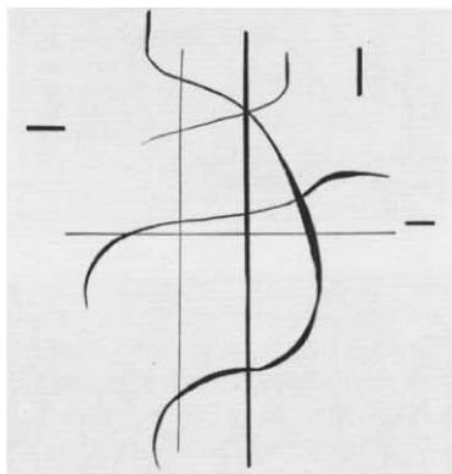
133 Wassily Kandinsky. *Graphic diagrams as translations of momentary movements*, 1926



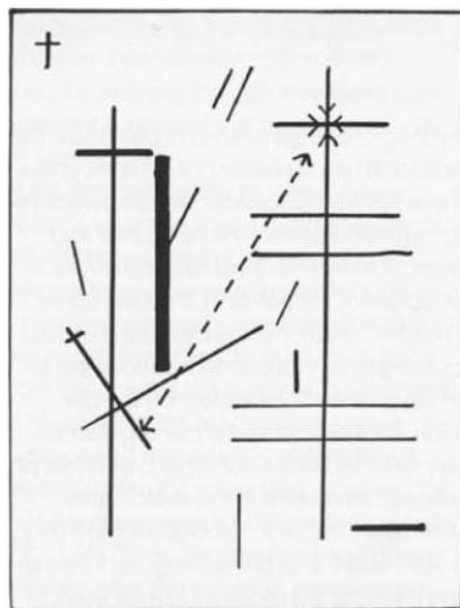
sketch of the main outlines of *Composition 6* (1913), that displays the radical simplification of a Bauhaus student's schema (Fig. 129).³³ This bold image consists primarily of a few long, slightly curving lines and a small circle, representing the chief movements and focal point of the composition. In the same period of Kandinsky's career, he wrote the commentaries on several of his paintings which appeared in the *Sturm* album in 1913. His verbal analyses confirm the visual evidence of the sketches, in that he discusses the balancing of colors and forms in the pictures, especially in regard to two or three focal "centers." His reference to "linear nodes," in particular, suggests the convergence of lines that in a more regularized way creates structural nodes in the Bauhaus analytical drawings.³⁴ During his Bauhaus years, Kandinsky made schematic drawings in conjunction with some of his paintings, though most lack the conciseness of the schema for *Composition VI* and seem to have been done after the execution of the paintings. The last three illustrations in *Point and Line to Plane* are elaborate in their inclusion of all the essential elements of the paintings and are quite faithful to the actual contours and shapes (Fig. 130).³⁵ These qualities are well suited to the instructive function of the diagrams, intended to elucidate the linear structures in the pictorial compositions. Their role in a theoretical treatise is very different from that of his Munich period sketches. Much closer to the schemata in the analytical drawings are Kandinsky's spare diagrams of the dancer Gret Palucca, one of which appeared in *Point and Line to Plane*, while the other three illustrated his article, "Dance Curves," of 1926 (Fig. 131–133).³⁶ Based on photographs of the dancer performing, these drawings translate the major axes of the body into a simple group of lines, which effectively suggest its energetic movements. As in the analytical exercises, furthermore, the primary and secondary tensions are indicated by variations in the weight of the line.



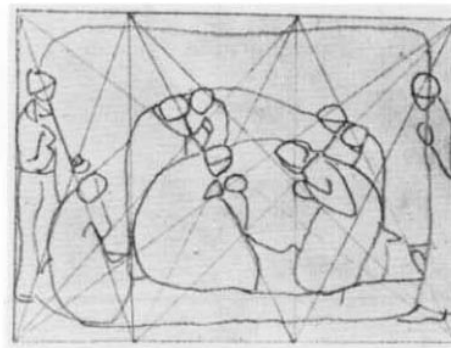
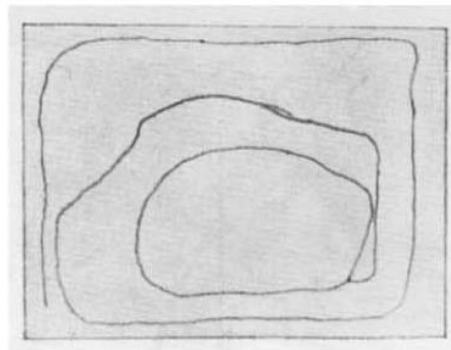
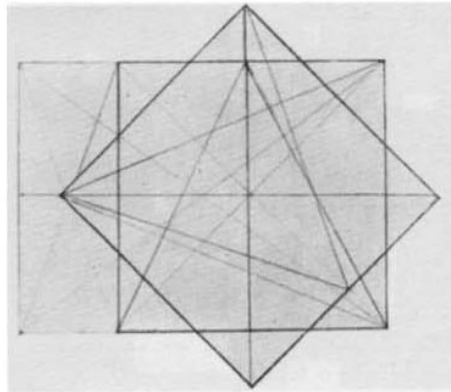
134 Wassily Kandinsky. *White on Black*, No. 531, 1930. Collection Edward Albee, New York



135 Wassily Kandinsky. *Drawing No. 21, for "White on Black,"* 1930. National Museum of Modern Art, Centre Georges Pompidou, Paris



136 Wassily Kandinsky. Schema after the painting *Animated Stability*, 1938



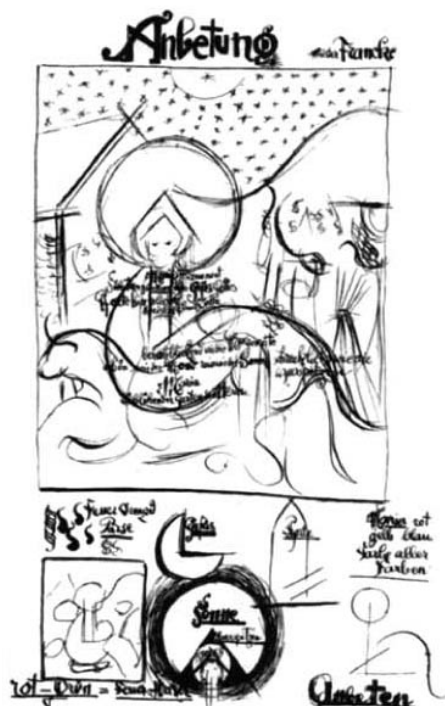
137 Adolf Hölzel. Analyses of a painting, 1911

Among drawings related to paintings, the one for *White on Black* (1930) is most like the analytical diagrams: while it selectively registers some of the horizontal and vertical axes that constitute the obvious structure of the painting, it shows some "hidden" relationships by means of bold curving lines that connect various parts of the gridlike finished work (Fig. 134, 135).³⁷ Finally, in a later period, Kandinsky returned to the schematic analysis of a completed work, in the sketch after *Animated Stability*, No. 646, of 1937 (Fig. 136). Here the large rectangular forms of the painting are reduced to their vertical

and horizontal axes, and a dotted diagonal line with arrowheads connects the two major elements, representing the "main tension," as Kandinsky explained in a commentary.³⁸ It is clear, therefore, that both the reductive diagrammatic quality of the analytical drawings and their emphasis on movement and tension are closely connected with Kandinsky's ideas about his own pictorial compositions.

As mentioned above, there was a substantial tradition for the geometric analysis of objects in the medium of drawing, going back at least to the mid-nineteenth century. French art students were trained to interpret nature by means of the simple geometric solids decades before Cézanne's famous recommendation concerning "the cylinder, the sphere, and the cone."³⁹ Also at this time, aesthetic theories were developed regarding harmonic proportions in art and nature, including those determined by the Golden Section.⁴⁰ In the second half of the century, French academic theory of *dessin* evolved a widely influential method of geometric drawing, which was not only oriented toward the fundamental shapes but utilized a basic grid of horizontals and verticals, concentrated the linear structure of an object on a focal point, and sought to maintain the wholeness of an object's overall outline. As Richard A. Moore has shown in his survey of this method, the development of abstract principles and the achieving of compositional unity were among its ultimate goals.⁴¹ Finally, at the turn of the century, the English designer Walter Crane, whose work and writings were well known in Germany, continued some aspects of this tradition in his book *Line and Form*, the German edition of which appeared in 1901. He too recommended attending to the elementary forms—cube, sphere, cylinder, and pyramid—and proposed two methods of drawing, by ovals and rectangles, with the principle of achieving a single basic formal figure.⁴²

Against this general background, at least some of which Kandinsky no doubt was



138 Johannes Itten. Analyses of Meister Francke's *Adoration of the Magi*, 1921

acquainted with, there was his exposure, during his formative Munich years, to two influential art teachers. Their abstract geometrical approaches to objects and compositions affected his own ideas. He studied with the Yugoslav Anton Ažbè for two years during the late 1890s, and thus was well acquainted with his "principle of the sphere," whereby this fundamental element was used as an instructive model and as a formal building block. Another abstracting tendency that impressed Kandinsky in Ažbè's teaching was his emphasis on freedom of the "play of lines" observed when working from the model.⁴³

The other art teacher to have a significant influence on Kandinsky's conception of geometric analysis was Adolf Hölzel. During the first decade of the twentieth century he published articles in which he analyzed pictorial compositions, including those by old masters (Fig. 137). He used a complex of vertical, horizontal, and diagonal lines, dotted as well as solid, to explain the placement and inter-

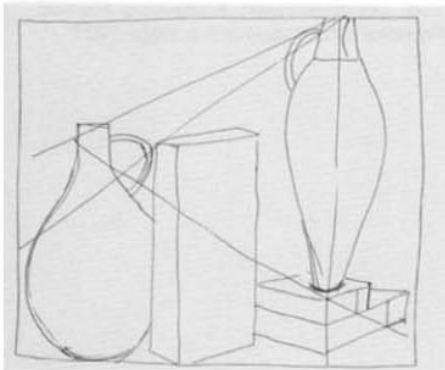
relationships of objects and figures in the picture.⁴⁴ Johannes Itten was a student of his and described his teaching of composition as involving a geometric network of lines, used to determine centers of gravity for the arrangement of the subject and its surroundings.⁴⁵ This system is remarkably like some of the analytical drawings done by Kandinsky's Bauhaus students. Hölzel and Ažbè thus influenced Kandinsky through their ideas concerning the inherence of geometry in both art and nature.

At the Weimar Bauhaus, Itten followed Hölzel's example in using the analysis of old masters as part of his teaching. His own analyses of earlier compositions show a multiple approach, as exemplified by two pages from his article on the subject, from 1921. In his diagrammatic treatment of Meister Francke's *Adoration*, he superimposed a geometric network on a reproduction of the painting, showing the Pythagorean relationships in its structure (Fig. 138).⁴⁶ He also made a much freer drawing after the painting, made up pri-

marily of dynamic curves to render the movement of the figures and setting. In addition, he created a small and very simple abstract schema for the main elements and movements—very similar to the schemata in the analytical drawings done for Kandinsky. Though the latter already had made schematic diagrams in his earlier sketches and had been exposed to the pertinent sources concerning geometric analysis, Itten's diagrams may have triggered the consolidation of his thinking on the subject. Itten's schemata are more concentrated and hieroglyphlike than Kandinsky's earlier ones, and may well have influenced him.

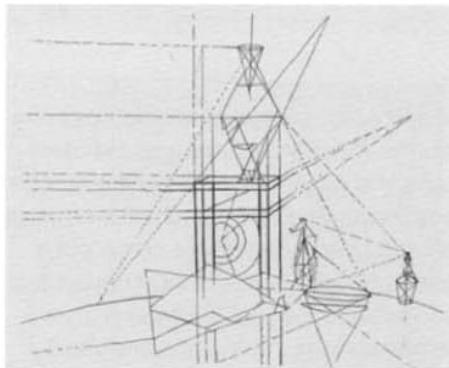
Kandinsky evidently began to teach analytical drawing close to the time of his arrival at the school, and though there seem to be no schemata in the first stu-

dent works, it's clear that his basic ideas were already formulated. The exercises were called "analytical drawing from nature," as seen in the book published for the Bauhaus Exhibition of 1923. The four studies reproduced there reveal by their captions and formal qualities that the basic distinctions between the stages of drawing had already been conceived: *Characterization of Objects*, *Constructive Analysis*, *Geometrical Connections*, and *Linear Analysis*.⁴⁷ By reference to the categories defined in Kandinsky's article on analytical drawing of 1928, one can identify the first as a first-stage drawing, with some interconnecting axial lines (Fig. 139). The next two belong to the second stage: the objects are less solidly defined, and there is greater emphasis on the network that indicates the interrelationships in the composition (Fig. 140, 141). The fourth drawing, by Ida Kerkovius, is an abstract arrangement of lines, including strong curves, and is flatter and more dynamic than the others (Fig. 142). It thus is an early form of a third-stage study. On the whole, this group of student exercises appears tentative compared to the later, more fully developed examples, but it shows that Kandinsky already was applying in his teaching the concepts and methods discussed here. It also attests to his inventiveness in synthesizing his sources and his own practice, in arriving at his final articulated system of analytical drawing in the mid- and late twenties.



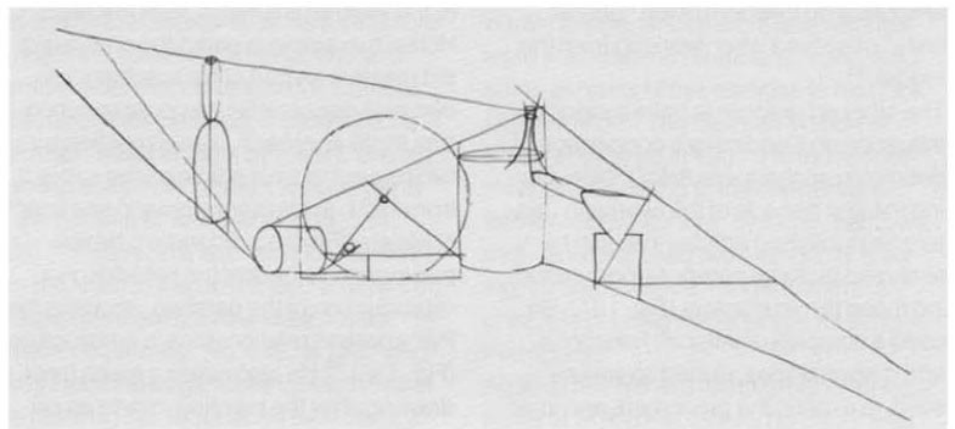
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139 Gerhard Schunke. *Analytical Nature Drawing: Character of the Objects*, 1923

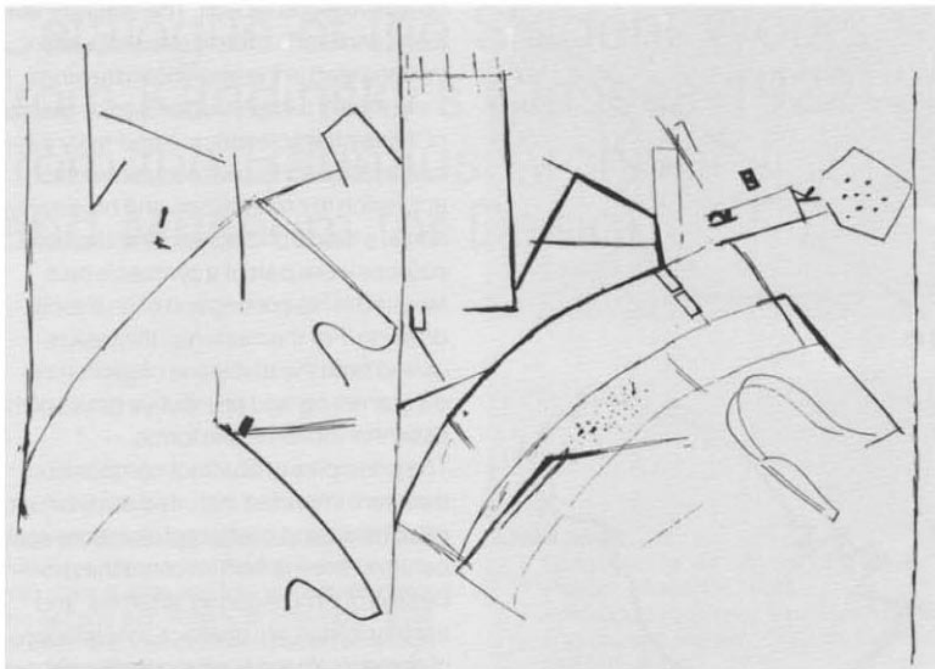


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140 Maria Rasch. *Analytical Nature Drawing: Constructive Analysis*, 1923



141 Maria Rasch. *Analytical Nature Drawing: Geometrical Connections*, 1923

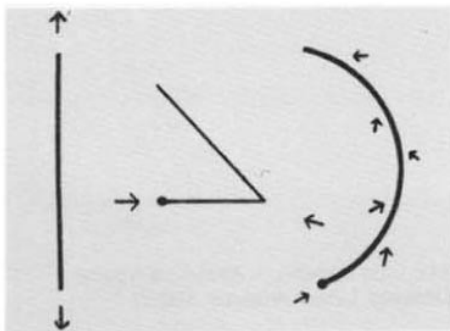
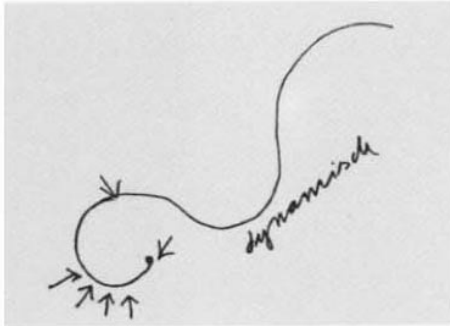


142 Ida Kerkovius. *Analytical Nature Drawing: Linear Analysis*, 1923

Like Itten, Kandinsky was influenced by Hölzel in the use of the analysis of works of art in his teaching. He had earlier included references to paintings by recent or current artists, Cézanne and Hodler, in *On the Spiritual in Art*, in his discussion of the compositional usage of geometric forms and linear arrangements. In particular, he cited Cézanne's *The Bathers*, now in the Philadelphia Museum of Art, for its use of a triangle for the composition of the whole picture; this shape becomes "the clearly expressed artistic aim," through the subordination of the figures and the parts of their bodies to its axes.⁴⁸ In his Bauhaus classes, as his teaching notes reveal, Kandinsky sometimes discussed whole series of old master works, including schemata for some. He analyzed their compositional structure, resolving them to linear networks and nodes, as in the student drawing exercises.⁴⁹ He even recommended analytical drawing as a way to fully experience the forces in the works and assigned the exercise of making schemata of some paintings, using tracing paper over reproductions.⁵⁰ Thus his ideas concerning the geometry of still life and the organization of a composition converged, through the tech-

niques he developed in his teaching of drawing. Of crucial significance to Kandinsky's conception of analytical drawing were the qualities of energy, movement, and rhythm that he believed animated the pictorial elements and thus determined the nature of compositions. The dynamic character of the student drawings, distinguishing them from static geometric analyses, is seen particularly in the schemata, the abstract third-stage works, and free studies. It goes back ultimately to the Expressionism of Kandinsky's Munich period and to certain of his theoretical sources of the time. The Jugendstil generation's interest in the expressiveness of pure formal elements has been shown by Peg Weiss to have influenced Kandinsky, and with regard to the characteristics of line, the most important artist-theorist for him was no doubt August Endell.⁵¹ As an indication of the prevalence of ideas concerning the vitality of artistic forms, one might also cite Henry van de Velde's definition of line as "a force borrowed from the energy of him who drew it."⁵²

Such notions derive their justification from theories of perceptual psychology, as

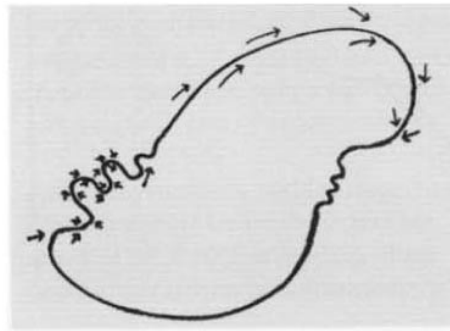
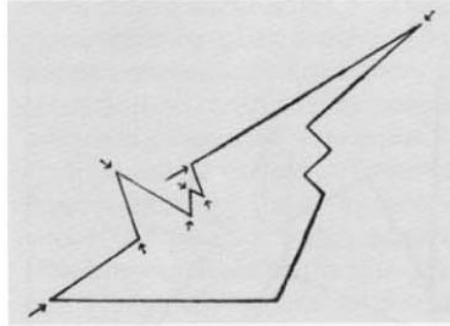


144

143 Irmgard Sörensen-Popitz. *The Dynamic Effect of Line*, 1924 (C. 204)

144 Wassily Kandinsky. *Lines and Their Directions of Force*, 1926

145, 146 Wassily Kandinsky. *Planes and Their Directions of Force*, 1926



146

Marianne L. Teuber has made clear. The Munich psychologist Theodor Lipps had formulated a theory of kinetic empathy that attracted wide attention in the late 1890s and beginning of the twentieth century. His eye-movement theory of perception was particularly relevant for the effects of lines, the qualities of movement the observer could feel in them; and its influence is seen in the Bauhaus theories of both Kandinsky and Klee. The drawings of lines in *Point and Line to Plane*, with arrows indicating multiple directions of force, attest to this (Fig. 143–145).⁵³ Endell had been very much affected by Lipps' ideas, which he applied to artistic questions, and thus the psychologist's influence may have come to Kandinsky in part through him. In conjunction with the theory of eye movement he developed notions of tension and tempo, which characterized lines and line complexes. Kandinsky's discussion of lines, groups of lines, and their characteristics in *Point and Line to Plane* reveals a debt to these concepts of Endell.⁵⁴

Energy and order were for Kandinsky essential qualities of art, inherent in the

objective world as well. The different tensions and kinds of structure that were investigated in the analytical drawings were meant to train students to be aware of these characteristics. Kandinsky's incorporation of his own early schematic approach to composition and his adaptation of a range of theoretical and artistic sources were part of a synthesis that resulted in his conception of analytical drawing. For the students, the task required both the discipline of geometric diagramming and an intuitive grasp of the essential movement in forms.

The principles of abstract composition that were imparted included equilibrium, parallelism, and contrast of directions and centers. The method involved the processes of simplification, analysis, and transformation into abstract constellations of elements. As the surviving studies show, individual perception, intellect, and imagination were brought into play, with the resulting differences in interpretation of the motifs. This variety and the accomplished quality of both conception and execution show that the exercises were effective pedagogical devices. They fostered new ways of seeing and thinking, and even the beginnings of creativity. The study of the objective motifs, comparable to the study of natural forms, led to abstract compositions in the third-stage drawings and the free studies. Indeed, these investigations helped provide a basis for the theory of pictorial composition, one of Kandinsky's major goals in his teaching and his theoretical work.

- "La Valeur d'une oeuvre concrète," *XX^e Siècle*, Nos. 5–6 (1939); "The Value of a Concrete Work," Lindsay/Vergo, II, pp. 822–823.
- 118 *On the Spiritual*, Lindsay/Vergo, I, p. 193.
- 119 "The Value of a Concrete Work," Lindsay/Vergo, II, p. 823.
- 120 Sers III, pp. 262–263, 371; cf. p. 250.
- 121 Sers III, p. 304; Goethe, paragraphs 891–895.
- 122 *On the Spiritual*, Lindsay/Vergo, I, p. 193f. Cf. Kandinsky's remark in "The Value of a Concrete Work," Lindsay/Vergo, II, p. 823: "... throughout the history of painting the disharmony of yesterday has always become the harmony of today."
- 123 Goethe, paragraphs 816ff.
- 124 *On the Spiritual*, Lindsay/Vergo, I, p. 194.
- 125 Erika Hanfstaengl, *Wassily Kandinsky: Zeichnungen und Aquarelle*, Munich, 1974, No. 262, p. 107.
- 126 *Ibid.*, No. 265, pp. 107, 174. Another one of the diagrams, No. 266, seems to refer to the watercolor *Farbstudie: Quadrate mit konzentrischen Ringen*, No. 261.
- 127 Itten, *Tagebuch*, p. 78.
- 128 "The Value of a Concrete Work," Lindsay/Vergo, II, p. 823.
- 129 "My courses at the Hochschule für Gestaltung at Ulm" (dated 20 January 1954), in *Form* (Cambridge, Eng.), No. 4, 1967, p. 9. See also Albers, *Interaction of Color*.
- 130 "Réflexions sur l'art abstrait," *Cahiers d'art*, VI, Nos. 7–8 (1931); Lindsay/Vergo, II, p. 758. Kandinsky's first reference to this phenomenon was in his essay "Über die Formfrage," *Der Blaue Reiter*, Munich, 1912; "On the Question of Form," Lindsay/Vergo, I, p. 244, note.
- 131 "The Value of a Concrete Work," Lindsay/Vergo, II, p. 820.
- 132 Helmholtz, *Populäre wissenschaftliche Vorträge*, III, p. 91, cf. p. 82. Kandinsky's quotes from Krueger's article on Kirschmann, in *Neue Psychologische Studien* (VI, 1932, p. 506), include one in which the author referred to findings that pertain to retinal fatigue: "... dass eine des ganze Gesichtsfeld beherrschende Farbe ... 'sehr bald ihren Qualitätscharakter ganz oder zum grössten Teile einbüsst'"; Sers III, p. 182, cf. p. 216.
- 133 "The Value of a Concrete Work," Lindsay/Vergo, II, p. 824.
- 134 "Optisches über Malerei," p. 81, 84–85. This principle was followed by the Neo-Impressionists.
- 135 "In Kandinsky's Classroom," in Neumann, *op. cit.*, pp. 161–162.

A group of the variously colored basic shapes that Schuh described have in fact survived (in the possession of Philippe Sers, see note 4, above). In addition, as part of the same group of pedagogical materials, there are two paper demonstration pieces on each of which are

- placed a small white square and a small black square, against a medium gray background. In one the black square overlaps the white; in the other the white overlaps the black—demonstrating some of the spatial effects and contradictions that Kandinsky taught were among the interactions of colors and forms.
- 136 Sers III, p. 232.
- 137 Re: these spatial characteristics, see Sers III, pp. 252–255.
- 138 *On the Spiritual*, Lindsay/Vergo, I, pp. 171–173; re: spatial effects, cf. p. 195, and the Cologne lecture, Eichner, *loc. cit.*
- 139 *Point and Line*, Lindsay/Vergo, II, p. 648.
- 140 "Toile vide, etc.," *Cahiers d'art*, X, Nrs. 5–6 (1935); "Empty Canvas, etc.," Lindsay/Vergo, II, p. 783.
- 141 *On the Spiritual*, Lindsay/Vergo, I, p. 170.
- 142 In Kandinsky 1901–1913, especially "Composition 6" (see note 114 here); *Point and Line*, Lindsay/Vergo, II, p. 593.
- 143 In Eichner, *op. cit.*; Lindsay/Vergo, I, p. 397.
- 144 *On the Spiritual*, Lindsay/Vergo, I, p. 151f, and note. "Notes d'un peintre," *La Grande Revue*, 25 December 1908; German translation in *Kunst und Künstler*, VII, 1909, pp. 335–47; the latter was cited by Kandinsky.
- For a recent discussion of the influence of Matisse on German artists, see Günter Metken, "Regards sur la France et l'Allemagne: le climat des rapports artistiques: contacts personnels, voyages, publications," in Centre national d'art et de culture Georges Pompidou, *Paris-Berlin: rapports et contrastes france-allemande, 1900–1933*, Paris, 12 July–6 November 1978, p. 24.
- 145 In *Henri Matisse: Ecrits et propos sur l'art*, edited by Dominique Fourcade, Paris, 1972, p. 46.
- 146 "Empty Canvas, etc.," Lindsay/Vergo, II, p. 782.
- 147 *Loc. cit.*

Analytical Drawing

- Kandinsky's primary account of the course is the brief article, essentially an outline: "Unterricht Kandinsky: analytisches Zeichnen (I. Semester)," *Bauhaus*, Nos. 2/3, 1928; "Art Pedagogy/Analytical Drawing," Lindsay/Vergo, II, pp. 726–729. A shorter outline appeared in *Sixth International Congress*, ..., in Wingler, *op. cit.*, p. 144. The brief descriptions and references in the teaching notes appear in Kandinsky's "Cours du Bauhaus," in *Wassily Kandinsky: Ecrits complets*, volume III, *La Synthèse des arts*, Philippe Sers, ed., Paris, 1975, pp. 162 (27 September 1926), 271 (1 February 1926), and *passim*, including references in his free painting class and his fourth- and second-semester courses, to

- be cited below (hereafter citations to the volume edited by Professor Sers will be given as Sers III). Fourteen of the analytical drawings are included in *50 Years Bauhaus*, Württembergischer Kunstverein, Stuttgart, 1968, Nos. 134–147.
- Projektionslehre und Werkzeichen are listed in *Satzungen Staatliches Bauhaus in Weimar*, Weimar, July 1922, p. 2; draughtsmanship and projection drawing in the "Work Plan for the Preliminary Course" (c. 1925–1926) in Wingler, *op. cit.*, p. 109; and in the "Curriculum" of 1925, as part of the practical and theoretical instruction in form, Wingler, *op. cit.*, p. 107.
 - Lindsay/Vergo, II, p. 729.
 - Sers III, pp. 162, 271. Cf. *Point and Line*, Lindsay/Vergo, II, p. 625: "... the law of opposition and of juxtaposition. This law gives rise to two principles—the principle of parallelism and the principle of contrast—in the same way as has been shown in the case of combinations of lines" (the reference is to the earlier discussion of "Linear complexes," pp. 612ff.).
 - "Kandinsky, l'éducateur/Kandinsky als Pädagoge und Erzieher," in Max Bill, editor, *Wassily Kandinsky*, Paris, 1951, pp. 96–97 (French), 148 (German). Bill arrived at the Bauhaus in 1927.
 - Cf. Jean Leppien's list of objects, quoted in Nina Kandinsky, *Kandinsky und Ich*, 2. Auflage, Munich, 1976, p. 134: "Brettern, Leisten, Latten, Linealen, usw." Leppien was at the Bauhaus from 1929 to 1930.
 - Lindsay/Vergo, II, drawing 4, p. 729; the objects are listed as "saw, grindstone, bucket," p. 728. The same setup seems to be rendered in Voepel-Neujahr (Fig. 109, C. 186), and since both she and Fritzsche matriculated in winter of 1927/28, they undoubtedly were in the same class. The grinding wheel in its stand also appears in Klode (Fig. 162, 16, C. 85, 86) and Thiemann (Fig. 170, C. 130) (these three are of the same setup) and also in Ullmann-Broner (Fig. 175, C. 164).
 - Wingler, *op. cit.*, pp. 436–437. Beckmann's studies are unique among the surviving analytical drawings in being based on a photograph of a still life.
 - Peg Weiss, *Kandinsky in Munich: the Formative Jugendstil Years*, Princeton, 1979, p. 64.
 - Sers III, pp. 372 (13 June 1927) and 374 (start of the 1927/28 winter semester).
 - Originally published as "Réflexions sur l'art abstrait," *Cahiers d'art*, VI, Nos. 7–8 (1931); Lindsay/Vergo, II, p. 759.
 - On the Spiritual*, Lindsay/Vergo, I, p. 208. His remarks on Cubism include, elsewhere in *On the Spiritual*, the statement: "Picasso seeks to achieve the constructive ... through numerical relations"; p. 152.

- 13 Sers III, p. 289 (second semester, summer of 1931). Supporting and accenting lines are equivalent to the principal tensions and secondary tensions demonstrated in the analytical drawings.
- 14 Lindsay/Vergo, II, pp. 625–626, 630.
- 15 *Ibid.*, pp. 626ff.
- 16 *Ibid.*, p. 625.
- 17 "Reflections on Abstract Art," Lindsay/Vergo, II, p. 760. In conjunction with this point of view and with that expressed in his teaching of summer 1931 (v. note 13 here), cf. Hans Kessler's course notes in the Bauhaus Archive, "Kandinsky: abstrakte Formenlehre; analytisches Zeichnen" (probably winter semester of 1931/32), p. 4: "Es gibt zwei Arten von Naturalismus: 1. Naturalismus als Nachahmung der äusseren Erscheinungen; 2. Naturalismus als ein Aufbauen auf ein Prinzip, das in der Natur vollkommen das Gleiche ist."

Regarding Kandinsky's changing attitude to "the inner analogy of art and nature" and relationship of his thinking to that of Klee, see Sixten Ringbom, "Paul Klee and the Inner Truth to Nature," *Arts Magazine*, 52, No. 1 (Sept. 1977), p. 115.
- 18 Lindsay/Vergo, II, p. 728 and drawing 2, p. 727; the student's name is given in the caption as R. L. Kukowka, the middle initial evidently in error; see the list of student names in Wingler, *op. cit.*, p. 622, No. 74.
- 19 Sers III, p. 271 (1 February 1926).
- 20 *Loc. cit.* (see note 1 here).
- 21 *Loc. cit.*
- 22 Lindsay/Vergo, II, p. 729, drawing 4.
- 23 *Ibid.*, p. 728.
- 24 *Ibid.*, p. 727, drawing 3; the last name is given as Fiszmer, evidently misspelled; see Wingler, *ibid.*, No. 76.
- 25 Lindsay/Vergo, II, p. 726, drawing 1 (un-attributed); the idea is discussed following the description of stage three, pp. 728–729.
- 26 *Point and Line*, Lindsay/Vergo, II, pp. 604–606. Kessinger-Petitpierre reflected this part of Kandinsky's theories more explicitly in the first sheet of her portfolio "Principles of abstract form in relation to color," entitled "The Curved Line" (Fig. 151, C. 38); the freely curved example on this sheet is comparable to the lines in the variation under discussion. Lindsay/Vergo, I, p. 209. Lindsay/Vergo, II, p. 677, Plate 4. Sixten Ringbom pointed out the connections between this diagram, the passage in *On the Spiritual*, and a sketch for the painting *Black Spot I* (1912): *The Sounding Cosmos: a Study in the Spiritualism of Kandinsky and the Genesis of Abstract Painting*, Abo, Finland, 1970, pp. 100–101. The drawing is the *Kompositionsschema zu 'Schwarzer Fleck I'*, 1911/12, in the Städtisches Galerie im Lenbachhaus, Munich; see Erika Hanfstaengl, *Wassily Kandinsky: Zeichnungen und Aquarelle*, Munich, 1974, No. 202.
- 29 Neuy (Fig. 168, C. 117) looks like a free color composition, but its title designates it as an analytical drawing: *Principal Tensions Translated into Color*. Ullmann-Broner (Fig. 175, C. 164) is a free study, probably done in the context of the analytical drawings; while Fig. 174, C. 161, *Tension Diagram, Combination of a Geometric and a Free Form*, is an analysis of a kind of exercise assigned in the Abstract Form Elements course—cf. Lang (Fig. 165, C. 99) and Voepel-Neujahr (C. 176); Sers III, p. 257 (11 September 1925?); Kessinger-Petitpierre (C. 39) is a similar exercise to Ullmann-Broner's, as its caption explains: "Aufgabe: eine geometrische und eine freie Form so zu einanderstellen, dass sie eine Hauptspannung und eine Nebenspannung ergeben."

There are a number of pertinent studies of a purely graphic nature: Kessinger-Petitpierre (Figs. 152, 153, C. 40–42) are a series of abstract elaborations probably based on an analytical drawing, as the titles of the first two indicate: "Sharpening of the Drawing through Wire Work" and "Variation"; the three are consecutively numbered, 1, 1a, 1b. Free studies that are purely graphic are: Kessinger-Petitpierre (Figs. 14, 154–156, C. 43–47) and her portfolio of twelve abstract drawings, *The Square*; Neuy (C. 116); and Schürmann (C. 120).
- 30 Klode (Fig. 15, C. 88); and the *Still Life* by Hermann Röseler, illustrated in *Bauhaus*, Nos. 2/3, 1928, p. 31, accompanying Ludwig Grote's article, "Junge Bauhausmaler"; the illustration is captioned, "Malklasse W. Kandinsky." In his free painting class Kandinsky recommended the analytical drawing approach as a starting point; Sers III, p. 374 (start of the winter semester of 1927/28).
- 31 Will Grohmann, *op. cit.*, p. 107: drawing for *Composition 2*, 1910, No. 1; Hanfstaengl, *op. cit.*, Nos. 212–216, 233.
- 32 Hanfstaengl, Nos. 249 and 250; the inscriptions are in Russian; see also Nos. 202, 232, 251–252.
- 33 Grohmann, *op. cit.*, p. 96, fig. 24 (1913, No. 4).
- 34 *Kandinsky 1901–1913*, Berlin, 1913; his commentaries on paintings appear in Lindsay/Vergo, I, pp. 383–391; see especially pp. 383–384; he uses the word *Linienknoten*.
- 35 Lindsay/Vergo, II, pp. 696–698: Plate 23, "Inner relationship between complex of straight lines and curve (left-right), for the picture *Black Triangle* (1925)"; Plate 24, "Horizontal-vertical structure with contrasting diagonal and tensions created by points—schema of the picture *Intimate Message* (1925)"; and Plate 25, "Linear structure of the picture *Little Dream in Red* (1925)."
- 36 Lindsay/Vergo, II, p. 559, Fig. 10; "Tanzkurven: zu den Tänzen der Palucca," *Das Kunstblatt*, 10 March 1926; Lindsay/Vergo, II, pp. 520–523. Kandinsky had already suggested reproducing body movements photographically and graphically in his "Program for the Institute of Artistic Culture," Lindsay/Vergo, I, p. 467.
- 37 Bill, *op. cit.* (note 5, here), both painting and drawing are illustrated on p. 98; Grohmann, *op. cit.*, p. 217 (1930, No. 21).
- 38 The schematic drawing is reproduced in Lindsay/Vergo, II, p. 835, along with Kandinsky's text of 1938, *Stabilité animée*, pp. 834–835, which was written for the Zürich journal *Werk* but not published; the painting is reproduced along with the drawing in Hans K. Roethel in collaboration with Jean K. Benjamin, *Kandinsky*, New York, 1979, pp. 150–151.
- 39 Theodore Reff, "Painting and Theory in the Final Decade," in *Cézanne, The Late Work*, ed. William Rubin, The Museum of Modern Art, New York, 1977, p. 47, referring to writings by Jean-Pierre Thénot, *Morphographie; ou l'art de représenter . . . des corps solides* (Paris, 1838), pp. 50–56, and Charles Blanc, *Grammaire des arts du dessin* (2nd ed., Paris, 1870), pp. 572–576. Reff's comments are discussed by Peter Morrin in relation to Azbè: "Some Remarks on Recent Azbè Scholarship," *Slovene Studies: Journal of the Society for Slovene Studies* (New York), Vol. 1, No. 1, (1976), p. 31.
- 40 Sixten Ringbom, "Paul Klee and the Inner Truth to Nature," *Arts Magazine*, Vol. 52, No. 1 (September 1977), p. 114 and elsewhere.
- 41 "Academic *Dessin* Theory in France after the Reorganization of 1863," *Journal of the Society of Architectural Historians*, XXXVI, No. 3 (October 1977), pp. 145ff.
- 42 Werner Hofmann, "Kandinsky und Mondrian, 'Gekritzelt' und 'Schema' als graphische Sprachmittel," in Darmstadt, Mathildenhöhe, 1. *Internationale der Zeichnung*, 1964, pp. 23–24; citing Crane's *Line and Form* (London, 1900; German edition, 1901). Peg Weiss has discussed the fact that Crane's work and writings were known in Germany in the 1890s, *op. cit.*, p. 23, see also p. 8; and Marcel Franciscono has mentioned Crane as background to Hölzel's and Itten's analyses of compositions, citing Crane's *Bases of Design* (London, 1898; German edition, *Grundlagen der Zeichnung*, 1901), p. 8, "Ornamental Lines in the Frieze of the Parthenon"—Walter Gropius and the *Creation of the Bauhaus in Weimar: the Ideals and Artistic Theories of its Founding Years*, Urbana, 1971, p. 213, n. 72.

- 43 Weiss, *op. cit.*, p. 16f.; and Morrin, *op. cit.*, p. 30.
- 44 Weiss stresses the importance of Hölzel for the development of Kandinsky's thinking, *op. cit.*, pp. 40ff. Diagrams analyzing pictorial compositions appear in Hölzel's "Über bildliche Kunstwerke in architektonischen Raum," *Der Architekt*, XV (1909), pp. 73–80, and Neue Folge, XVI (1910), pp. 9–11, 17–20, 41–44, 49–50. Kandinsky referred to Hölzel in his Bauhaus teaching, regarding the use of lines and rhythm in composition; Sers III, p. 293 (second-semester course).
Weiss has also suggested that student examples from the Obrist-Debschitz School in Munich, from around 1904, reveal similarities with Kandinsky's much later analytical drawings (*op. cit.*, p. 122 and note 36); however, the visual evidence is unconvincing (Figs. 94 and 95).
- 45 "Adolf Hölzel und sein Kreis," *Der Pelikan*, No. 65 (April 1963), pp. 34ff.; see also in the same special number of *Der Pelikan* devoted to Hölzel, Wolfgang Venzmer, "Adolf Hölzel—Leben und Werk," pp. 4–14.
- 46 "Analysen alter Meister," *Utopia: Dokumente der Wirklichkeit*, Weimar, 1921, pp. 17, 19 (reproduced in *50 Years Bauhaus*, p. 39, No. 32); schematic diagrams of other works are included in Itten's article, pp. 11, 13.
- 47 *Staatliches Bauhaus Weimar 1919–1923*, Weimar, Munich, 1923, pp. 56–59, figs. 27–30; fig. 27 is by G. Schunke, figs. 28 and 29 by M. Rasch. Figs. 29 and 30 are reproduced under the heading "Kandinsky's Course" and dated 1922 in Herbert Bayer, Walter and Ise Gropius, *Bauhaus 1919–1928*, The Museum of Modern Art (New York, 1938), third printing, Boston, 1959, p. 38. Two analytical drawings, done for Kandinsky's course in 1922, are listed in Bauhaus Archive, *Alfred Arndt: Maler und Architekt*, Darmstadt, 1968, Nos. 7 and 8.
- 48 Lindsay/Vergo, I, p. 167, note; pp. 139ff. including notes; see *ibid.*, p. 151, concerning Cézanne's "often mathematical formulas."
- 49 Sers III, pp. 306f., 310ff., 313ff. (all part of his second-semester course), 357f. (fourth-semester course, 19 October 1928); see also pp. 292f. (second-semester course) and 323 (fourth-semester course, 23 November 1929).
- 50 Sers III, pp. 308, 320 (both from his second-semester course).
- 51 Weiss, *op. cit.*, pp. 34ff., especially pp. 36–37.
- 52 Cited by Carola Giedion-Welcker, "Kandinsky als Theoretiker," in Bill, ed., *Wassily Kandinsky* (1951), p. 101 (French), 150 (German); from Van de Velde's *Kunstgewerbliche Laienpredigten* (1902).
- 53 Teuber, "Blue Night by Paul Klee," in *Vision and Artifact*, edited by Mary Henle, New York, 1976, p. 143 (see note 41 of section two here). *Point and Line*, Lindsay/Vergo, II, pp. 597ff., 602ff.
- 54 Weiss, *op. cit.*, pp. 36–37 and p. 120, n. 73. *Point and Line*, loc. cit. and pp. 612ff.